

# **USDA Database for the Flavonoid Content of Selected Foods**

## **Release 3**

**Prepared by  
Seema Bhagwat, David B. Haytowitz and Joanne M. Holden**

Nutrient Data Laboratory  
Beltsville Human Nutrition Research Center  
Agricultural Research Service  
U.S. Department of Agriculture

**September 2011**

U.S. Department of Agriculture  
Agricultural Research Service  
Beltsville Human Nutrition Research Center  
Nutrient Data Laboratory  
10300 Baltimore Avenue  
Building 005, Room 107, BARC-West  
Beltsville, Maryland 20705  
Tel. 301-504-0630, FAX: 301-504-0632  
E-Mail: [ndlinfo@ars.usda.gov](mailto:ndlinfo@ars.usda.gov)  
Web site: <http://www.ars.usda.gov/nutrientdata>

# **USDA Database for the Flavonoid Content of Selected Foods**

## **Release 3**

**Prepared by  
Seema Bhagwat, David B. Haytowitz and Joanne M. Holden**

Nutrient Data Laboratory  
Beltsville Human Nutrition Research Center  
Agricultural Research Service  
U.S. Department of Agriculture

**September 2011**

U.S. Department of Agriculture  
Agricultural Research Service  
Beltsville Human Nutrition Research Center  
Nutrient Data Laboratory  
10300 Baltimore Avenue  
Building 005, Room 107, BARC-West  
Beltsville, Maryland 20705  
Tel. 301-504-0630, FAX: 301-504-0632  
E-Mail: [ndlinfo@ars.usda.gov](mailto:ndlinfo@ars.usda.gov)  
Web site: <http://www.ars.usda.gov/nutrientdata>

## Table of Contents

Release History .....	i
Suggested Citation: .....	i
Food Description File .....	4
Food Group Description File .....	5
Flavonoid Data File.....	5
Nutrient Definition File.....	6
Sources of Data Link File .....	6
Sources of Data File.....	7
Flavonoid Individual Data File .....	7
Sources of Data .....	9
References Cited in the Documentation .....	9
Chemical structures of flavonoids .....	10
USDA Database for the Flavonoid Content of Selected Foods .....	13
Sources of data.....	107

## Release History

Release 1 (March 2003) – Flavonoid content of 225 foods items.

Release 2 (August 2006) – Flavonoid content of 392 foods items.

Release 2.1 (January 2007) – Flavonoid content of 385 foods [Removed the unusually high gallic acid values from Cacao (NDB No. 97034, Nutrient No. 794) and all the data for the chocolate items (NDB No. 99388, 99389, 99390, 99390, 99391, 99392, 99407, and 99408)].

Release 3 (September 2011) – Flavonoid content of 500 food items

## Suggested Citation:

U.S. Department of Agriculture, Agricultural Research Service. 2011. USDA Database for the Flavonoid Content of Selected Foods, Release 3.0. Nutrient Data Laboratory Home Page: <http://www.ars.usda.gov/nutrientdata/flav>

## **Documentation for the Update of the USDA Database for Flavonoid Content of Selected foods, Release 3 (2011)**

The scientific community continues to take interest in the types and levels of flavonoids in foods because of the consistent evidence regarding beneficial health effects of dietary flavonoids. Flavonoids, particularly flavan-3-ols and proanthocyanidins, have been associated with reduction in the risk of cardiovascular disease by modulating various mechanisms of primary and secondary prevention (Schroeter et al., 2010).

Anthocyanidins may also protect LDL cholesterol oxidation through their high antioxidant activity (Erdman et al., 2007). Evidence supporting cancer prevention effects of flavonoids is limited and conflicting, but some organ-specific associations have been reported. Lam et al., (2010) observed an inverse relationship between quercetin-rich food intake and lung cancer in a case-control study in Lombardi region of Italy, while Ekström et al., (2011) observed protection against stomach cancer with high intakes of quercetin in a population study in Sweden. A large volume of analytical data on food flavonoids has been published since the second release the database, “USDA Database for the Flavonoid Content of Selected Foods”, in January 2007, on Nutrient Data Laboratory’s (NDL) Web site: <http://www.ars.usda.gov/nutrientdata>.

Relevant articles published between the second release and the end of 2010 were retrieved and reviewed. One hundred new articles containing data on 26 selected commonly occurring compounds in the five subclasses of the dietary flavonoids were retained for critical evaluation of data quality. The additional valid analytical data were merged with the data included in the updated database released in 2007. After review and statistical analysis, approximately 119 new foods have been added into the updated database. Values were added for additional compounds for some foods published in the earlier database. The updated database includes source documents citing research conducted in the U.S. and also in 50 other countries.

Isoflavones are not included in this database. A separate database, the “USDA-Iowa State University Database on the Isoflavone Content of Foods” first released in 1999 was updated in 2008 on the NDL web site. Similarly, proanthocyanidins are not included in this database because a separate database, the “USDA Database for the Proanthocyanidin Content of Selected Foods” was released on NDL’s web site in August 2004.

### **Subclasses of flavonoids and selected compounds:**

The database contains values for 500 food items and for 28 predominant monomeric dietary flavonoids that belong to the five subclasses reported below:

- **FLAVONOLS:** Isorhamnetin, Kaempferol, Myricetin, Quercetin (Figure 1)
- **FLAVONES:** Apigenin, Luteolin (Figure 2)
- **FLAVANONES:** Eriodictyol, Hesperetin, Naringenin (Figure 3)
- **FLAVAN-3-OLS:** Catechins and gallic acid esters of catechins, Epicatechins and gallic acid esters of epicatechins (Figure 4), Theaflavins and gallic acid esters of

- theaflavins, Thearubigins (Figure 5)
- ANTHOCYANIDINS: Cyanidin, Delphinidin, Malvidin, Pelargonidin, Peonidin, Petunidin (Figure 6)

### **Methods and procedures used to generate the database**

Only those data generated by acceptable analytical procedures are included. Acceptable procedures are defined as those which lead to good separation of flavonoid compounds (e.g., column chromatography or high-performance liquid chromatography [HPLC], capillary zone electrophoresis, micellar electrokinetic capillary chromatography). Studies that contained data generated by thin layer or paper chromatography, radioimmunoassay (RIA), pH differential methods or only spectrophotometric quantitation were not retained due to the lack of specificity of these methods. Similarly, values for total flavonoids or only the totals by subclass of flavonoids were not included, as the objective was to collect values for specific flavonoid compounds.

Most of the compounds in food are present in glycosylated forms except for the flavan-3-ols (catechins and theaflavins) which are present either in free forms or as gallic acid esters (e.g., in tea). However, some of the analytical procedures convert the glycosides into aglycones and thus results are reported as aglycones. Therefore, where the values for individual glycosides were determined, USDA scientists converted the glycoside values into aglycone forms using conversion factors based on the molecular weight of the specific compounds to make data consistent across the database. The catechins and epicatechins which were reported as gallic acid esters, such as epicatechin gallate, epigallocatechin gallate, etc., are included as such without any conversions. Individual data points as originally reported in the source articles, as aglycones and/or individual glycosides, and used to get mean values for the database, will be released in a separate table as an Access database. This table will be available in Release 3.1 of the database in early 2012.

Mean values in the database are reported as mg/100g of fresh weight of edible portion of food. Values for beverages were adjusted by their respective specific gravities if reported on liquid basis (e.g. mg/ml) to convert them on weight basis (mg/100g). Analytical reports typically provided data for tea as infusions. The practice of preparing tea infusions varies in different countries and according to individual preferences. Therefore, it is difficult to compare flavonoid data for brewed teas obtained from different sources. Catechin and flavonol contents in tea infusions increased approximately in a linear way relative to the amount of tea leaves used for brewing. Therefore, all infusion values were standardized to 1% infusion (1g tea leaves/100ml boiling water). These values were calculated using the weight of the tea powder in the tea bag (or loose tea leaves) used to make the infusion. Adjustment for brewing time was not undertaken as a majority of tea flavonoids are extracted into the infusion after only short brewing times and do not increase substantially with extended brewing times (Arts et al., 2000; Hertog et al., 1993). Values for tea are given as mg/100g (100ml) of tea infusions (as consumed) and are equivalent to one gram of dry tea.

If a value was reported as “Trace”, that value was calculated by multiplying the LOQ (Limit of Quantitation) by 0.71 (Mangels et al., 1993) if the LOQ was available. A zero value reported in the database is a true zero (below the limit of detection), indicating that authors attempted to measure the compound in that food and did not find it. The lack of a value for a particular flavonoid in a food in the database does not imply a zero value, but only that data were unavailable. The table of analytical values contains values for only those compounds and foods that were available in the literature at the time of this survey; it does not mean that other classes of compounds are not present in that particular food. Researchers rarely analyze compounds in all the subclasses in a single study

Considerable variation was observed in the flavonoid content of specific foods. Flavonoid compounds are often produced by plants in response to various environmental stresses. Stress may be caused by diseases, insects, climate, ultraviolet radiation, etc. (Dixon and Palva, 1995; Winkel-Shirley, 2002). Other sources of variability can include cultivar, growing location, agricultural practices, processing and storage conditions, and preparation methods (Amiot et al., 1995; Häkkinen et al.; 2000, Patil et al., 1995; van der Sluis et al., 2001).

Furthermore, users of the data should exercise caution when comparing flavonoid values for different forms of a food, such as for raw and cooked forms of the same food. As with any nutrient database, values for different forms of the food may be collected from different sources. If a value in the cooked food is less than in the raw food, it does not necessarily mean that the particular flavonoid was reduced by cooking. This kind of comparison is valid only when paired raw and cooked samples are analyzed to estimate values for these forms.

### **Data evaluation**

The data for each compound were evaluated for quality using the procedures developed by scientists at the NDL (Holden et al., 2002, 2005). Five categories of documentation were evaluated: sampling plan, sample handling, number of samples, analytical method, and analytical quality control. NDL modified the criteria for the sampling plan rating at the aggregation stage to accommodate the international characteristic of this database. For aggregated data which included data from countries other than the United States, the number of countries replaced the number of regions within a country. The documentation presented in each reviewed paper was evaluated for the information within each category, which then received a rating ranging from 0 to 20 points. The ratings for each of the five categories are summed to yield a quality index (QI) with the maximum possible score of 100 points. A confidence code (CC) is derived from the QI and is an indicator of the relative quality of the data and the reliability of a given mean (Table 1). The CC is assigned as follows:

Table 1.—Confidence Codes

QI	CC
75-100	A
74-50	B
49-25	C
<25	D

The data were aggregated where possible to match the food descriptions in the USDA National Nutrient Database for Standard Reference (SR). Foods are arranged by “Food Group” to make the accompanying table easier to use. Each food has a nutrient data bank (NDB) number (a five digit numerical code used in the SR) if the description matches to a food in the SR. As the data came from various sources, both within the United States and from other countries, there are a number of foods which are not included in the SR database. In these cases, a temporary NDB number was assigned. These numbers begin with “99” or “97” and are not necessarily unique to this table, as they may have been used in other special interest databases produced by NDNL. Subsequently, the mean value (mg/100g), standard error of the mean (SEM), minimum (Min.), and maximum (Max.) values were determined for each food and flavonoid. Mean values are weighted to account for the different number of samples among the various studies used. The weighted mean is, in turn, used to calculate the standard error based on the total number of samples in each aggregated food. These values, along with the CC and sources of data, are given in the table. The CC provides a relative indication of the quality of each estimate for food and of the specific compounds in individual foods

### Format of the tables

The USDA Database for the Flavonoid Content of Selected Foods is presented as a PDF file. This table contains values for individual flavonoid compounds for **500** foods. A user will need the Adobe<sup>®</sup> Acrobat<sup>®</sup> reader to view the report of the database. For the convenience of the user, the flavonoid database has also been imported into a Microsoft<sup>®</sup> Access database (flav03.mdb). This database follows the same structure as that used for SR thus allowing users to access the database in a form compatible with other programs. Links indicating the relationships among the files are presented with each file.

The tables and fields in the Microsoft<sup>®</sup> Access database are as follows:

**Food Description File** (file name = FOOD\_DES). This file (Table 2) contains the descriptions of the food items. For those items in the SR\* additional information (e.g., common names, percentage, and description of refuse) can be obtained by linking this table to the corresponding table in SR.

- Links to the Food Group Description file by FdGrp\_Cd
- Links to the Flavonoid Data file by NDB No.
- Links to the Flavonoid Detail file by NDB No.

**Table 2.—Food Description File Format**

Field Name	Description
NDB_No <sup>†</sup>	5-Digit Nutrient Databank number that uniquely identifies a food item. Foods in the USDA Database on the Flavonoid content of Foods which do not have corresponding entries in SR* are assigned NDB Nos. starting with either '99' or '97'.
FDGrp_Cd	4-digit code indicating food group to which the food item belongs
Long_Desc	Description of the food item

\* For more information on SR, see the NDL Web site (<http://www.ars.usda.gov/nutrientdata>) or contact the Nutrient Data Laboratory, 10300 Baltimore Avenue, Bldg. 005, Rm. 107, BARC-WEST, Beltsville, MD 20705. Tel. No. 301-504-0630, e-mail: [ndlinfo@ars.usda.gov](mailto:ndlinfo@ars.usda.gov).

<sup>†</sup>Primary key for the food description file

**Food Group Description File** (file name = FD\_GROUP). This file (Table 3) contains a list of food groups used in the flavonoid database and their descriptions.

- Links to the Food Description file by FdGrp\_Cd

**Table 3.—Food Group Description File Format**

Field Name	Description
FdGrp_Cd*	4-digit code identifying a food group. Only the first two digits are currently assigned. All of the food groups in SR are not used in the flavonoid database.
FdGrp_Desc	Name of food group

\* Primary key for the Food Group Description file.

**Flavonoid Data File** (file name = FLAV\_DAT). This file (Table 4) contains the flavonoid values and information about the values, including statistical information, confidence codes, and sources of data.

- Links to the Food Description file by NDB No.
- Links to the Nutrient Definition file by Nutr. No.
- Links to the Sources of Data file by DataSrc\_ID though the Data Source Link file

**Table 4.—Flavonoid Data File Format**

Field Name	Description
NDB No.*	5-Digit Nutrient Databank number
Nutr_No*	Unique 3-digit identifier code for each flavonoid compound



<b>Field Name</b>	<b>Description</b>
Flav_Val	The flavonoid mean value (mg/100 g) edible portion
se	Standard error of the mean; null if could not be calculated
n	Number of data points used in calculating the mean value and SE
Min	Minimum value (mg/100 g) from data points used
Max	Maximum value (mg/100 g) from data points used
CC	Confidence Code, designated as A, B, C, or D as determined through the DQES

\* Primary keys for Flavonoid Data file.

**Nutrient Definition File** (file name = NUTR\_DEF). This file (Table 5) contains the nutrient number and the description of the flavonoids.

- Links to the Nutrient Data file by Nutr\_No.

**Table 5.—Nutrient Definition File Format**

<b>Field Name</b>	<b>Description</b>
Nutr_No*	Unique 3-digit identifier code for each flavonoid
Flav_Class	The subclass of monomeric flavonoids to which the individual flavonoid belongs
Description	Name of the flavonoid
Unit	Units of measure (e.g. mg)

\* Primary key for Nutrient Definition file.

**Sources of Data Link File** (file name = DATSRCLN). This file (Table 6) is used to link the Flavonoid Data file with the Sources of Data file. It is needed to resolve the many-to-many relationship between the two files.

- Links to the Flavonoid Data file by NDB No. and Nutr\_No.
- Links to the Sources of Data file by DataSrc\_ID.

**Table 6.—Sources of Data Link File Format**

<b>Field Name</b>	<b>Description</b>
NDB_No*	5-digit Nutrient Databank number
Nutr_No*	Unique 3-digit identifier code for a nutrient
DataSrc_ID*	Unique ID identifying the reference/source

\* Primary keys for the Sources of Data Link file.

**Sources of Data File** (file name = DATA\_SRC). This file (Table 7) provides a citation to the DataSrc\_ID in the Sources of Data Link file.

- Links to Flavonoid Data file by NDB No. through the Sources of Data Link file

**Table 7.—Sources of Data File Format**

<b>Field Name</b>	<b>Description</b>
DataSrc_ID*	Unique number identifying the reference/source
Authors	List of authors for a journal article or name of sponsoring organization for other documents
Title	Title of article or name of document, such as a report from a company or trade association
Year	Year article or document was published
Journal	Name of the journal in which the article was published
Vol	Volume number for journal articles, books, or reports
Start_Page	Starting page number of article/document
End_Page	Ending page number of article/document

\* Primary key for the Sources of Data file.

**Flavonoid Individual Data File** (file name – FLAV\_IND). The Flavonoid Individual Data file (Table 8) will contain the individual data records aggregated to calculate the mean values in the Flavonoid Data file. NOTE: This file is being developed and not yet available. It will be available in early 2012 in Release 3.1 of the database.

- Links to the Flavonoid Data File through the NDB\_No.
- Links to the Nutrient Definition Table through the Nutr\_No.

**Table 8 –Flavonoid Individual Data File Format**

<b>Field Name</b>	<b>Description</b>
NDB No.*	5-Digit Nutrient Databank number. Can be linked to the Food Description file, to access the name used in the database for the aggregated data
Nutr_No*	Unique 3-digit identifier code for a flavonoid. Links to the Nutrient Definition Table for Nutrient Descriptions

<b>Field Name</b>	<b>Description</b>
DataSrc_ID*	A unique ID identifying the data source document. The full citation for each data source can be accessed by linking to the “Sources of Data” file through the “Source of Data Link” file
Food_No*	A unique identifier indicating a specific food item within the data source document
Food_Indiv_Desc	The description of the specific food item used in the data source document
Orig_NutrVal	The flavonoid value given in the original data source. If individual glycosides were reported they are given here as well.
Orig_Units	Units reported in the original data source. If the original data was reported on the dry weight basis, this is indicated here as well.
Orig_StdDev	The standard deviation of the mean given in the original data source.
Num_Data_Pts	The number of data points given in the data source
Conv_Factor_G	Factor used to convert individual glycosides to the aglycone form
Conv_Factor_S	Factor used to convert either a value from the dry-weight basis to the fresh weight basis or in the case of beverages, from values reported in mg/l to mg/100 g using the specific gravity, or converting the units of measure to the standard units used in this database. In some cases, these factors will be combined into a single factor.
Nutr_Val	Converted value used in the calculation of the mean values reported in the Flavonoid Data File (FLAV_DAT), (mg/100 g) edible portion
SD	Standard deviation of the mean; null if could not be calculated
Status	A code giving the status of the data value, indicating how it was used in the calculation of the mean values reported in the Flavonoid Data File (FLAV_DAT). The codes are: <ul style="list-style-type: none"> <li>• null (no code) – the value was used in the calculation of the mean values.</li> <li>• glyc – an individual glycoside, the glycosides of each flavonoid are summed to give the value used in calculating the mean.</li> <li>• x – Indicates the value was not used in the calculation of the mean.</li> </ul>
SampHand_Rtg	DQES rating for sample handling based on the evaluation of information published in the data source document
AnalMeth_Rtg	DQES rating for analytical method based on evaluation of information published in the data source document
SampPlan_Rtg	DQES rating for the sampling plan based on evaluation of information published in the data source document

<b>Field Name</b>	<b>Description</b>
AnalQC_Rtg	DQES rating for analytical quality control based on evaluation of information published in the data source document
NumSamp_Rtg	DQES rating for the number of samples based on evaluation of information published in the data source document
CC	Confidence Code indicating data quality, based on evaluation of sample plan, sample handling, analytical method, analytical quality control, and number of samples analyzed (DQES)

\* Primary keys for Flavonoid Individual Data file.

### **Sources of Data**

A complete list of the data sources from which the flavonoid values in the database were obtained is provided and corresponds to the “References” column in the data tables.

Published references list authors, title, journal citation, as well as foods and flavonoids analyzed. Sources of unpublished data are also provided.

### **References Cited in the Documentation**

- Amiot et al.**, J. Agric. Food Chem., 1995, 43, 1132-1137  
**Arts et al.**, J. Agric. Food Chem., 2000, 48(5), 1752-1757  
**Dixon and Palva**, The Plant Cell, 1995, 7, 1085-1097  
**Erdman, et al.**, J. Nutr., 2007, 137, 718S-737S.  
**Ekström et al.**, Annals of Oncology, 2011, 22, 438-443  
**Häkkinen et al.**, J. Agric. Food Chem., 2000, 48, 2960-2965  
**Hertog et al.**, J. Agric. Food Chem., 1993, 41(8), 1242-1246  
**Holden et al.**, J. Food Comp. Anal., 2005, 18, 829-884.  
**Holden et al.**, J. Food Comp. Anal., 2002, 15(4), 339-348  
**Lam et al.**, Carcinogenesis, 2010, 31, 634-642  
**Mangels et al.**, J. Am. Diet. Assoc., 1993, 93, 284-296.  
**Patil et al.**, New Phytol., 1995, 130, 340-355  
**Schroeter et al.**, Mol. Aspects Med., 2010, 31, 546-557  
**Van der Sluis et al.**, J. Agric. Food Chem., 2001, 49, 3606-3613  
**Winkel-Shirley, B.**, Current Opinion in Plant Biology, 2002, 5, 218-223

Figure 1. Chemical structure of flavonols (quercetin, kaempferol, myricetin, isorhamnetin)

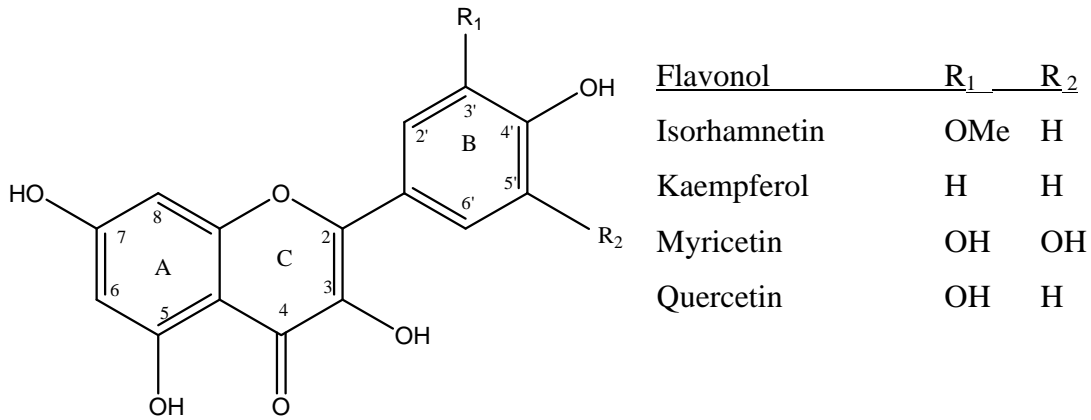


Figure 2. Chemical structure of flavones (luteolin, apigenin)

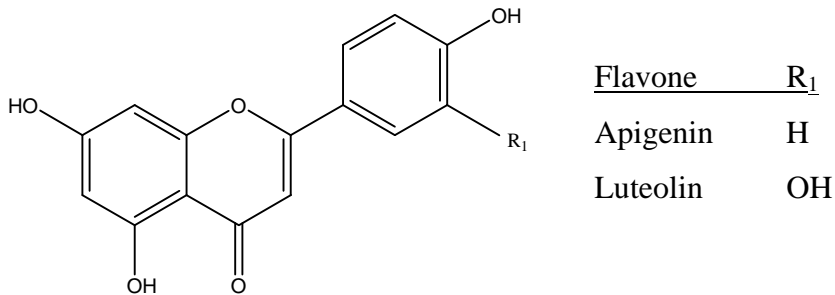


Figure 3. Chemical structure of flavanones (eriodictyol, hesperetin, naringenin).

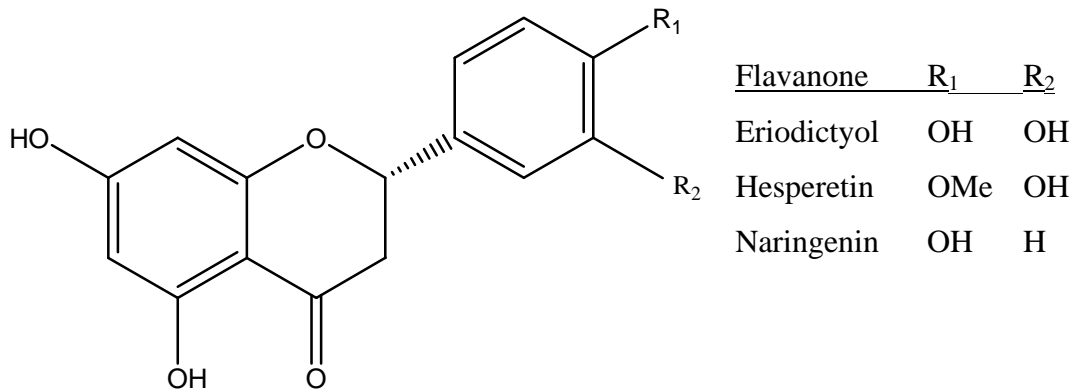
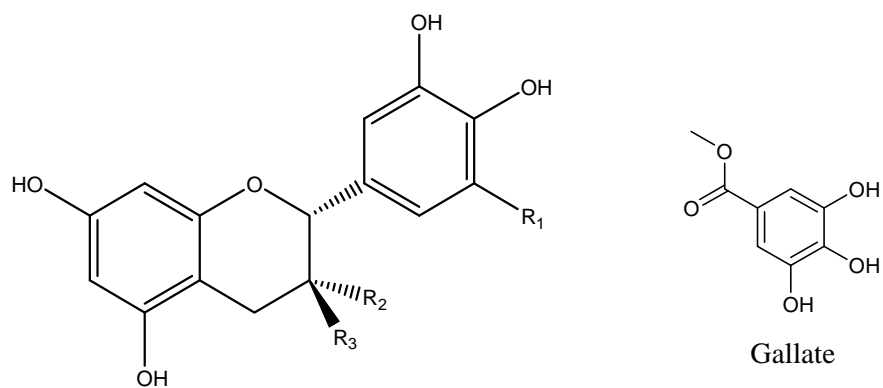
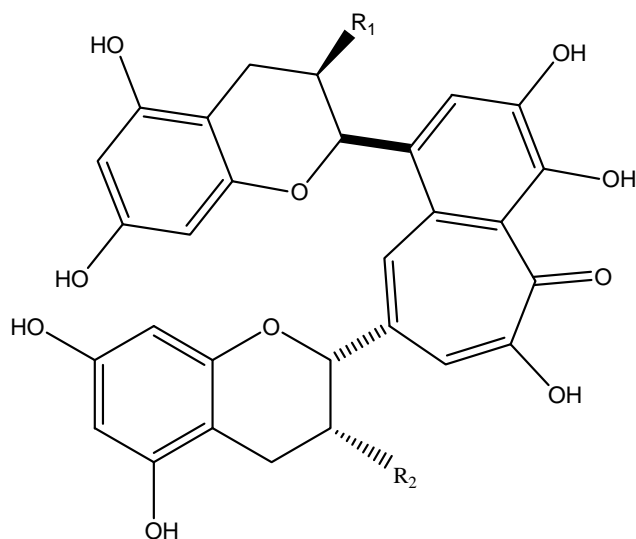


Figure 4. Structure of flavan-3-ols (catechins and epicatechins).



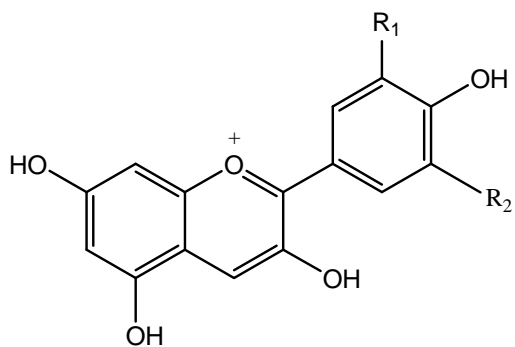
Flavan-3-ol	R <sub>1</sub>	R <sub>2</sub>	R <sub>3</sub>
(+)-Catechin (C)	H	H	OH
(+)-Catechin-3-gallate (CG)	H	H	Gallate
(-)-Epicatechin (EC)	H	OH	H
(-)-Epicatechin-3-gallate (ECG)	H	Gallate	H
(-)-Epigallocatechin (EGC)	OH	OH	H
(-)-Epigallocatechin-3-gallate (EGCG)	OH	Gallate	H
(+)-Gallocatechin (GC)	OH	H	OH
(+)-Gallocatechin-3-gallate (GCG)	OH	H	Gallate

Figure 5. Chemical structure of theaflavins.



Theaflavin	R <sub>1</sub>	R <sub>2</sub>
Theaflavin	OH	OH
Theaflavin-3-gallate	Gallate	OH
Theaflavin-3'-gallate	OH	Gallate
Theaflavin-3,3'-digallate	Gallate	Gallate

Figure 6. Chemical structure of anthocyanidins (cyanidin, delphinidin, malvidin, pelargonidin, peonidin, petunidin).



<u>Anthocyanidin</u>	<u>R<sub>1</sub></u>	<u>R<sub>2</sub></u>
Cyanidin	H	OH
Delphinidin	OH	OH
Malvidin	OMe	OMe
Pelargonidin	H	H
Peonidin	H	OMe
Petunidin	OH	OMe

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
<b>01 – Dairy and Eggs</b>										
01103	Milk, chocolate, fluid, commercial, reduced fat, with added vitamin A and vitamin D	Flavan-3-ols	(-) -Epicatechin	0.26	2	0.21	0.06	0.47	B	15
			(-) -Epicatechin 3-gallate	0.00	2		0.00	0.00	B	15
			(-) -Epigallocatechin	0.00	2		0.00	0.00	B	15
			(-) -Epigallocatechin 3-gallate	0.00	2		0.00	0.00	B	15
			(+) -Catechin	0.82	2	0.71	0.11	1.53	B	15
			(+) -Gallocatechin	0.00	2		0.00	0.00	B	15
		Flavones	Apigenin	0.00	1		0.00	0.00	C	110
		Flavones	Luteolin	0.00	1		0.00	0.00	C	110
		Flavonols	Kaempferol	0.00	1		0.00	0.00	C	110
			Myricetin	0.05	1		0.05	0.05	C	110
		Quercetin	0.12	1		0.12	0.12	C	110	
<b>02 – Spices and Herbs</b>										
02044	Basil, fresh ( <i>Ocimum basilicum</i> )	Flavanones	Hesperetin	0.00	1				C	128
		Flavones	Apigenin	0.00	1		0.00	0.00	C	128
			Luteolin	0.00	1		0.00	0.00	C	128
		Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	128
			Kaempferol	0.00	1		0.00	0.00	C	128
			Quercetin	0.00	1		0.00	0.00	C	128
02054	Capers, canned ( <i>Capparis spinosa</i> )	Flavonols	Kaempferol	131.34	20	12.13	59.49	247.97	B	93, 120
	Quercetin		172.55	20	26.49	45.05	519.85	B	93, 120	
99360	Capers, raw	Flavonols	Kaempferol	259.19	3	27.06	214.99	308.33	C	93
			Quercetin	233.84	3	50.31	149.31	323.38	C	93
99379	Chives, Chinese, raw	Flavonols	Kaempferol	17.11	6	6.23	15.07	19.16	C	231
02045	Dill weed, fresh ( <i>Anethum graveolens</i> )	Flavanones	Hesperetin	0.00	2		0.00	0.00	C	128
		Flavones	Apigenin	0.00	3		0.00	0.00	C	128, 164
			Luteolin	0.00	3		0.00	0.00	C	128, 164
		Flavonols	Isorhamnetin	43.50	2	28.50	15.00	72.00	C	128
			Kaempferol	13.33	3	7.06	0.00	24.00	C	128, 164
			Myricetin	0.70	1		0.70	0.70	C	164
	Quercetin	55.15	3	29.82	7.45	110.00	C	128, 164		
99104	Licorice root	Flavonols	Quercetin	0.00	1		0.00	0.00	D	107
99115	Oregano, fresh	Flavanones	Hesperetin	0.00	2		0.00	0.00	C	128
		Flavones	Apigenin	2.57	3	0.72	1.70	4.00	C	128, 246
			Luteolin	1.00	3	1.00	0.00	3.00	C	128, 246
		Flavonols	Isorhamnetin	0.00	2		0.00	0.00	C	128
			Kaempferol	0.00	3		0.00	0.00	C	128, 246
			Myricetin	2.10	1		2.10	2.10	D	246
	Quercetin	7.30	3	7.30	0.00	21.90	C	128, 246		



## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
99646	Oregano, Mexican, dried	Flavanones	Eriodictyol	85.33	3	6.69	72.00	93.00	C	158
			Naringenin	372.00	3	24.38	335.00	418.00	C	158
		Flavones	Apigenin	17.71	3	1.10	15.63	19.38	C	158
			Luteolin	1028.75	3	68.77	901.29	1137.22	C	158
Flavonols	Quercetin	42.00	3	4.04	34.00	47.00	C	158		
	99380	Oregano, Mexican, fresh	Flavanones	Naringenin	0.00	1		0.00	0.00	D
Flavones			Apigenin	0.00	1		0.00	0.00	D	300
			Luteolin	25.10	1		25.10	25.10	D	300
Flavonols			Kaempferol	0.00	1		0.00	0.00	D	300
	Quercetin	0.00	1		0.00	0.00	D	300		
02064	Peppermint, fresh ( <i>Mentha x piperita</i> L. <i>nothosubsp. piperita</i> )	Flavanones	Eriodictyol	30.92	14	3.71	12.27	54.53	C	3
			Hesperetin	9.52	16	1.47	0.00	21.94	C	3, 128
		Flavones	Apigenin	8.71	16	6.11	0.24	99.00	C	3, 128
			Luteolin	11.33	16	2.14	4.31	42.00	C	3, 128
		Flavonols	Isorhamnetin	0.00	2		0.00	0.00	C	128
			Kaempferol	0.00	2		0.00	0.00	C	128
Quercetin	0.00		2		0.00	0.00	C	128		
02063	Rosemary, fresh ( <i>Rosmarinus officinalis</i> )	Flavanones	Hesperetin	0.00	1		0.00	0.00	C	128
			Naringenin	24.86	1		24.86	24.86	C	300
		Flavones	Apigenin	0.55	2	0.55	0.00	1.10	C	128, 300
			Luteolin	2.00	2	2.00	0.00	4.00	C	128, 300
		Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	128
			Kaempferol	0.00	2		0.00	0.00	C	128, 300
Quercetin	0.00		2		0.00	0.00	C	128, 300		
99116	Sage, fresh	Flavanones	Hesperetin	0.00	1		0.00	0.00	C	128
			Naringenin	0.00	1		0.00	0.00	C	300
		Flavones	Apigenin	1.20	2	1.20	0.00	2.40	C	128, 300
			Luteolin	16.70	2	16.70	0.00	33.40	C	128, 300
		Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	128
			Kaempferol	0.00	2		0.00	0.00	C	128, 300
Quercetin	0.00		2		0.00	0.00	C	128, 300		
02007	Spices, celery seed ( <i>Apium graveolens</i> )	Flavones	Apigenin	83.70	1		83.70	83.70	C	157
			Luteolin	811.41	1		811.41	811.41	C	157
02023	Spices, marjoram, dried ( <i>Origanum majorana</i> )	Flavanones	Naringenin	0.00	1		0.00	0.00	D	300
		Flavones	Apigenin	3.50	1		3.50	3.50	D	300
			Luteolin	0.00	1		0.00	0.00	D	300
		Flavonols	Kaempferol	0.00	1		0.00	0.00	D	300
Quercetin	0.00		1		0.00	0.00	D	300		
02029	Spices, parsley, dried	Flavones	Apigenin	4503.50	5	2254.33	1774.60	13506.2	B	173, 119

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
	<i>(Petroselinum crispum)</i>							2		
		Flavonols	Luteolin	19.75	1		19.75	19.75	B	173
			Isorhamnetin	331.24	1		331.24	331.24	B	173
			Kaempferol	0.00	1		0.00	0.00	B	173
			Quercetin	0.00	4		0.00	0.00	C	119
02037	Spices, saffron ( <i>Crocus sativus</i> )	Flavonols	Kaempferol	205.48	12	49.23	146.75	318.35	B	36
99117	Tarragon, fresh	Flavanones	Hesperetin	0.00	1		0.00	0.00	C	128
		Flavones	Apigenin	0.00	1		0.00	0.00	C	128
			Luteolin	1.00	1		1.00	1.00	C	128
		Flavonols	Isorhamnetin	5.00	1		5.00	5.00	C	128
			Kaempferol	11.00	1		11.00	11.00	C	128
Quercetin	10.00	1		10.00	10.00	C	128			
02049	Thyme, fresh ( <i>Thymus vulgaris</i> )	Flavanones	Hesperetin	0.00	1		0.00	0.00	C	128
			Naringenin	0.00	1		0.00	0.00	C	300
		Flavones	Apigenin	2.50	2	2.50	0.00	5.00	C	128, 300
			Luteolin	45.25	2	5.75	39.50	51.00	C	128, 300
		Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	128
			Kaempferol	0.00	2		0.00	0.00	C	128, 300
Quercetin	0.00	2		0.00	0.00	C	128, 300			
99351	Vinegar, cider (Germany)	Flavan-3-ols	(-) -Epicatechin	0.82	2	0.28	0.54	1.10	C	6
			(+) -Catechin	4.85	2	0.95	3.90	5.80	C	6
		Flavonols	Quercetin	0.68	2	0.68	0.00	1.35	C	6
99109	Vinegar, wine, red	Anthocyanidins	Cyanidin	0.00	1		0.00	0.00	C	6
			Delphinidin	0.08	1		0.08	0.08	C	6
			Malvidin	0.43	1		0.43	0.43	C	6
			Peonidin	0.07	1		0.07	0.07	C	6
			Petunidin	0.08	1		0.08	0.08	C	6
		Flavan-3-ols	(-) -Epicatechin	2.20	1		2.20	2.20	C	6
99108	Vinegar, wine, white	Flavan-3-ols	(-) -Epicatechin	0.60	2	0.60	0.00	1.20	C	6
			(+) -Catechin	3.60	2	1.20	2.40	4.80	C	6
<b>06 – Soups, Sauces, and Gravies</b>										
06931	Sauce, pasta, spaghetti/marinara, ready-to-serve	Flavonols	Kaempferol	0.01	3		0.01	0.01	C	253
			Quercetin	0.91	3		0.91	0.91	C	253
06159	Soup, tomato, canned, condensed	Flavonols	Kaempferol	0.00	3		0.00	0.00	C	253
			Quercetin	0.14	3		0.14	0.14	C	253
<b>09 – Fruit and Fruit Juices</b>										
99594	Acai, berries, purple, fresh	Anthocyanidins	Cyanidin	53.64	4	21.31	7.07	110.42	C	156
99595	Acai, berries, purple, frozen	Anthocyanidins	Cyanidin	61.94	6	20.95	23.75	161.74	C	156

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
99596	Acai, berries, white, frozen	Anthocyanidins	Cyanidin	0.48	1		0.48	0.48	C	156
99577	Acai, fruit pulp/skin, powder	Anthocyanidins	Cyanidin	170.12	1		170.12	170.12	C	237
			Peonidin	3.28	1		3.28	3.28	C	237
09001	Acerola, (west indian cherry) , raw ( <i>Malpighia emarginata</i> )	Anthocyanidins	Cyanidin	15.71	2	5.18	10.53	20.89	C	51
			Pelargonidin	6.84	2	2.45	4.40	9.29	C	51
		Flavones	Apigenin	0.00	14		0.00	0.00	B	223
			Luteolin	0.00	14		0.00	0.00	B	223
		Flavonols	Kaempferol	1.05	14	0.26	0.90	1.20	B	223
			Myricetin	0.00	14		0.00	0.00	B	223
Quercetin	4.74		14	1.16	4.10	5.30	B	223		
99083	Apple cider (European)	Flavan-3-ols	(-) -Epicatechin	0.32	6	0.20	0.00	1.15	C	6, 254, 54
			(-) -Epicatechin 3-gallate	0.00	3		0.00	0.00	C	54
			(-) -Epigallocatechin	0.00	3		0.00	0.00	C	54
			(-) -Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	54
			(+) -Catechin	1.95	5	1.21	0.00	5.53	C	6, 54
			(+) -Gallocatechin	0.00	3		0.00	0.00	C	54
		Flavonols	Quercetin	0.48	2	0.48	0.00	0.96	C	6
09016	Apple juice, canned or bottled, unsweetened, without added ascorbic acid	Anthocyanidins	Cyanidin	0.01	6	0.00	0.00	0.03	B	182
		Flavan-3-ols	(-) -Epicatechin	4.71	13	2.25	0.00	21.86	B	15, 238, 249, 268
			(-) -Epicatechin 3-gallate	0.00	2		0.00	0.00	B	15
			(-) -Epigallocatechin	0.00	2		0.00	0.00	B	15
			(-) -Epigallocatechin 3-gallate	0.00	2		0.00	0.00	B	15
			(+) -Catechin	1.25	13	0.61	0.00	6.74	B	15, 238, 249, 268
			(+) -Gallocatechin	0.00	2		0.00	0.00	B	15
		Flavanones	Eriodictyol	0.00	6		0.00	0.00	B	182
			Hesperetin	0.00	6		0.00	0.00	B	182
			Naringenin	0.00	6		0.00	0.00	B	182
		Flavones	Apigenin	0.00	4		0.00	0.00	B	110, 232
			Luteolin	0.00	4		0.00	0.00	B	110, 232
		Flavonols	Kaempferol	0.00	4		0.00	0.00	B	110, 232
			Myricetin	0.01	4	0.01	0.00	0.05	B	110, 232
Quercetin	0.58		23	0.14	0.00	3.01	B	110, 205, 238, 232, 249, 268, 182		
99002	Apple, skin only	Anthocyanidins	Cyanidin	5.50	8	1.84	0.00	13.32	C	263
		Flavan-3-ols	(-) -Epicatechin	28.73	8	5.73	7.81	59.16	C	263
			(+) -Catechin	7.40	8	1.54	0.00	12.39	C	263
		Flavonols	Quercetin	19.36	8	1.04	14.76	23.49	C	263
97066	Apples, Fuji, raw, with skin	Anthocyanidins	Cyanidin	0.65	14	0.12	0.00	1.83	B	11, 105, 81, 287, 276
			Delphinidin	0.01	6	0.00	0.00	0.02	B	81, 105
			Malvidin	0.00	4	0.00	0.00		B	105

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			Pelargonidin	0.01	6	0.00	0.00	0.02	B	81, 105
			Peonidin	0.00	4		0.00	0.00	B	105
			Petunidin	0.00	4		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	5.55	8	0.56	1.01	13.23	B	11, 105, 276
			(-) -Epicatechin 3-gallate	0.00	4		0.00	0.00	B	105
			(-) -Epigallocatechin	1.14	4	0.49	0.22	2.51	B	105
			(-) -Epigallocatechin 3-gallate	1.93	4	1.45	0.08	6.26	B	105
			(+) -Catechin	0.75	8	0.03	0.10	1.30	B	11, 105, 276
			(+) -Gallocatechin	0.00	4		0.00	0.00	B	105
			Flavanones	Hesperetin	0.00	4		0.00	0.00	B
		Naringenin		0.00	4		0.00	0.00	B	105
		Flavones	Apigenin	0.00	6	0.00	0.00	0.01	B	81, 105
			Luteolin	0.01	4	0.00	0.00	0.02	B	81, 105
		Flavonols	Myricetin	0.01	6	0.00	0.00	0.03	B	81, 105
Quercetin	2.35		10	0.29	0.00	4.91	B	11, 105, 81, 276		
97067	Apples, Gala, raw, with skin	Anthocyanidins	Cyanidin	1.10	19	0.09	0.00	2.36	B	11, 105, 287, 276, 269
		Flavan-3-ols	(-) -Epicatechin	6.04	15	1.09	1.11	10.40	B	11, 105, 276, 269
			(+) -Catechin	1.39	15	0.15	0.13	5.10	B	11, 105, 276, 269
		Flavones	Apigenin	0.00	5		0.00	0.00	C	105, 163
			Luteolin	0.00	3		0.00	0.00	C	105, 163
		Flavonols	Kaempferol	0.00	1		0.00	0.00	C	163
			Myricetin	0.00	5		0.00	0.00	C	105, 163
Quercetin	3.80		17	0.41	2.73	10.10	B	11, 105, 163, 276, 269		
97069	Apples, Golden Delicious, raw, with skin	Anthocyanidins	Cyanidin	0.00	14		0.00	0.00	B	11, 276, 269
			Delphinidin	0.00	4		0.00	0.00	B	105
			Malvidin	0.00	4		0.00	0.00	B	105
			Pelargonidin	0.00	4		0.00	0.00	B	105
			Peonidin	0.00	4		0.00	0.00	B	105
			Petunidin	0.00	4		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	5.51	18	0.97	1.32	9.20	B	11, 105, 276, 269
			(-) -Epicatechin 3-gallate	0.00	4		0.00	0.00	B	105
			(-) -Epigallocatechin	0.35	4	0.20	0.00	0.71	B	105
			(-) -Epigallocatechin 3-gallate	0.19	4	0.11	0.00	0.40	B	105
			(+) -Catechin	0.59	18	0.06	0.00	1.60	B	11, 105, 276, 269
			(+) -Gallocatechin	0.00	4		0.00	0.00	B	105
			Flavanones	Hesperetin	0.00	4		0.00	0.00	B
		Naringenin		0.00	4		0.00	0.00	B	105
		Flavones	Apigenin	0.00	4		0.00	0.00	B	105
			Luteolin	0.00	2		0.00	0.00	B	105

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data		
		Flavonols	Myricetin	0.00	4		0.00	0.00	B	105		
			Quercetin	3.69	18	0.73	1.57	4.65	B	11, 105, 276, 269		
	Apples, Golden Delicious, raw, without skin	Anthocyanidins	Delphinidin	0.00	2		0.00	0.00	B	105		
			Malvidin	0.00	2		0.00	0.00	B	105		
			Pelargonidin	0.00	2		0.00	0.00	B	105		
			Peonidin	0.00	2		0.00	0.00	B	105		
			Petunidin	0.00	2		0.00	0.00	B	105		
				Flavan-3-ols	(-) -Epicatechin	6.27	2	0.31	5.96	6.58	C	105, 263
			(-) -Epicatechin 3-gallate		0.00	1		0.00	0.00	B	105	
			(-) -Epigallocatechin		1.52	1		1.52	1.52	B	105	
			(-) -Epigallocatechin 3-gallate		0.00	1		0.00	0.00	B	105	
			(+) -Catechin		2.77	2	2.66	0.11	5.43	C	105, 263	
			(+) -Gallocatechin		0.00	1		0.00	0.00	B	105	
			Flavanones	Hesperetin	0.00	1		0.00	0.00	B	105	
				Naringenin	0.00	1		0.00	0.00	B	105	
			Flavones	Apigenin	0.00	2		0.00	0.00	B	105	
				Luteolin	0.00	2		0.00	0.00	B	105	
			Flavonols	Myricetin	0.00	2		0.00	0.00	B	105	
		Quercetin		0.51	3	0.04	0.43	0.56	B	105, 263		
97070	Apples, Granny Smith, raw, with skin	Anthocyanidins	Delphinidin	0.00	4		0.00	0.00	C	105		
			Malvidin	0.00	4		0.00	0.00	B	105		
			Pelargonidin	0.00	4		0.00	0.00	B	105		
			Peonidin	0.00	4		0.00	0.00	B	105		
			Petunidin	0.00	4		0.00	0.00	B	105		
			Flavan-3-ols	(-) -Epicatechin	7.11	16	1.14	2.18	12.40	B	54, 105, 276, 269	
				(-) -Epicatechin 3-gallate	0.01	7	0.01	0.00	0.05	B	54, 105	
				(-) -Epigallocatechin	0.71	7	0.28	0.00	1.69	B	54, 105	
				(-) -Epigallocatechin 3-gallate	0.24	7	0.09	0.00	0.52	B	54, 105	
				(+) -Catechin	1.87	16	0.28	0.30	3.60	B	54, 105, 276, 269	
				(+) -Gallocatechin	0.00	7		0.00	0.00	B	54, 105	
				Flavanones	Hesperetin	0.00	4		0.00	0.00	B	105
			Naringenin		0.00	4		0.00	0.00	B	105	
				Flavones	Apigenin	0.00	5		0.00	0.00	B	105, 232
			Luteolin		0.00	3		0.00	0.00	B	105, 232	
				Flavonols	Kaempferol	0.00	1		0.00	0.00	C	232
	Myricetin	0.00	5			0.00	0.00	B	105, 232			
	Quercetin	2.54	14		0.30	1.34	4.14	B	105, 232, 276, 269			
09003	Apples, raw, with skin ( <i>Malus domestica</i> )	Anthocyanidins	Cyanidin	1.27	95	0.21	0.00	10.70	B	11, 105, 81, 272, 287, 276, 269		
			Delphinidin	0.00	24	0.00	0.00	0.02	A	81, 105		

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			Malvidin	0.00	20		0.00	0.00	A	105
			Pelargonidin	0.00	24	0.00	0.00	0.02	A	81, 105
			Peonidin	0.01	22	0.01	0.00	0.18	A	105, 287
			Petunidin	0.00	20		0.00	0.00	A	105
		Flavan-3-ols	(-) -Epicatechin	7.53	150	0.44	0.80	19.16	B	14, 11, 54, 105, 152, 272, 262, 63, 276, 269
			(-) -Epicatechin 3-gallate	0.01	59	0.00	0.00	0.19	A	14, 54, 105
			(-) -Epigallocatechin	0.26	59	0.07	0.00	2.51	A	14, 54, 105
			(-) -Epigallocatechin 3-gallate	0.19	59	0.11	0.00	6.26	A	14, 54, 105
			(+) -Catechin	1.30	140	0.07	0.00	5.10	B	14, 11, 54, 105, 262, 63, 276, 269
			(+) -Gallocatechin	0.00	59		0.00	0.00	A	14, 54, 105
		Flavanones	Hesperetin	0.00	19		0.00	0.00	A	105
			Naringenin	0.00	19		0.00	0.00	A	105
		Flavones	Apigenin	0.00	51	0.00	0.00	0.01	A	111, 105, 81, 163, 232, 223
			Luteolin	0.12	42	0.08	0.00	2.70	B	111, 105, 81, 163, 232, 12, 223
		Flavonols	Kaempferol	0.14	37	0.07	0.00	2.67	B	111, 173, 81, 163, 232, 12, 63, 135, 223
			Myricetin	0.00	53	0.00	0.00	0.03	B	111, 105, 81, 163, 232, 12, 135, 223
			Quercetin	4.01	139	0.12	0.00	11.47	B	11, 12, 63, 73, 81, 105, 111, 135, 152, 163, 205, 223, 272, 232, 269, 276
09004	Apples, raw, without skin ( <i>Malus domestica</i> )	Anthocyanidins	Cyanidin	2.17	6	1.34	0.60	8.90	B	81, 105
			Delphinidin	0.01	8	0.00	0.00	0.02	B	81, 105
			Malvidin	0.00	4		0.00	0.00	B	105
			Pelargonidin	0.01	8	0.00	0.00	0.02	B	81, 105
			Peonidin	0.00	4		0.00	0.00	B	105
			Petunidin	0.00	4		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	6.25	43	0.60	0.00	14.23	B	14, 34, 105, 263
			(-) -Epicatechin 3-gallate	0.00	31		0.00	0.00	A	14, 105
			(-) -Epigallocatechin	0.14	31	0.08	0.00	1.52	A	14, 105
			(-) -Epigallocatechin 3-gallate	0.03	31	0.02	0.00	0.48	A	14, 105
			(+) -Catechin	1.23	37	0.17	0.00	5.52	B	14, 105, 263
			(+) -Gallocatechin	0.00	31		0.00	0.00	A	14, 105
		Flavanones	Hesperetin	0.00	3		0.00	0.00	B	105
			Naringenin	0.00	3		0.00	0.00	B	105
		Flavones	Apigenin	0.00	8	0.00	0.00	0.01	B	81, 105
			Luteolin	0.01	8	0.00	0.00	0.02	B	81, 105
		Flavonols	Kaempferol	0.01	4		0.01	0.01	B	81
Myricetin	0.01		8	0.00	0.00	0.03	B	81, 105		
Quercetin	1.05		39	0.16	0.00	2.00	B	34, 129, 105, 81, 272, 263		

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
97071	Apples, Red Delicious, raw, without skin	Anthocyanidins	Cyanidin	2.95	4	1.97	0.80	8.90	B	81, 105
			Delphinidin	0.01	4	0.00	0.00	0.02	B	81, 105
			Malvidin	0.00	2		0.00	0.00	B	105
			Pelargonidin	0.01	4	0.00	0.00	0.02	B	81, 105
			Peonidin	0.00	2		0.00	0.00	B	105
			Petunidin	0.00	2		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	4.09	2	0.11	3.98	4.20	B	105
			(-) -Epicatechin 3-gallate	0.00	2		0.00	0.00	B	105
			(-) -Epigallocatechin	1.37	2	0.07	1.30	1.44	B	105
			(-) -Epigallocatechin 3-gallate	0.46	2	0.03	0.43	0.48	B	105
			(+) -Catechin	1.00	2	0.03	0.97	1.02	B	105
			(+) -Gallocatechin	0.00	2		0.00	0.00	B	105
		Flavanones	Hesperetin	0.00	2		0.00	0.00	B	105
			Naringenin	0.00	2		0.00	0.00	B	105
		Flavones	Apigenin	0.00	4	0.00	0.00	0.01	B	81, 105
			Luteolin	0.01	4	0.00	0.00	0.02	B	81, 105
		Flavonols	Myricetin	0.01	4	0.00	0.00	0.03	B	81, 105
			Quercetin	0.41	4	0.02	0.00	0.66	B	81, 105
97072	Apples, Red Delicious, raw. with skin	Anthocyanidins	Cyanidin	3.74	21	0.69	1.41	10.70	B	81, 105, 287, 276, 269
			Delphinidin	0.01	6	0.00	0.00	0.02	B	81, 105
			Malvidin	0.00	4		0.00	0.00	B	105
			Pelargonidin	0.01	6	0.00	0.00	0.02	B	81, 105
			Peonidin	0.05	6	0.03	0.00	0.18	B	105, 287
			Petunidin	0.00	4		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	9.83	19	1.58	0.80	15.92	B	54, 105, 263, 276, 269
			(-) -Epicatechin 3-gallate	0.00	7		0.00	0.00	B	54, 105
			(-) -Epigallocatechin	0.37	7	0.24	0.00	1.44	B	54, 105
			(-) -Epigallocatechin 3-gallate	0.13	7	0.09	0.00	0.65	B	54, 105
			(+) -Catechin	2.00	19	0.35	0.00	3.10	B	54, 105, 263, 276, 269
			(+) -Gallocatechin	0.00	7		0.00	0.00	B	54, 105
		Flavanones	Hesperetin	0.00	4		0.00	0.00	B	105
			Naringenin	0.00	4		0.00	0.00	B	105
		Flavones	Apigenin	0.00	6	0.00	0.00	0.01	B	81, 105
			Luteolin	0.01	4	0.00	0.00	0.02	B	81, 105
		Flavonols	Myricetin	0.01	6	0.00	0.00	0.03	B	81, 105
			Quercetin	3.86	18	0.52	0.25	7.60	B	81, 105, 263, 276, 269
09019	Applesauce, canned, unsweetened, without added ascorbic acid (includes USDA	Flavan-3-ols	(-) -Epicatechin	5.41	1		5.41	5.41	C	14
			(-) -Epicatechin 3-gallate	0.00	1		0.00	0.00	C	14
			(-) -Epigallocatechin	0.00	1		0.00	0.00	C	14

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
	commodity)		(-) -Epigallocatechin 3-gallate	0.00	1		0.00	0.00	C	14
			(+) -Catechin	0.69	1		0.69	0.69	C	14
			(+) -Gallocatechin	0.00	1		0.00	0.00	C	14
		Flavones	Apigenin	0.00	4		0.00	0.00	B	111
			Luteolin	0.00	4		0.00	0.00	B	111
		Flavonols	Kaempferol	0.00	4		0.00	0.00	B	111
			Myricetin	0.00	4		0.00	0.00	B	111
Quercetin	2.00		4		2.00	2.00	B	111		
09023	Apricots, canned, water pack, without skin, solids and liquids	Flavones	Apigenin	0.00	4		0.00	0.00	B	111
			Luteolin	0.00	4		0.00	0.00	B	111
		Flavonols	Kaempferol	0.00	4		0.00	0.00	B	111
			Myricetin	0.00	4		0.00	0.00	B	111
			Quercetin	0.00	4		0.00	0.00	B	111
09021	Apricots, raw ( <i>Prunus armeniaca</i> )	Flavan-3-ols	(-) -Epicatechin	4.74	42	0.60	0.02	8.29	B	14, 54, 262, 62, 63, 64
		Flavan-3-ols	(-) -Epicatechin 3-gallate	0.00	7		0.00	0.00	B	14, 54
			(-) -Epigallocatechin	0.00	7		0.00	0.00	B	14, 54
			(-) -Epigallocatechin 3-gallate	0.00	7		0.00	0.00	B	14, 54
			(+) -Catechin	3.67	42	0.46	0.31	7.34	B	14, 54, 262, 62, 63, 64
			(+) -Gallocatechin	0.00	7		0.00	0.00	B	14, 54
		Flavones	Apigenin	0.00	2		0.00	0.00	B	111, 163
			Luteolin	0.00	2		0.00	0.00	B	111, 163
		Flavonols	Kaempferol	0.63	33	0.08	0.00	1.32	B	111, 163, 62, 63, 64, 135
			Myricetin	0.00	3		0.00	0.00	C	111, 163, 135
Quercetin	1.63		34	0.20	0.38	2.90	B	111, 129, 163, 62, 63, 64, 135		
99043	Arctic bramble berries	Anthocyanidins	Cyanidin	88.30	1		88.30	88.30	C	166
			Pelargonidin	0.70	1		0.70	0.70	C	166
		Flavan-3-ols	(-) -Epicatechin	1.80	1		1.80	1.80	C	166
			(+) -Catechin	2.30	1		2.30	2.30	C	166
		Flavonols	Isorhamnetin	1.40	1		1.40	1.40	C	166
			Kaempferol	0.15	2	0.15	0.00	0.30	C	104, 166
			Myricetin	0.00	1		0.00	0.00	C	104
Quercetin	9.10		2	6.00	3.10	15.10	C	104, 166		
09037	Avocados, raw, all commercial varieties ( <i>Persea americana</i> )	Anthocyanidins	Cyanidin	0.33	6	0.11	0.00	0.58	B	105
			Delphinidin	0.00	6		0.00	0.00	B	105
			Malvidin	0.00	6		0.00	0.00	B	105
			Pelargonidin	0.00	6		0.00	0.00	B	105
			G1	0.00	6		0.00	0.00	B	105
			Peonidin	0.00	6		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	0.37	14	0.07	0.00	1.11	A	14, 54, 105



## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			(-) -Epicatechin 3-gallate	0.00	14		0.00	0.00	A	14, 54, 105
			(-) -Epigallocatechin	0.00	13		0.00	0.00	A	14, 54, 105
			(-) -Epigallocatechin 3-gallate	0.15	14	0.10	0.00	1.10	A	14, 54, 105
			(+) -Catechin	0.00	14		0.00	0.00	A	14, 54, 105
			(+) -Gallocatechin	0.00	14		0.00	0.00	A	14, 54, 105
		Flavanones	Hesperetin	0.00	7		0.00	0.00	B	105
			Naringenin	0.00	7		0.00	0.00	B	105
		Flavones	Apigenin	0.00	7		0.00	0.00	B	105, 232
			Luteolin	0.00	7		0.00	0.00	B	105, 232
		Flavonols	Kaempferol	0.00	1		0.00	0.00	C	232
Myricetin	0.00		7		0.00	0.00	B	105, 232		
Quercetin	0.00		7		0.00	0.00	B	105, 232		
99630	Banana, dwarf, raw ( <i>Musa nana</i> )	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	146
			Kaempferol	0.00	1		0.00	0.00	C	146
			Myricetin	0.00	1		0.00	0.00	C	146
			Quercetin	0.00	1		0.00	0.00	C	146
99597	Bananas, boiled	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	146
			Kaempferol	0.00	1		0.00	0.00	C	146
			Myricetin	0.00	1		0.00	0.00	C	146
			Quercetin	0.00	1		0.00	0.00	C	146
09040	Bananas, raw ( <i>Musa acuminata Colla</i> )	Anthocyanidins	Cyanidin	0.00	8		0.00	0.00	A	105
			Delphinidin	7.39	8	1.18	2.36	12.00	A	105
			Malvidin	0.00	8		0.00	0.00	A	105
			Pelargonidin	0.00	8		0.00	0.00	A	105
			Peonidin	0.00	8		0.00	0.00	A	105
			Petunidin	0.00	8		0.00	0.00	A	105
		Flavan-3-ols	(-) -Epicatechin	0.02	14	0.01	0.00	0.07	A	14, 54, 105
			(-) -Epicatechin 3-gallate	0.00	14		0.00	0.00	A	14, 54, 105
			(-) -Epigallocatechin	0.00	14	0.00	0.00	0.01	A	14, 54, 105
			(-) -Epigallocatechin 3-gallate	0.00	14		0.00	0.00	A	14, 54, 105
			(+) -Catechin	6.10	125	0.53	0.00	10.29	B	14, 54, 56, 105
			(+) -Gallocatechin	0.00	14		0.00	0.00	A	14, 54, 105
		Flavanones	Hesperetin	0.00	7		0.00	0.00	B	105
			Naringenin	0.00	7		0.00	0.00	B	105
		Flavones	Apigenin	0.00	9		0.00	0.00	B	105, 163
			Luteolin	0.00	5		0.00	0.00	B	105, 163
		Flavonols	Kaempferol	0.11	3	0.11	0.00	0.32	C	163, 135, 146
			Myricetin	0.01	11	0.01	0.00	0.14	B	105, 163, 135, 146
			Quercetin	0.06	11	0.04	0.00	0.32	B	105, 163, 135, 146

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
99598	Bayberries, raw	Flavonols	Myricetin	3.65	3	0.71	2.42	4.87	C	77
			Quercetin	4.36	3	1.67	2.29	7.67	C	77
99065	Bilberry soup	Flavonols	Quercetin	0.60	1		0.60	0.60	C	102
99357	Bilberry, raw	Anthocyanidins	Cyanidin	85.26	22	4.84	9.72	125.00	B	131, 149, 188
			Delphinidin	97.59	22	5.05	60.31	161.93	B	131, 149, 188
			Malvidin	39.22	22	1.70	22.58	54.37	B	131, 149, 188
			Peonidin	20.45	22	1.79	9.42	51.01	B	131, 149, 188
			Petunidin	42.69	22	1.51	31.87	55.59	B	131, 149, 188
		Flavonols	Kaempferol	0.00	2		0.00	0.00	C	104
			Myricetin	1.09	8	0.05	0.00	2.10	B	103, 102, 104
			Quercetin	3.04	8	0.72	1.70	4.12	B	103, 102, 104
09042	Blackberries, raw ( <i>Rubus spp.</i> )	Anthocyanidins	Cyanidin	90.49	61	3.70	44.17	199.41	B	105, 74, 287, 175
			Delphinidin	0.00	4		0.00	0.00	B	105
			Malvidin	0.00	4		0.00	0.00	B	105
			Pelargonidin	0.15	6	0.10	0.00	0.51	B	105, 287
			Peonidin	0.00	4		0.00	0.00	B	105
			Petunidin	0.00	4		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	4.66	20	0.47	0.00	18.08	B	14, 54, 105, 240, 262
			(-) -Epicatechin 3-gallate	0.00	11		0.00	0.00	A	14, 54, 105
			(-) -Epigallocatechin	0.10	11	0.01	0.00	0.36	A	14, 54, 105
			(-) -Epigallocatechin 3-gallate	0.68	11	0.68	0.00	7.44	A	14, 54, 105
			(+) -Catechin	37.06	16	24.71	0.00	312.86	B	14, 54, 105, 240, 262
			(+) -Gallocatechin	0.00	11		0.00	0.00	A	14, 54, 105
		Flavanones	Hesperetin	0.00	4		0.00	0.00	B	105
			Naringenin	0.00	4		0.00	0.00	B	105
		Flavones	Apigenin	0.00	5		0.00	0.00	B	105, 163
			Luteolin	0.00	3		0.00	0.00	B	105, 163
		Flavonols	Kaempferol	0.27	15	0.20	0.00	3.13	B	24, 163, 240, 126, 175
			Myricetin	0.67	15	0.67	0.00	9.99	B	24, 105, 240
			Quercetin	3.58	25	0.70	0.00	11.90	B	24, 105, 163, 240, 42, 126, 175
		09050	Blueberries, cultivated (highbush) , raw ( <i>Vaccinium spp.</i> )	Anthocyanidins	Cyanidin	7.10	52	1.39	0.50	48.06
Delphinidin	30.91				52	4.09	3.32	146.63	B	88, 105, 81, 287, 184, 279, 280, 295
Malvidin	59.64				51	4.53	27.31	126.44	B	88, 105, 287, 184, 279, 280, 295
Pelargonidin	0.00				8	0.00	0.00	0.02	B	81, 105
Peonidin	15.36				17	3.20	1.01	47.64	B	88, 105, 287, 184
Petunidin	28.02				51	1.33	8.76	74.89	B	88, 105, 287, 184, 279, 280, , 295
Flavan-3-ols	(-) -Epicatechin			0.62	33	0.09	0.00	3.29	B	14, 54, 105, 240, 262
	(-) -Epicatechin 3-gallate			0.00	15		0.00	0.00	A	14, 54, 105
	(-) -Epigallocatechin			0.66	15	0.18	0.00	2.08	A	14, 54, 105

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			(-) -Epigallocatechin 3-gallate	0.00	15		0.00	0.00	A	14, 54, 105
			(+) -Catechin	5.29	23	1.77	0.00	29.28	B	14, 54, 105, 240, 262
			(+) -Gallocatechin	0.12	15	0.03	0.00	0.59	A	14, 54, 105
		Flavanones	Hesperetin	0.00	8		0.00	0.00	A	105
			Naringenin	0.00	8		0.00	0.00	A	105
		Flavones	Apigenin	0.00	8	0.00	0.00	0.01	B	81, 105
			Luteolin	0.20	4	0.20	0.00	0.80	B	81, 105
		Flavonols	Kaempferol	1.66	17	0.21	0.00	4.10	B	24, 104, 81, 240, 126, 279, 29
			Myricetin	1.26	62	0.21	0.00	8.63	B	24, 104, 105, 81, 240, 42, 126, 279, 280, 278, 29
			Quercetin	7.67	72	0.18	0.00	18.72	B	24, 29, 42, 81, 104, 105, 126, 129, 231, 240, 278, 279, 280
09054	Blueberries, frozen, unsweetened	Anthocyanidins	Cyanidin	4.36	2	3.14	1.22	7.50	C	81, 153
			Delphinidin	21.59	2	1.18	20.40	22.77	C	81, 153
			Malvidin	49.65	1		49.65	49.65	C	153
			Pelargonidin	0.02	1		0.02	0.02	C	81
			Peonidin	0.47	1		0.47	0.47	C	153
			Petunidin	18.16	1		18.16	18.16	C	153
		Flavones	Apigenin	0.01	1		0.01	0.01	C	81
			Luteolin	1.80	1		1.80	1.80	C	81
		Flavonols	Kaempferol	1.10	1		1.10	1.10	C	81
			Myricetin	1.76	7	0.33	0.80	3.50	B	103, 81
Quercetin	4.64		7	0.93	2.20	8.90	B	103, 81		
99653	Blueberries, rabbiteye, raw ( <i>Vaccinium spp.</i> )	Anthocyanidins	Cyanidin	21.60	4	1.35	17.56	26.15	C	295
			Delphinidin	24.28	4	3.46	17.48	33.09	C	295
			Malvidin	56.77	4	9.74	39.29	82.57	C	295
			Peonidin	15.90	4	1.56	12.82	18.75	C	295
			Petunidin	21.43	4	1.80	17.37	24.68	C	295
		Flavan-3-ols	(-) -Epicatechin	25.66	36	1.07	0.00	129.51	B	240
			(+) -Catechin	98.47	12	37.63	14.53	387.48	B	240
		Flavonols	Kaempferol	2.36	12	0.33	0.00	3.72	B	240
			Myricetin	4.70	12	1.01	0.00	8.63	B	240
			Quercetin	3.43	16	0.84	0.00	9.97	B	240, 295
97085	Blueberries, wild (lowbush) , raw ( <i>Vaccinium spp.</i> )	Anthocyanidins	Cyanidin	17.92	12	2.94	2.51	42.47	B	88, 287, 115
			Delphinidin	34.00	12	5.93	11.63	92.71	B	88, 287, 115
			Malvidin	54.00	12	5.78	26.96	103.80	B	88, 287, 115
			Pelargonidin	2.65	1		2.65	2.65	C	115
			Peonidin	9.11	12	1.88	2.97	23.49	B	88, 287, 115
			Petunidin	15.43	12	4.02	5.64	58.23	B	88, 287, 115

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
09053	Blueberries, wild, frozen	Flavonols	Kaempferol	0.10	3		0.10	0.10	C	129
			Quercetin	3.70	3		3.70	3.70	C	129
99326	Bog whortleberries, wild, frozen	Flavonols	Kaempferol	0.00	1		0.00	0.00	C	104
			Myricetin	7.30	2	4.70	2.60	12.00	C	103, 104
			Quercetin	17.70	2	1.90	15.80	19.60	C	103, 104
99619	Breadfruit, boiled	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	146
			Kaempferol	0.00	1		0.00	0.00	C	146
			Myricetin	0.00	1		0.00	0.00	C	146
			Quercetin	0.00	1		0.00	0.00	C	146
99600	Cashew apple, raw	Anthocyanidins	Cyanidin	0.19	1		0.19	0.19	D	52
		Flavones	Apigenin	0.00	5		0.00	0.00	C	223
			Luteolin	0.00	5		0.00	0.00	C	223
		Flavonols	Kaempferol	0.18	5		0.18	0.18	C	223
			Myricetin	1.93	6	0.73	1.60	2.00	C	52, 223
Quercetin	1.27	6	0.47	1.13	1.30	C	52, 223			
99601	Cedar bay cherry, raw	Anthocyanidins	Cyanidin	27.82	1		27.82	27.82	C	184
99603	Cherries, sour, dry, sweetened	Anthocyanidins	Cyanidin	2.26	6	0.72	0.71	3.82	C	139
			Pelargonidin	0.01	6	0.00	0.00	0.03	C	139
			Peonidin	0.15	6	0.05	0.06	0.23	C	139
		Flavonols	Isorhamnetin	7.71	6	2.80	6.75	8.67	C	139
			Kaempferol	1.25	6	0.45	1.08	1.42	C	139
			Quercetin	0.45	6	0.15	0.16	0.74	C	139
99604	Cherries, sour, dry, unsweetened	Anthocyanidins	Cyanidin	6.83	6	2.18	2.11	11.55	C	139
			Pelargonidin	0.05	6	0.02	0.03	0.07	C	139
			Peonidin	0.57	6	0.19	0.25	0.89	C	139
		Flavonols	Isorhamnetin	8.91	6	2.64	1.52	16.30	C	139
			Kaempferol	2.51	6	0.87	1.42	3.60	C	139
			Quercetin	0.44	6	0.16	0.26	0.63	C	139
99606	Cherries, sour, powder	Anthocyanidins	Cyanidin	31.43	6	11.38	25.85	37.00	C	139
			Pelargonidin	0.00	6		0.00	0.00	C	139
			Peonidin	3.12	6	1.13	2.53	3.70	C	139
		Flavonols	Isorhamnetin	6.06	6	2.09	3.19	8.94	C	139
			Kaempferol	5.14	6	1.65	1.68	8.59	C	139
			Quercetin	17.44	6	5.59	5.62	29.26	C	139
09068	Cherries, sour, red, frozen, unsweetened	Anthocyanidins	Cyanidin	10.13	6	3.45	4.95	15.32	C	139
			Pelargonidin	0.00	6		0.00	0.00	C	139
			Peonidin	1.11	6	0.38	0.57	1.66	C	139
		Flavonols	Isorhamnetin	2.64	6	0.96	2.28	3.00	C	139
			Kaempferol	0.15	6	0.05	0.07	0.24	C	139

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data		
09063	Cherries, sour, red, raw ( <i>Prunus cerasus</i> )	Anthocyanidins	Quercetin	0.13	6	0.05	0.11	0.15	C	139		
			Cyanidin	32.57	10	11.37	1.61	105.44	B	285, 138, 245		
			Peonidin	0.87	1		0.87	0.87	C	138		
		Flavan-3-ols	(-) -Epicatechin	3.83	6	3.14	0.68	19.60	B	39, 262		
			(+) -Catechin	0.30	5		0.30	0.30	B	262		
		Flavones	Apigenin	0.00	1		0.00	0.00	C	163		
			Luteolin	0.00	1		0.00	0.00	C	163		
		Flavonols	Isorhamnetin	0.72	4	0.24	0.17	1.34	C	138		
			Kaempferol	0.24	5	0.10	0.00	0.62	B	163, 126, 138		
			Myricetin	0.00	1		0.00	0.00	C	163		
Quercetin	1.47		6	0.41	0.51	2.92	B	163, 126, 138				
09070	Cherries, sweet, raw ( <i>Prunus avium</i> )	Anthocyanidins	Cyanidin	27.45	83	3.72	0.72	145.09	B	87, 105, 287, 98, 125, 138, 267		
			Delphinidin	0.00	4		0.00	0.00	B	105		
			Malvidin	0.00	4		0.00	0.00	B	105		
			Pelargonidin	0.27	74	0.03	0.00	1.88	B	87, 105, 98, 267		
			Peonidin	1.33	83	0.23	0.00	10.99	B	87, 105, 287, 98, 125, 138, 267		
			Petunidin	0.00	4		0.00	0.00	B	105		
		Flavan-3-ols	(-) -Epicatechin	5.00	84	0.35	0.43	27.04	B	14, 39, 54, 105, 262, 98, 267		
			(-) -Epicatechin 3-gallate	0.05	11	0.01	0.00	0.20	A	14, 54, 105		
			(-) -Epigallocatechin	0.34	11	0.26	0.00	2.89	A	14, 54, 105		
			(-) -Epigallocatechin 3-gallate	0.00	10		0.00	0.00	B	14, 54, 105		
			(+) -Catechin	4.36	40	0.53	0.00	14.90	B	14, 54, 105, 262, 98		
			(+) -Gallocatechin	0.00	11		0.00	0.00	A	14, 54, 105		
		Flavanones	Hesperetin	0.00	4		0.00	0.00	B	105		
			Naringenin	0.00	4		0.00	0.00	B	105		
		Flavones	Apigenin	0.00	6		0.00	0.00	B	111, 105, 163		
			Luteolin	0.00	6		0.00	0.00	B	111, 105, 163		
		Flavonols	Isorhamnetin	0.05	4	0.01	0.04	0.07	C	138		
			Kaempferol	0.24	9	0.08	0.00	0.67	B	111, 163, 126, 138, 135, 146		
			Myricetin	0.05	9	0.05	0.00	0.45	B	111, 105, 163, 126, 135, 146		
			Quercetin	2.29	80	0.02	0.10	6.78	B	111, 129, 105, 163, 231, 98, 126, 138, 135, 146, 267		
		99012	Chokeberry, raw	Anthocyanidins	Cyanidin	344.07	7	69.98	26.95	947.52	B	248, 288, 115
					Delphinidin	0.65	1		0.65	0.65	C	115
					Malvidin	1.22	1		1.22	1.22	C	115
Pelargonidin	0.98				2	0.46	0.51	1.44	C	288, 115		
Peonidin	0.08				1		0.08	0.08	C	115		
Petunidin	2.79				1		2.79	2.79	C	115		
Flavonols	Kaempferol			0.34	2	0.34	0.00	0.69	C	104, 126		

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			Myricetin	0.00	1		0.00	0.00	C	104
			Quercetin	18.53	3	9.47	8.90	37.46	C	104, 126
99337	Cloudberries, raw	Anthocyanidins	Cyanidin	1.70	1		1.70	1.70	C	166
			Pelargonidin	0.00	1		0.00	0.00	C	166
		Flavan-3-ols	(-) -Epicatechin	0.80	1		0.80	0.80	C	166
			(+) -Catechin	0.50	1		0.50	0.50	C	166
		Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	166
			Kaempferol	0.00	3		0.00	0.00	C	104, 166
			Myricetin	0.00	2		0.00	0.00	C	104
			Quercetin	0.57	3	0.03	0.50	0.60	C	104, 166
99622	Coconut, immature flesh, raw	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	146
			Kaempferol	0.00	1		0.00	0.00	C	146
			Myricetin	0.00	1		0.00	0.00	C	146
			Quercetin	0.00	1		0.00	0.00	C	146
09079	Cranberries, dried, sweetened	Anthocyanidins	Cyanidin	0.60	2		0.60	0.60	C	81
			Delphinidin	0.10	2		0.10	0.10	C	81
			Pelargonidin	0.02	2		0.02	0.02	C	81
		Flavones	Apigenin	0.01	2		0.01	0.01	C	81
			Luteolin	0.02	2		0.02	0.02	C	81
		Flavonols	Kaempferol	0.01	2		0.01	0.01	C	81
			Myricetin	2.40	2		2.40	2.40	C	81
			Quercetin	4.50	2		4.50	4.50	C	81
09078	Cranberries, raw ( <i>Vaccinium macrocarpon</i> )	Anthocyanidins	Cyanidin	37.74	8	4.76	9.24	53.35	B	29, 105, 287
			Delphinidin	7.66	5	1.93	0.12	10.66	B	105, 287
			Malvidin	0.31	6	0.22	0.00	1.34	B	105, 287
			Pelargonidin	0.00	4		0.00	0.00	B	105
			Peonidin	39.81	8	3.90	23.74	58.18	B	29, 105, 287
			Petunidin	0.00	4		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	4.37	8	0.93	2.95	5.72	A	14, 105
			(-) -Epicatechin 3-gallate	0.00	8		0.00	0.00	A	14, 105
			(-) -Epigallocatechin	0.74	8	0.28	0.00	1.79	A	14, 105
			(-) -Epigallocatechin 3-gallate	0.97	8	0.48	0.00	2.86	A	14, 105
			(+) -Catechin	0.39	8	0.16	0.00	1.06	A	14, 105
			(+) -Gallocatechin	0.00	8		0.00	0.00	A	14, 105
		Flavanones	Hesperetin	0.00	4		0.00	0.00	B	105
			Naringenin	0.00	4		0.00	0.00	B	105
		Flavones	Apigenin	0.00	4		0.00	0.00	B	105
		Flavonols	Kaempferol	0.12	15	0.04	0.00	0.61	B	24, 104, 29
			Myricetin	6.63	21	1.60	0.40	23.00	B	24, 112, 104, 129, 105, 29

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			Quercetin	14.84	21	1.04	7.30	25.00	B	24, 112, 104, 129, 105, 29
99631	Cranberry bush berries, raw ( <i>Viburnum opulus</i> L.)	Anthocyanidins	Cyanidin	5.11	1		5.11	5.11	D	275
		Flavan-3-ols	(-) -Epicatechin	2.69	1		2.69	2.69	D	275
			(+) -Catechin	29.04	1		29.04	29.04	D	275
		Flavonols	Quercetin	10.73	1		10.73	10.73	D	275
09081	Cranberry sauce, canned, sweetened	Anthocyanidins	Cyanidin	0.10	2		0.10	0.10	C	81
			Delphinidin	0.02	2		0.02	0.02	C	81
			Pelargonidin	0.02	2		0.02	0.02	C	81
		Flavones	Apigenin	0.01	2		0.01	0.01	C	81
			Luteolin	0.02	2		0.02	0.02	C	81
		Flavonols	Kaempferol	0.01	2		0.01	0.01	C	81
			Myricetin	2.70	2		2.70	2.70	C	81
			Quercetin	2.40	2		2.40	2.40	C	81
99339	Crowberries, raw	Flavonols	Kaempferol	0.00	2		0.00	0.00	C	104
			Myricetin	4.65	2	0.25	4.40	4.90	C	104
			Quercetin	5.45	2	0.15	5.30	5.60	C	104
99073	Currants, dried	Flavan-3-ols	(-) -Epicatechin	0.00	1		0.00	0.00	C	4
			(-) -Epicatechin 3-gallate	0.00	1		0.00	0.00	C	4
			(-) -Epigallocatechin	0.00	1		0.00	0.00	C	4
			(-) -Epigallocatechin 3-gallate	0.00	1		0.00	0.00	C	4
			(+) -Catechin	0.00	1		0.00	0.00	C	4
			(+) -Gallocatechin	0.00	1		0.00	0.00	C	4
09083	Currants, european black, raw ( <i>Ribes nigrum</i> )	Anthocyanidins	Cyanidin	61.30	51	5.77	2.99	149.40	B	124, 131, 167, 288, 9, 127, 188
			Delphinidin	87.86	51	2.48	59.00	272.81	B	124, 131, 167, 288, 9, 127, 188
			Pelargonidin	1.17	6	0.12	0.79	1.39	C	288
			Peonidin	0.57	8	0.12	0.00	1.09	B	131, 288, 127
			Petunidin	3.87	7	1.55	0.07	12.30	B	131, 288
		Flavan-3-ols	(-) -Epicatechin	0.47	4		0.47	0.47	B	14
			(-) -Epicatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(+) -Catechin	0.70	4		0.70	0.70	B	14
			(+) -Gallocatechin	0.00	4		0.00	0.00	B	14
		Flavones	Apigenin	0.00	1		0.00	0.00	C	163
			Luteolin	0.00	1		0.00	0.00	C	163
		Flavonols	Isorhamnetin	0.12	40	0.02	0.08	0.19	B	9
			Kaempferol	0.75	58	0.07	0.00	2.30	B	104, 163, 167, 9, 176
			Myricetin	6.18	65	0.57	0.00	24.50	B	102, 104, 277, 163, 167, 9, 176
Quercetin	4.48		65	0.24	2.27	12.20	B	102, 104, 277, 163, 167, 9, 176		

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
99654	Currants, godlen, raw ( <i>Ribes aureum</i> )	Anthocyanidins	Cyanidin	108.82	1		108.82	108.82	C	127
			Delphinidin	0.73	1		0.73	0.73	C	127
			Peonidin	0.07	1		0.07	0.07	C	127
99044	Currants, red, raw	Anthocyanidins	Cyanidin	65.54	3	52.70	8.12	170.80	C	167, 288, 127
			Delphinidin	9.32	3	9.29	0.00	27.89	C	167, 288, 127
			Peonidin	0.16	1		0.16	0.16	C	127
		Flavan-3-ols	(-) -Epicatechin	0.08	7	0.02	0.00	0.19	B	4, 54
			(-) -Epicatechin 3-gallate	0.00	7		0.00	0.00	B	4, 54
			(-) -Epigallocatechin	0.15	7	0.03	0.00	0.36	B	4, 54
			(-) -Epigallocatechin 3-gallate	0.00	7		0.00	0.00	B	4, 54
			(+) -Catechin	1.27	7	0.44	1.22	1.33	B	4, 54
			(+) -Gallocatechin	1.28	7	0.44	1.22	1.35	B	4, 54
		Flavones	Apigenin	0.00	2		0.00	0.00	B	111, 163
			Luteolin	0.00	2		0.00	0.00	B	111, 163
		Flavonols	Kaempferol	0.01	5	0.01	0.00	0.04	B	111, 104, 163, 167, 126
			Myricetin	0.91	5	0.85	0.00	4.29	B	111, 104, 163, 167, 126
Quercetin	0.77		7	0.08	0.00	1.30	B	111, 104, 129, 163, 167, 126		
99045	Currants, white, raw	Anthocyanidins	Cyanidin	0.00	2		0.00	0.00	C	167
			Delphinidin	0.00	2		0.00	0.00	C	167
		Flavan-3-ols	(-) -Epicatechin	0.00	1		0.00	0.00	B	4
			(-) -Epicatechin 3-gallate	0.00	1		0.00	0.00	B	4
			(-) -Epigallocatechin	0.00	1		0.00	0.00	B	4
			(-) -Epigallocatechin 3-gallate	0.00	1		0.00	0.00	B	4
			(+) -Catechin	0.30	1		0.30	0.30	B	4
			(+) -Gallocatechin	0.00	1		0.00	0.00	B	4
		Flavonols	Kaempferol	0.17	4	0.17	0.00	0.70	C	104, 167
			Myricetin	0.18	4	0.17	0.00	0.70	C	104, 167
			Quercetin	2.68	4	1.36	0.50	6.30	C	104, 167
09086	Custard-apple, (bullock's-heart) , raw ( <i>Annona reticulata</i> )	Flavan-3-ols	(-) -Epicatechin	5.63	3		5.63	5.63	C	54
			(-) -Epicatechin 3-gallate	0.04	3		0.04	0.04	C	54
			(-) -Epigallocatechin	0.00	3		0.00	0.00	C	54
			(-) -Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	54
			(+) -Catechin	0.58	3		0.58	0.58	C	54
			(+) -Gallocatechin	0.00	3		0.00	0.00	C	54
09087	Dates, deglet noor ( <i>Phoenix dactylifera</i> )	Anthocyanidins	Cyanidin	1.70	6	0.63	0.00	4.10	B	105
			Delphinidin	0.00	6		0.00	0.00	B	105
			Malvidin	0.00	6		0.00	0.00	B	105
			Pelargonidin	0.00	6		0.00	0.00	B	105
			Peonidin	0.00	6		0.00	0.00	B	105



## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
		Flavan-3-ols	Petunidin	0.00	6		0.00	0.00	B	105
			(-) -Epicatechin	0.00	5		0.00	0.00	B	105
			(-) -Epicatechin 3-gallate	0.00	5		0.00	0.00	B	105
			(-) -Epigallocatechin	0.00	5		0.00	0.00	B	105
			(-) -Epigallocatechin 3-gallate	0.00	5		0.00	0.00	B	105
			(+) -Catechin	0.00	5		0.00	0.00	B	105
			(+) -Gallocatechin	0.00	5		0.00	0.00	B	105
		Flavanones	Hesperetin	0.00	5		0.00	0.00	B	105
			Naringenin	0.00	5		0.00	0.00	B	105
		Flavones	Apigenin	0.00	6		0.00	0.00	B	105
			Luteolin	0.00	3		0.00	0.00	B	105
		Flavonols	Myricetin	0.00	6		0.00	0.00	B	105
			Quercetin	0.93	6	0.43	0.00	2.40	B	105
09088	Elderberries, raw ( <i>Sambucus spp.</i> )	Anthocyanidins	Cyanidin	485.26	94	31.53	132.99	1067.33	B	130, 288, 151, 273
			Delphinidin	0.00	55		0.00	0.00	B	151
			Pelargonidin	0.02	56	0.02	0.00	1.13	B	288, 151
			Petunidin	0.00	55		0.00	0.00	B	151
		Flavonols	Isorhamnetin	5.42	55	0.54	0.16	10.26	B	151
			Kaempferol	0.58	55	0.06	0.23	1.27	B	151
			Quercetin	26.77	93	1.78	8.47	60.00	B	130, 151, 273
09089	Figs, raw ( <i>Ficus carica</i> )	Anthocyanidins	Cyanidin	0.50	20	0.07	0.00	1.11	B	105, 65
			Delphinidin	0.00	8		0.00	0.00	A	105
			Malvidin	0.00	8		0.00	0.00	A	105
			Pelargonidin	0.01	20	0.00	0.00	0.03	B	105, 65
			Peonidin	0.00	20		0.00	0.00	B	105, 65
			Petunidin	0.00	8		0.00	0.00	A	105
		Flavan-3-ols	(-) -Epicatechin	0.50	56	0.06	0.00	0.97	B	54, 105, 262, 274
			(-) -Epicatechin 3-gallate	0.00	8		0.00	0.00	B	54, 105
			(-) -Epigallocatechin	0.00	8		0.00	0.00	B	54, 105
			(-) -Epigallocatechin 3-gallate	0.00	8		0.00	0.00	B	54, 105
			(+) -Catechin	1.59	55	0.18	0.00	4.03	B	54, 105, 262, 274
			(+) -Gallocatechin	0.00	8		0.00	0.00	B	54, 105
		Flavanones	Hesperetin	0.00	5		0.00	0.00	B	105
			Naringenin	0.00	5		0.00	0.00	B	105
		Flavones	Apigenin	0.00	13		0.00	0.00	A	105, 223
			Luteolin	0.00	9		0.00	0.00	B	105, 223
		Flavonols	Kaempferol	0.00	5		0.00	0.00	B	223
			Myricetin	0.00	13		0.00	0.00	A	105, 223
			Quercetin	5.47	58	0.59	0.00	14.21	B	105, 223, 274

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
99618	Goji berry (wolfberry) , dried	Flavonols	Kaempferol	6.20	1		6.20	6.20	D	150
			Myricetin	11.40	1		11.40	11.40	D	150
			Quercetin	13.60	1		13.60	13.60	D	150
09107	Gooseberries, raw ( <i>Ribes spp.</i> )	Anthocyanidins	Cyanidin	8.73	18	1.23	0.05	16.97	B	288, 127
			Delphinidin	0.01	14	0.01	0.00	0.15	B	127
			Peonidin	0.77	17	0.39	0.07	6.93	B	288, 127
		Flavan-3-ols	(-) -Epicatechin	0.00	4		0.00	0.00	B	14
			(-) -Epicatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(+) -Catechin	1.67	4		1.67	1.67	B	14
			(+) -Gallocatechin	0.44	4		0.44	0.44	B	14
		Flavones	Apigenin	0.00	2		0.00	0.00	C	163
			Luteolin	0.00	2		0.00	0.00	C	163
		Flavonols	Kaempferol	0.88	4	0.51	0.00	1.90	B	104, 163
			Myricetin	0.00	4		0.00	0.00	B	104, 163
Quercetin	1.23		4	0.49	0.00	2.20	B	104, 163		
09135	Grape juice, canned or bottled, unsweetened, without added ascorbic acid	Anthocyanidins	Cyanidin	0.89	13	0.18	0.07	1.94	B	81, 49, 182
			Delphinidin	1.92	13	0.39	0.38	4.24	B	81, 49, 182
			Malvidin	11.17	11	2.73	0.05	21.77	B	49, 182
			Pelargonidin	0.02	2		0.02	0.02	B	81
			Peonidin	1.06	11	0.28	0.43	1.80	B	49, 182
			Petunidin	1.02	3		1.02	1.02	C	182
		Flavan-3-ols	(-) -Epicatechin	0.54	28	0.07	0.00	2.07	B	15, 49, 182
			(-) -Epicatechin 3-gallate	0.00	1		0.00	0.00	B	15
			(-) -Epigallocatechin	0.00	1		0.00	0.00	B	15
			(-) -Epigallocatechin 3-gallate	0.00	1		0.00	0.00	B	15
			(+) -Catechin	0.79	25	0.09	0.08	3.17	B	15, 49
			(+) -Gallocatechin	0.00	1		0.00	0.00	B	15
		Flavones	Apigenin	0.01	3	0.00	0.00	0.01	B	110, 81
			Luteolin	0.01	3	0.00	0.00	0.02	B	110, 81
		Flavonols	Kaempferol	0.01	3	0.00	0.00	0.01	B	110, 81
			Myricetin	0.70	6	0.20	0.03	1.19	B	110, 81, 182
			Quercetin	0.72	6	0.24	0.41	0.80	B	110, 81, 182
		97003	Grape seeds, raw	Flavan-3-ols	(-) -Epicatechin	93.31	35	8.42	23.00	284.00
(+) -Catechin	74.63				35	5.78	6.00	244.00	C	84, 293
09126	Grapefruit Juice concentrate, white, frozen, unsweetened, diluted with 3 volume water	Flavanones	naringenin	31.18	2	0.71	30.48	31.89	C	32

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
09123	Grapefruit juice, white, canned, unsweetened	Anthocyanidins	Cyanidin	0.00	3		0.00	0.00	C	182
		Flavanones	Eriodictyol	0.16	3		0.16	0.16	C	182
			hesperetin	0.81	6	0.18	0.47	1.68	B	229, 19, 182
			naringenin	18.01	531	0.77	5.20	26.33	B	61, 230, 229, 19, 182
Flavonols	Quercetin	0.36	5	0.24	0.00	1.16	B	19, 182		
09128	Grapefruit juice, white, raw	Flavanones	eriodictyol	0.65	29	0.38	0.00	11.36	B	21, 181, 180
			hesperetin	2.35	44	0.96	0.00	34.93	B	21, 181, 180, 270
			Naringenin	18.23	47	1.53	0.00	58.03	B	20, 21, 181, 180, 270
		Flavones	apigenin	0.00	9		0.00	0.00	B	21, 110
			Luteolin	0.00	1		0.00	0.00	B	110
		Flavonols	Kaempferol	0.00	1		0.00	0.00	B	110
			Myricetin	0.05	1		0.05	0.05	B	110
	quercetin	0.40	24	0.06	0.00	0.74	B	21, 110, 270		
99347	Grapefruit, raw (not specified as to color) ( <i>Citrus paradisi</i> )	Flavanones	Hesperetin	1.50	2		1.50	1.50	C	129
			Naringenin	53.00	2		53.00	53.00	C	129
		Flavonols	Kaempferol	0.40	2		0.40	0.40	C	129
			Quercetin	0.50	2		0.50	0.50	C	129
09112	Grapefruit, raw, pink and red, all areas ( <i>Citrus paradisi</i> )	Anthocyanidins	Cyanidin	0.00	7		0.00	0.00	B	105
			Delphinidin	0.00	7		0.00	0.00	B	105
			Malvidin	0.00	7		0.00	0.00	B	105
			Pelargonidin	0.00	7		0.00	0.00	B	105
			Peonidin	0.00	7		0.00	0.00	B	105
			Petunidin	0.00	7		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	0.00	7		0.00	0.00	B	105
			(-) -Epicatechin 3-gallate	0.00	7		0.00	0.00	B	105
			(-) -Epigallocatechin	0.00	7		0.00	0.00	B	105
			(-) -Epigallocatechin 3-gallate	0.00	7		0.00	0.00	B	105
			(+) -Catechin	0.00	7		0.00	0.00	B	105
			(+) -Gallocatechin	0.00	7		0.00	0.00	B	105
		Flavanones	Hesperetin	0.35	10	0.04	0.00	1.17	B	81, 105
			Naringenin	32.64	9	6.62	16.28	44.97	B	81, 105
		Flavones	Apigenin	0.00	10	0.00	0.00	0.01	B	81, 105
			Luteolin	0.60	7	0.12	0.00	1.40	B	81, 105
		Flavonols	Kaempferol	0.01	3		0.01	0.01	C	81
Myricetin	0.01		10	0.00	0.00	0.03	B	81, 105		
Quercetin	0.33		10	0.19	0.00	2.02	B	81, 105		
09116	Grapefruit, raw, white, all areas ( <i>Citrus paradisi</i> )	Flavanones	Hesperetin	0.64	2		0.64	0.64	C	81
			Naringenin	21.34	2		21.34	21.34	C	81
		Flavones	Apigenin	0.00	1		0.00	0.00	C	163

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
		Flavonols	Luteolin	0.00	1		0.00	0.00	C	163
			Kaempferol	0.00	1		0.00	0.00	C	163
			Myricetin	0.00	1		0.00	0.00	C	163
			Quercetin	0.00	1		0.00	0.00	C	163
99048	Grapes, black ( <i>Vitis vinifera</i> )	Flavan-3-ols	(-) -Epicatechin	8.68	11	2.48	8.64	8.70	B	4, 262
			(-) -Epicatechin 3-gallate	2.81	4		2.81	2.81	B	4
			(-) -Epigallocatechin	0.00	4		0.00	0.00	B	4
			(-) -Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	4
			(+) -Catechin	10.14	11	2.91	8.94	10.83	B	4, 262
			(+) -Gallocatechin	0.00	4		0.00	0.00	B	4
		Flavones	Apigenin	0.00	1		0.00	0.00	B	111
			Luteolin	0.00	1		0.00	0.00	B	111
		Flavonols	Kaempferol	0.09	2	0.09	0.00	0.18	C	111, 135
			Myricetin	0.22	2	0.22	0.00	0.45	C	111, 135
Quercetin	2.08		5	0.45	0.24	3.70	B	111, 129, 195, 135		
99650	Grapes, Concord, raw ( <i>Vitis vinifera</i> )	Anthocyanidins	Cyanidin	13.16	1		13.16	13.16	C	287
			Delphinidin	39.58	1		39.58	39.58	C	287
			Malvidin	3.47	1		3.47	3.47	C	287
			Peonidin	2.62	1		2.62	2.62	C	287
			Petunidin	8.78	1		8.78	8.78	C	287
		Flavan-3-ols	(-) -Epicatechin	2.14	1		2.14	2.14	C	193
		Flavonols	Quercetin	3.11	1		3.11	3.11	C	193
		97074	Grapes, red, raw	Anthocyanidins	Cyanidin	0.95	23	0.23	0.17	3.67
Delphinidin	2.10				23	0.33	0.16	3.39	B	81, 221, 287
Malvidin	36.20				21	6.04	1.39	56.72	B	221, 287
Pelargonidin	0.02				2		0.02	0.02	B	81
Peonidin	2.90				21	0.48	1.28	9.59	B	221, 287
Petunidin	1.80				21	0.30	0.17	3.09	B	221, 287
Flavan-3-ols	(-) -Epicatechin			0.96	4	0.11	0.70	1.75	C	193, 54
	(-) -Epicatechin 3-gallate			0.17	3		0.17	0.17	C	54
	(-) -Epigallocatechin			0.08	3		0.08	0.08	C	54
	(-) -Epigallocatechin 3-gallate			0.00	3		0.00	0.00	C	54
	(+) -Catechin			0.82	3		0.82	0.82	C	54
	(+) -Gallocatechin			0.00	3		0.00	0.00	C	54
Flavones	Apigenin			0.00	4	0.00	0.00	0.01	B	81, 163
	Luteolin			1.30	4	0.00	0.00	2.60	B	81, 163
Flavonols	Kaempferol			0.00	4	0.00	0.00	0.01	B	81, 163
	Myricetin			0.01	4	0.00	0.00	0.03	B	81, 163
	Quercetin			1.04	5	0.74	0.00	3.98	B	193, 81, 163

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
99047	Grapes, white or green, raw ( <i>Vitis vinifera</i> )	Flavan-3-ols	(-) -Epicatechin	1.70	14	0.42	0.07	2.78	B	4, 54, 262
			(-) -Epicatechin 3-gallate	0.25	7	0.08	0.00	0.43	B	4, 54
			(-) -Epigallocatechin	0.02	7	0.00	0.00	0.04	B	4, 54
			(-) -Epigallocatechin 3-gallate	0.00	7		0.00	0.00	B	4, 54
			(+) -Catechin	3.73	14	0.92	0.39	5.89	B	4, 54, 262
			(+) -Gallocatechin	0.01	7	0.00	0.00	0.03	B	4, 54
		Flavones	Apigenin	0.00	3		0.00	0.00	B	111, 163
			Luteolin	0.00	3		0.00	0.00	B	111, 163
		Flavonols	Kaempferol	0.04	5	0.04	0.00	0.19	B	111, 163, 132, 135
			Myricetin	0.22	4	0.00	0.00	0.45	B	111, 163, 135
Quercetin	1.12		6	0.55	0.05	3.87	B	111, 129, 163, 132, 135		
99607	Guajiru (coco-plum) , raw	Anthocyanidins	Delphinidin	15.19	1		15.19	15.19	D	51
			Peonidin	1.82	1		1.82	1.82	D	51
			Petunidin	55.72	1		55.72	55.72	D	51
99428	Guava, red-fleshed	Flavones	Apigenin	0.00	7		0.00	0.00	C	223
			Luteolin	0.00	7		0.00	0.00	C	223
		Flavonols	Kaempferol	0.00	7		0.00	0.00	C	223
			Myricetin	0.00	7		0.00	0.00	C	223
			Quercetin	1.00	7		1.00	1.00	C	223
99429	Guava, white-fleshed	Flavones	Apigenin	0.00	5		0.00	0.00	C	223
			Luteolin	0.00	5		0.00	0.00	C	223
		Flavonols	Kaempferol	0.00	5		0.00	0.00	C	223
			Myricetin	0.00	5		0.00	0.00	C	223
			Quercetin	1.20	5		1.20	1.20	C	223
99635	Jaboticaba (Brazilian grape) , raw ( <i>Myrciaria jaboticaba</i> )	Flavones	Apigenin	0.00	8		0.00	0.00	C	223
			Luteolin	0.00	8		0.00	0.00	C	223
		Flavonols	Kaempferol	0.00	8		0.00	0.00	C	223
			Myricetin	0.00	8		0.00	0.00	C	223
			Quercetin	1.10	8		1.10	1.10	C	223
99613	Jambul (Jambolão) , raw ( <i>S. cumini</i> )	Anthocyanidins	Cyanidin	1.90	1		1.90	1.90	D	51
			Delphinidin	17.73	1		17.73	17.73	D	51
			Malvidin	12.55	1		12.55	12.55	D	51
			Peonidin	5.16	1		5.16	5.16	D	51
			Petunidin	17.75	1		17.75	17.75	D	51
99625	Jostaberry, raw	Anthocyanidins	Cyanidin	19.50	2	0.38	19.12	19.88	C	127
			Delphinidin	6.61	2	0.53	6.08	7.13	C	127
			Peonidin	0.07	2	0.01	0.07	0.08	C	127
99397	Juice concentrate, blackberry	Anthocyanidins	Cyanidin	110.40	1		110.40	110.40	C	23
			Delphinidin	201.28	1		201.28	201.28	C	23

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
		Flavonols	Myricetin	20.85	1		20.85	20.85	C	23
			Quercetin	22.85	1		22.85	22.85	C	23
99398	Juice concentrate, chokeberry	Anthocyanidins	Cyanidin	231.61	2	62.79	168.82	294.39	C	23, 125
		Flavonols	Quercetin	68.17	1		68.17	68.17	C	23
99402	Juice concentrate, elderberry	Anthocyanidins	Cyanidin	411.40	2	9.00	402.39	420.40	C	23, 125
		Flavonols	Quercetin	108.16	1		108.16	108.16	C	23
99605	Juice concentrate, sour cherry	Anthocyanidins	Cyanidin	18.57	6	6.29	8.73	28.42	C	139
			Pelargonidin	0.00	6		0.00	0.00	C	139
			Peonidin	1.19	6	0.42	0.79	1.58	C	139
		Flavonols	Isorhamnetin	15.30	6	5.48	11.08	19.51	C	139
			Kaempferol	1.15	6	0.40	0.70	1.59	C	139
Quercetin	0.59	6	0.20	0.28	0.90	C	139			
99007	Juice, black Currant	Anthocyanidins	Cyanidin	29.76	2	13.72	16.05	43.48	C	124, 125
			Delphinidin	45.27	2	17.47	27.80	62.74	C	124, 125
		Flavonols	Myricetin	1.86	4	0.66	0.66	3.16	B	102
			Quercetin	1.15	4	0.46	0.65	2.52	B	102
99359	Juice, blackberry	Anthocyanidins	Cyanidin	41.28	11	14.30	7.87	178.20	B	74, 287, 125
			Pelargonidin	1.06	1		1.06	1.06	C	287
			Peonidin	0.53	1		0.53	0.53	C	287
99313	Juice, blood orange	Anthocyanidins	Cyanidin	5.47	5	2.78	0.77	16.00	B	212, 133
			Delphinidin	0.75	2	0.51	0.25	1.26	C	133
			Peonidin	0.43	2	0.33	0.10	0.76	C	133
		Flavanones	eriodictyol	0.00	13		0.00	0.00	B	21, 180
			hesperetin	12.72	65	1.45	5.33	18.57	B	21, 180, 179, 212, 133
			naringenin	1.63	65	0.18	0.63	3.85	B	21, 180, 179, 212, 133
		Flavones	apigenin	0.00	2		0.00	0.00	C	21
Flavonols	quercetin	0.00	2		0.00	0.00	C	21		
99110	Juice, cranberry, raw	Flavan-3-ols	(+) -Catechin	0.92	1		0.92	0.92	C	41
		Flavonols	Myricetin	4.41	1		4.41	4.41	C	41, 182
			Quercetin	16.41	1		16.41	16.41	C	41, 182
14242	Juice, Cranberry cocktail, bottled	Anthocyanidins	Cyanidin	0.37	4	0.15	0.37	0.38	C	81
			Delphinidin	0.01	4	0.01	0.00	0.03	C	81
			Pelargonidin	0.03	1		0.03	0.03	C	81
		Flavan-3-ols	(+) -Catechin	0.19	1		0.19	0.19	C	41
		Flavones	Apigenin	0.01	1		0.01	0.01	C	81
			Luteolin	0.03	1		0.03	0.03	C	81
		Flavonols	Kaempferol	0.01	1		0.01	0.01	C	81
			Myricetin	0.23	5	0.14	0.04	0.75	B	41, 81
Quercetin	2.20		5	0.81	1.13	2.82	B	41, 81		

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
99066	Juice, crowsberry	Flavonols	Myricetin	3.49	2	0.03	3.46	3.51	C	102
			Quercetin	3.88	2	0.12	3.76	3.99	C	102
99049	Juice, grape, black	Flavan-3-ols	(-) -Epicatechin	0.00	2		0.00	0.00	B	15
			(-) -Epicatechin 3-gallate	0.00	2		0.00	0.00	B	15
			(-) -Epigallocatechin	0.00	2		0.00	0.00	B	15
			(-) -Epigallocatechin 3-gallate	0.00	2		0.00	0.00	B	15
			(+) -Catechin	0.80	2	0.05	0.75	0.85	B	15
			(+) -Gallocatechin	0.00	2		0.00	0.00	B	15
99436	Juice, grape, red	Anthocyanidins	Cyanidin	0.04	3		0.04	0.04	C	182
			Delphinidin	0.10	3		0.10	0.10	C	182
			Malvidin	0.08	3		0.08	0.08	C	182
			Peonidin	0.17	3		0.17	0.17	C	182
			Petunidin	0.10	3		0.10	0.10	C	182
		Flavan-3-ols	(-) -Epicatechin	0.00	3		0.00	0.00	C	182
		Flavonols	Myricetin	0.16	3		0.16	0.16	C	182
			Quercetin	0.53	3		0.53	0.53	C	182
99050	Juice, grape, white	Flavan-3-ols	(-) -Epicatechin	0.00	1		0.00	0.00	C	250
			(+) -Catechin	0.16	1		0.16	0.16	C	250
		Flavonols	Quercetin	0.09	4	0.09	0.00	0.36	C	250, 182
09404	Juice, grapefruit, pink, raw	Flavanones	eriodictyol	0.00	24		0.00	0.00	B	21, 180
			hesperetin	0.78	28	0.11	0.44	2.32	B	21, 180, 55
			naringenin	17.19	28	1.91	9.67	62.58	B	21, 180, 55
		Flavones	apigenin	0.00	1		0.00	0.00	C	21
		Flavonols	quercetin	0.00	1		0.00	0.00	C	21
09153	Juice, lemon, canned or bottled	Flavanones	eriodictyol	10.56	40	0.57	3.77	19.01	B	99, 169
			hesperetin	13.43	41	0.95	0.70	20.63	B	99, 19, 169
			Naringenin	0.00	1		0.00	0.00	C	19
		Flavones	Luteolin	1.83	18	0.34	0.70	3.02	B	169
		Flavonols	Quercetin	0.00	1		0.00	0.00	C	19
09152	Juice, lemon, raw	Flavan-3-ols	(+) -Catechin	0.00	1		0.00	0.00	C	1
		Flavanones	eriodictyol	4.88	31	0.19	0.00	14.70	B	21, 99, 180
			hesperetin	14.47	32	4.83	1.90	142.24	B	21, 99, 180, 1
			naringenin	1.38	28	0.72	0.00	18.22	B	21, 180, 1
		Flavones	apigenin	0.00	10		0.00	0.00	B	21, 110
			Luteolin	0.00	1		0.00	0.00	B	110
		Flavonols	Kaempferol	0.00	2		0.00	0.00	B	110, 1
			Myricetin	0.03	2	0.03	0.00	0.05	B	110, 1
quercetin	0.37		10	0.21	0.00	1.81	B	21, 110, 1		
09160	Juice, lime, raw	Flavanones	eriodictyol	2.19	20	0.41	0.00	3.52	B	21, 180

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			hesperetin	8.97	20	0.06	5.18	21.37	B	21, 180
			naringenin	0.38	23	0.20	0.00	4.62	B	21, 180, 297
		Flavones	apigenin	0.00	6		0.00	0.00	C	21
		Flavonols	quercetin	0.51	6	0.33	0.00	1.78	C	21
99067	Juice, lingonberry	Flavonols	Quercetin	1.02	2	0.08	0.93	1.10	C	102
09209	Juice, orange, chilled, includes from concentrate	Anthocyanidins	Cyanidin	0.00	3		0.00	0.00	C	182
		Flavanones	Eriodictyol	0.05	3		0.05	0.05	C	182
			hesperetin	16.38	49	1.79	0.53	25.75	B	85, 19, 234, 182, 270
			naringenin	2.56	49	0.27	0.11	3.56	B	85, 19, 234, 182, 270
Flavonols	Quercetin	0.40	6	0.09	0.18	0.68	B	19, 182		
09215	Juice, Orange, frozen concentrate, unsweetened, diluted with 3 volume water	Flavanones	hesperetin	26.21	14	1.43	15.35	32.59	A	32, 191, 213
			naringenin	3.27	14	0.14	2.56	4.38	A	32, 191, 213
09206	Juice, orange, raw	Anthocyanidins	Cyanidin	0.00	3		0.00	0.00	C	182
		Flavanones	eriodictyol	0.17	130	0.02	0.00	1.88	B	21, 35, 180, 170, 182
			hesperetin	20.39	249	2.84	1.32	362.80	B	19, 21, 35, 55, 57, 85, 129, 170, 180, 182, 212, 213, 234, 235, 270
			naringenin	3.27	249	0.37	0.00	44.09	B	19, 21, 35, 55, 57, 85, 129, 170, 180, 182, 212, 213, 234, 235, 270
		Flavones	apigenin	0.00	20		0.00	0.00	B	21, 110
			Luteolin	0.00	2		0.00	0.00	B	110
		Flavonols	Kaempferol	0.00	2		0.00	0.00	B	110
			Myricetin	0.05	2		0.05	0.05	B	110
quercetin	0.25		27	0.10	0.00	2.20	B	21, 35, 110, 19, 182		
09273	Juice, pineapple, canned, unsweetened, without added ascorbic acid	Flavonols	Quercetin	0.00	3		0.00	0.00	C	182
09442	Juice, pomegranate, bottled	Anthocyanidins	Cyanidin	2.40	18	0.64	0.54	8.87	B	3, 182
			Delphinidin	0.81	18	0.25	0.00	3.92	B	3, 182
			Malvidin	0.00	3		0.00	0.00	C	182
			Pelargonidin	0.09	15	0.03	0.02	0.39	B	3
			Peonidin	0.00	3		0.00	0.00	C	182
			Petunidin	0.00	3		0.00	0.00	C	182
		Flavan-3-ols	(-) -Epicatechin	0.00	3		0.00	0.00	C	182
		Flavonols	Myricetin	0.00	3		0.00	0.00	C	182
			Quercetin	1.11	3		1.11	1.11	C	182
99311	Juice, pummelo, raw	Flavanones	eriodictyol	2.86	12	1.90	0.00	23.33	C	21, 186
			hesperetin	1.79	12	0.86	0.00	9.36	C	21, 186
			naringenin	25.31	13	9.51	1.94	132.86	B	21, 186, 297
		Flavones	apigenin	0.65	12	0.31	0.00	2.80	C	21, 186



## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			luteolin	0.00	1		0.00	0.00	C	186
		Flavonols	kaempferol	0.00	1		0.00	0.00	C	186
			quercetin	0.00	12		0.00	0.00	C	21, 186
99626	Juice, raspberry, red	Anthocyanidins	Cyanidin	18.04	1		18.04	18.04	C	125
			Pelargonidin	1.09	1		1.09	1.09	C	125
99610	Juice, sour cherry	Anthocyanidins	Cyanidin	26.28	6	6.53	15.28	58.42	C	125, 286
			Peonidin	0.54	5	0.08	0.33	0.79	C	286
		Flavan-3-ols	(-) -Epicatechin	12.97	5	5.73	1.59	34.31	C	286
			(+) -Catechin	3.18	5	1.12	0.37	7.16	C	286
		Flavonols	Quercetin	3.88	5	0.80	1.77	6.08	C	286
99304	Juice, sour orange	Flavanones	eriodictyol	14.54	3	2.54	9.77	18.44	C	21, 181
			hesperetin	10.74	3	4.88	1.50	18.11	C	21, 181
			naringenin	23.77	3	4.66	18.64	33.08	C	21, 181
		Flavones	apigenin	0.00	2		0.00	0.00	C	21
		Flavonols	quercetin	0.00	2		0.00	0.00	C	21
99437	Juice, strawberry	Anthocyanidins	Cyanidin	0.47	1		0.47	0.47	C	125
			Pelargonidin	11.79	1		11.79	11.79	C	125
99305	Juice, tangelo	Flavanones	eriodictyol	1.20	1		1.20	1.20	D	21
			hesperetin	74.89	1		74.89	74.89	D	21
			naringenin	42.51	1		42.51	42.51	D	21
		Flavones	apigenin	0.00	1		0.00	0.00	D	21
		Flavonols	quercetin	0.00	1		0.00	0.00	D	21
09225	Juice, tangerine, frozen concentrate, sweetened, diluted with 3 volume water	Flavanones	hesperetin	22.01	13	2.94	5.94	47.08	B	191
			naringenin	3.61	13	0.75	1.04	7.96	B	191
			Kaempferol	0.00	1		0.00	0.00	C	146
		Flavonols	Myricetin	0.11	1		0.11	0.11	C	146
Quercetin	0.00		1		0.00	0.00	C	146		
09221	Juice, tangerine, raw	Flavanones	eriodictyol	0.02	5	0.02	0.00	0.10	C	21, 186
			hesperetin	9.56	5	1.72	4.31	13.37	C	21, 186
			naringenin	1.20	6	1.20	0.00	7.22	C	21, 186, 297
		Flavones	apigenin	0.00	5		0.00	0.00	C	21, 186
			luteolin	0.00	1		0.00	0.00	C	186
		Flavonols	kaempferol	0.00	1		0.00	0.00	C	186
quercetin	0.29		5	0.29	0.00	1.44	C	21, 186		
99306	Juice, tangor (e.g., murcot or temple)	Flavanones	eriodictyol	1.02	1		1.02	1.02	C	21
			hesperetin	19.25	7	3.16	7.98	32.45	C	21, 191
			naringenin	6.50	7	1.02	3.77	11.03	C	21, 191
		Flavones	apigenin	0.00	1		0.00	0.00	C	21
		Flavonols	quercetin	0.00	1		0.00	0.00	C	21

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
99316	Juice, tangor, diluted from frozen concentrate (ex. Murcot or temple)	Flavanones	hesperetin	19.06	5	4.38	7.98	32.45	C	191
			naringenin	7.04	5	1.33	3.95	11.03	C	191
99633	Juice, tropical fruit	Anthocyanidins	Cyanidin	0.00	3		0.00	0.00	C	182
		Flavanones	Eriodictyol	0.08	3		0.08	0.08	C	182
			Hesperetin	0.75	3		0.75	0.75	C	182
			Naringenin	0.37	3		0.37	0.37	C	182
		Flavonols	Quercetin	0.08	3		0.08	0.08	C	182
09146	Jujube, raw ( <i>Ziziphus jujuba</i> )	Flavan-3-ols	(-) -Epicatechin	0.31	4	0.06	0.19	0.48	C	233
			(+) -Catechin	3.21	4	0.27	2.46	3.74	C	233
		Flavonols	Quercetin	1.26	4	0.29	0.44	1.78	C	233
99615	Juniper berries, green, unripe ( <i>Juniperus communis</i> )	Flavones	Apigenin	3.87	6	2.01	0.00	13.10	C	121
			Luteolin	51.40	3	3.47	45.99	57.86	C	121
		Flavonols	Quercetin	42.81	3	10.71	24.95	61.98	C	121
99614	Juniper berries, ripe ( <i>Juniperus communis</i> )	Flavones	Apigenin	3.02	6	1.62	0.00	8.90	C	121
			Luteolin	69.05	3	20.79	28.27	96.49	C	121
		Flavonols	Quercetin	46.61	3	6.33	35.55	57.48	C	121
09445	Kiwifruit, gold, raw ( <i>Actinidia chinensis</i> )	Anthocyanidins	Cyanidin	0.00	1		0.00	0.00	B	105
			Delphinidin	0.00	1		0.00	0.00	B	105
			Malvidin	0.00	1		0.00	0.00	B	105
			Pelargonidin	0.00	1		0.00	0.00	B	105
			Peonidin	0.00	1		0.00	0.00	B	105
			Petunidin	0.00	1		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	0.64	1		0.64	0.64	B	105
			(-) -Epicatechin 3-gallate	0.00	1		0.00	0.00	B	105
			(-) -Epigallocatechin	0.00	1		0.00	0.00	B	105
			(-) -Epigallocatechin 3-gallate	0.00	1		0.00	0.00	B	105
			(+) -Catechin	0.00	1		0.00	0.00	B	105
			(+) -Gallocatechin	0.00	1		0.00	0.00	B	105
		Flavanones	Hesperetin	0.00	1		0.00	0.00	B	105
			Naringenin	0.00	1		0.00	0.00	B	105
		Flavones	Apigenin	0.00	1		0.00	0.00	B	105
Luteolin	0.00		1		0.00	0.00	B	105		
Flavonols	Myricetin	0.00	1		0.00	0.00	B	105		
	Quercetin	0.00	1		0.00	0.00	B	105		
09148	Kiwifruit, green, raw ( <i>Actinidia deliciosa</i> )	Anthocyanidins	Cyanidin	0.00	2		0.00	0.00	B	105
			Delphinidin	0.00	2		0.00	0.00	B	105
			Malvidin	0.00	2		0.00	0.00	B	105
			Pelargonidin	0.00	2		0.00	0.00	B	105

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			Peonidin	0.00	2		0.00	0.00	B	105
			Petunidin	0.00	2		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	0.27	12	0.05	0.00	0.45	A	14, 54, 105
			(-) -Epicatechin 3-gallate	0.01	12	0.01	0.00	0.08	A	14, 54, 105
			(-) -Epigallocatechin	0.00	12		0.00	0.00	A	14, 54, 105
			(-) -Epigallocatechin 3-gallate	0.09	12	0.09	0.00	1.11	A	14, 54, 105
			(+) -Catechin	0.00	12		0.00	0.00	A	14, 54, 105
			(+) -Gallocatechin	0.00	12		0.00	0.00	A	14, 54, 105
			Flavanones	Hesperetin	0.00	5		0.00	0.00	B
		Naringenin		0.00	5		0.00	0.00	B	105
		Flavones	Apigenin	0.00	3		0.00	0.00	B	105, 163
			Luteolin	0.74	3	0.74	0.00	2.23	C	12, 105, 163
		Flavonols	Kaempferol	1.03	3	1.02	0.00	3.06	C	12, 135, 163
Myricetin	0.00		5		0.00	0.00	B	105, 163, 12, 135		
Quercetin	0.04		5	0.04	0.00	0.21	B	105, 163, 12, 135		
99608	Kiwifruit, red, raw ( <i>Actinidia chinensis</i> )	Anthocyanidins	Cyanidin	1.65	25	0.49	0.00	8.96	C	178
09149	Kumquats, raw ( <i>Fortunella spp.</i> )	Flavanones	Naringenin	57.39	3		57.39	57.39	C	231
		Flavones	Apigenin	21.87	3		21.87	21.87	C	231
09150	Lemons, raw, without peel ( <i>Citrus limon</i> )	Flavanones	Eriodictyol	21.36	2	3.76	17.60	25.13	B	173, 271
			Hesperetin	27.90	3	10.80	17.00	49.51	B	129, 173, 271
			Naringenin	0.55	2	0.05	0.50	0.60	B	129, 173
		Flavones	Apigenin	0.00	1		0.00	0.00	C	163
			Luteolin	1.90	2	0.40	1.50	2.31	B	173, 163
		Flavonols	Kaempferol	0.03	2	0.03	0.00	0.06	C	163, 135
			Myricetin	0.50	2	0.50	0.00	1.00	C	163, 135
			Quercetin	1.14	4	0.82	0.00	3.47	C	173, 271, 163, 135
09159	Limes, raw ( <i>Citrus latifolia</i> )	Flavanones	Hesperetin	43.00	1		43.00	43.00	C	129
			Naringenin	3.40	1		3.40	3.40	C	129
		Flavonols	Quercetin	0.40	1		0.40	0.40	C	129
99021	Lingonberries (cowberries) , raw	Anthocyanidins	Cyanidin	40.15	2	4.06	36.08	44.21	C	131
		Flavonols	Kaempferol	0.38	4	0.25	0.00	1.03	C	104, 129
			Myricetin	0.00	2		0.00	0.00	C	104
			Quercetin	13.30	12	1.79	7.36	21.00	B	102, 104, 129, 173
99640	Malacca apple, raw ( <i>Syzygium malaccense</i> )	Flavonols	Kaempferol	0.00	1		0.00	0.00	C	146
			Myricetin	0.00	1		0.00	0.00	C	146
			Quercetin	0.00	1		0.00	0.00	C	146
09176	Mangos, raw ( <i>Mangifera indica</i> )	Anthocyanidins	Cyanidin	0.10	1		0.10	0.10	C	81
			Delphinidin	0.02	1		0.02	0.02	C	81

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
		Flavan-3-ols	Pelargonidin	0.02	1		0.02	0.02	C	81
			(-) -Epicatechin	0.00	4		0.00	0.00	B	14
			(-) -Epicatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(+) -Catechin	1.72	4		1.72	1.72	B	14
			(+) -Gallocatechin	0.00	4		0.00	0.00	B	14
		Flavones	Apigenin	0.01	2		0.01	0.01	C	81
			Luteolin	0.02	2		0.02	0.02	C	81
		Flavonols	Kaempferol	0.05	3	0.04	0.01	0.13	B	81, 146
Myricetin	0.06		3	0.03	0.03	0.13	B	81, 146		
Quercetin	0.00		3		0.00	0.00	B	81, 146		
99636	Maqui (Chilean wineberry) , raw ( <i>Aristotelia chilensis</i> )	Anthocyanidins	Cyanidin	22.37	3		22.37	22.37	C	70
			Delphinidin	66.15	3		66.15	66.15	C	70
97005	Medlar	Flavan-3-ols	(-) -Epicatechin	0.53	3		0.53	0.53	C	54
			(-) -Epicatechin 3-gallate	0.23	3		0.23	0.23	C	54
			(-) -Epigallocatechin	0.01	3		0.01	0.01	C	54
			(-) -Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	54
			(+) -Catechin	0.02	3		0.02	0.02	C	54
			(+) -Gallocatechin	0.00	3		0.00	0.00	C	54
09181	Melons, cantaloupe, raw ( <i>Cucumis melo</i> )	Anthocyanidins	Cyanidin	0.00	3		0.00	0.00	B	105
			Delphinidin	0.00	3		0.00	0.00	B	105
			Malvidin	0.00	3		0.00	0.00	B	105
			Pelargonidin	0.00	3		0.00	0.00	B	105
			Peonidin	0.00	3		0.00	0.00	B	105
			Petunidin	0.00	3		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	0.00	10		0.00	0.00	A	105, 262
			(-) -Epicatechin 3-gallate	0.00	7		0.00	0.00	B	105
			(-) -Epigallocatechin	0.00	7		0.00	0.00	B	105
			(-) -Epigallocatechin 3-gallate	0.00	7		0.00	0.00	B	105
			(+) -Catechin	0.00	10		0.00	0.00	A	105, 262
			(+) -Gallocatechin	0.00	7		0.00	0.00	B	105
		Flavanones	Hesperetin	0.00	7		0.00	0.00	B	105
			Naringenin	0.00	7		0.00	0.00	B	105
		Flavones	Apigenin	0.00	5		0.00	0.00	B	105, 163, 232
			Luteolin	0.64	4	0.64	0.00	2.58	B	105, 163, 232
		Flavonols	Kaempferol	0.07	3	0.07	0.00	0.21	C	163, 232, 135
			Myricetin	0.00	6		0.00	0.00	B	105, 163, 232, 135
Quercetin	0.01		6	0.01	0.00	0.07	B	105, 163, 232, 135		

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
09184	Melons, honeydew, raw ( <i>Cucumis melo</i> )	Anthocyanidins	Cyanidin	0.00	2		0.00	0.00	B	105
			Delphinidin	0.00	2		0.00	0.00	B	105
			Malvidin	0.00	2		0.00	0.00	B	105
			Pelargonidin	0.00	2		0.00	0.00	B	105
			Peonidin	0.00	2		0.00	0.00	B	105
			Petunidin	0.00	2		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	0.01	5	0.01	0.00	0.03	B	105
			(-) -Epicatechin 3-gallate	0.00	5		0.00	0.00	B	105
			(-) -Epigallocatechin	0.04	5	0.04	0.00	0.22	B	105
			(-) -Epigallocatechin 3-gallate	0.00	5		0.00	0.00	B	105
			(+) -Catechin	0.00	5		0.00	0.00	B	105
			(+) -Gallocatechin	0.00	5		0.00	0.00	B	105
		Flavanones	Hesperetin	0.00	5		0.00	0.00	B	105
			Naringenin	0.00	5		0.00	0.00	B	105
		Flavones	Apigenin	0.00	2		0.00	0.00	B	105
Luteolin	0.00		1		0.00	0.00	B	105		
Flavonols	Myricetin	0.00	2		0.00	0.00	B	105		
	Quercetin	0.00	2		0.00	0.00	B	105		
99641	Molucca raspberry, raw ( <i>Rubus moluccanus</i> var. <i>austropacificus</i> )	Anthocyanidins	Cyanidin	90.17	1		90.17	90.17	C	184
			Pelargonidin	4.07	1		4.07	4.07	C	184
09190	Mulberries, raw ( <i>Morus nigra</i> )	Flavones	Apigenin	0.00	1		0.00	0.00	C	163
			Luteolin	0.00	1		0.00	0.00	C	163
		Flavonols	Kaempferol	0.00	1		0.00	0.00	C	163
			Quercetin	2.47	1		2.47	2.47	C	163
99632	Muntries (emu apple, native cranberry, or munthar) , raw	Anthocyanidins	Cyanidin	17.88	1		17.88	17.88	C	184
			Delphinidin	6.89	1		6.89	6.89	C	184
09191	Nectarines, raw ( <i>Prunus persica</i> var. <i>nucipersica</i> )	Anthocyanidins	Cyanidin	1.81	45	0.08	0.00	4.85	B	105, 257, 287
			Delphinidin	0.00	8		0.00	0.00	B	105
			Malvidin	0.00	8		0.00	0.00	B	105
			Pelargonidin	0.00	8		0.00	0.00	B	105
			Peonidin	0.00	8		0.00	0.00	B	105
			Petunidin	0.00	8		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	2.54	41	0.28	0.00	5.88	B	14, 105, 257
			(-) -Epicatechin 3-gallate	0.00	11		0.00	0.00	B	14, 105
			(-) -Epigallocatechin	0.00	11		0.00	0.00	B	14, 105
			(-) -Epigallocatechin 3-gallate	0.00	11		0.00	0.00	B	14, 105
			(+) -Catechin	2.98	41	0.28	0.14	9.39	B	14, 105, 257
(+) -Gallocatechin	0.00	12		0.00	0.00	B	14, 105			
Flavanones	Hesperetin	0.00	7		0.00	0.00	B	105		

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
		Flavones	Naringenin	0.00	7		0.00	0.00	B	105
			Apigenin	0.00	8		0.00	0.00	B	105
			Luteolin	0.00	4		0.00	0.00	B	105
		Flavonols	Myricetin	0.00	8		0.00	0.00	B	105
			Quercetin	0.69	38	0.05	0.00	2.08	B	105, 257
97049	Nectarines, white, whole, raw ( <i>Prunus persica</i> var. <i>nucipersica</i> )	Anthocyanidins	Cyanidin	0.74	30	0.10	0.29	1.44	B	257
		Flavan-3-ols	(-) -Epicatechin	3.06	30	0.45	1.75	5.39	B	257
			(+) -Catechin	7.58	30	0.82	0.12	24.29	B	257
		Flavonols	Quercetin	0.37	30	0.05	0.10	0.66	B	257
99651	Nectarines, without skin, raw ( <i>Prunus persica</i> var. <i>nucipersica</i> )	Flavonols	Kaempferol	0.04	1		0.04	0.04	D	135
			Myricetin	0.00	1		0.00	0.00	D	135
			Quercetin	0.08	1		0.08	0.08	D	135
09193	Olives, ripe, canned (small-extra large) ( <i>Olea europaea</i> )	Flavan-3-ols	(-) -Epicatechin	0.00	4		0.00	0.00	B	14
			(-) -Epicatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(+) -Catechin	0.00	4		0.00	0.00	B	14
			(+) -Galocatechin	0.00	4		0.00	0.00	B	14
09200	Oranges, raw, all commercial varieties ( <i>Citrus sinensis</i> )	Flavan-3-ols	(-) -Epicatechin	0.00	4		0.00	0.00	B	14
			(-) -Epicatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(+) -Catechin	0.00	4		0.00	0.00	B	14
			(+) -Galocatechin	0.00	4		0.00	0.00	B	14
		Flavanones	Hesperetin	27.25	22	4.33	11.74	47.09	B	129, 173, 11, 55, 81, 231
			Naringenin	15.32	22	1.76	3.65	45.42	B	129, 173, 11, 55, 81, 231
		Flavones	Apigenin	0.00	23	0.00	0.00	0.01	B	81, 163, 223
			Luteolin	0.19	24	0.05	0.00	1.50	B	81, 163, 12, 223
		Flavonols	Kaempferol	0.13	25	0.13	0.00	3.15	B	81, 163, 12, 135, 223
			Myricetin	0.15	25	0.10	0.00	2.19	B	81, 163, 12, 135, 223
			Quercetin	0.45	27	0.02	0.00	1.75	B	11, 81, 163, 12, 135, 223
09202	Oranges, raw, navels ( <i>Citrus sinensis</i> )	Anthocyanidins	Cyanidin	0.00	3		0.00	0.00	B	106
			Delphinidin	0.00	3		0.00	0.00	B	106
			Malvidin	0.00	3		0.00	0.00	B	106
			Pelargonidin	0.00	3		0.00	0.00	B	106
			Peonidin	0.00	3		0.00	0.00	B	106
			Petunidin	0.00	3		0.00	0.00	B	106
		Flavan-3-ols	(-) -Epicatechin	0.00	3		0.00	0.00	B	106
			(-) -Epigallocatechin	0.00	3		0.00	0.00	B	106

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			(-) -Epigallocatechin 3-gallate	0.00	3		0.00	0.00	B	106
			(+) -Catechin	0.00	3		0.00	0.00	B	106
			(+) -Gallocatechin	0.00	3		0.00	0.00	B	106
			(+) -Gallocatechin 3-gallate	0.00	3		0.00	0.00	B	106
		Flavanones	Hesperetin	21.87	6	6.52	7.76	30.69	B	81, 106
			Naringenin	7.10	6	2.22	2.25	11.40	B	81, 106
		Flavones	Apigenin	0.00	6	0.00	0.00	0.01	B	81, 106
			Luteolin	0.70	6	0.18	0.00	1.40	B	81, 106
		Flavonols	Kaempferol	0.01	3		0.01	0.01	C	81
			Myricetin	0.01	6	0.00	0.00	0.03	B	81, 106
Quercetin	0.20		6	0.05	0.00	0.40	B	81, 106		
09226	Papayas, raw ( <i>Carica papaya</i> )	Flavones	Apigenin	0.01	4		0.01	0.01	C	81
			Luteolin	0.02	4		0.02	0.02	C	81
		Flavonols	Kaempferol	0.06	6	0.05	0.00	0.30	C	81, 146
			Myricetin	0.09	6	0.07	0.00	0.45	C	81, 146
			Quercetin	0.05	6	0.05	0.00	0.30	C	81, 146
09370	Peaches, canned, heavy syrup, drained	Flavan-3-ols	(-) -Epicatechin	0.00	1		0.00	0.00	C	14
			(-) -Epicatechin 3-gallate	0.00	1		0.00	0.00	C	14
			(-) -Epigallocatechin	0.00	1		0.00	0.00	C	14
			(-) -Epigallocatechin 3-gallate	0.00	1		0.00	0.00	C	14
			(+) -Catechin	1.87	1		1.87	1.87	C	14
			(+) -Gallocatechin	0.00	1		0.00	0.00	C	14
		Flavones	Apigenin	0.00	4		0.00	0.00	B	111
			Luteolin	0.00	4		0.00	0.00	B	111
		Flavonols	Kaempferol	0.00	4		0.00	0.00	B	111
			Myricetin	0.00	4		0.00	0.00	B	111
			Quercetin	0.00	4		0.00	0.00	B	111
09236	Peaches, raw ( <i>Prunus persica</i> )	Anthocyanidins	Cyanidin	1.61	45	0.04	0.00	4.30	B	105, 257, 287
			Delphinidin	0.00	7		0.00	0.00	B	105
			Malvidin	0.00	7		0.00	0.00	B	105
			Pelargonidin	0.00	7		0.00	0.00	B	105
			Peonidin	0.00	7		0.00	0.00	B	105
			Petunidin	0.00	7		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	2.34	49	0.21	0.00	6.92	B	14, 54, 105, 257, 262
			(-) -Epicatechin 3-gallate	0.00	14	0.00	0.00	0.01	A	14, 54, 105
			(-) -Epigallocatechin	1.04	14	0.32	0.00	3.34	A	14, 54, 105
			(-) -Epigallocatechin 3-gallate	0.30	14	0.16	0.00	2.01	A	14, 54, 105
			(+) -Catechin	4.92	49	0.51	0.53	10.12	B	14, 54, 105, 257, 262
			(+) -Gallocatechin	0.00	14		0.00	0.00	A	14, 54, 105

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
		Flavanones	Hesperetin	0.00	7		0.00	0.00	B	105
			Naringenin	0.00	7		0.00	0.00	B	105
		Flavones	Apigenin	0.00	9		0.00	0.00	B	111, 105, 163
			Luteolin	0.00	7		0.00	0.00	B	111, 105, 163, 12
		Flavonols	Kaempferol	0.22	3	0.22	0.00	0.65	C	111, 163, 12
			Myricetin	0.00	10		0.00	0.00	B	111, 105, 163, 12
Quercetin	0.66		40	0.07	0.00	1.23	B	111, 105, 163, 257, 12		
97054	Peaches, white, whole, raw	Anthocyanidins	Cyanidin	0.97	30	0.14	0.42	1.81	B	257
		Flavan-3-ols	(-) -Epicatechin	4.09	30	0.61	2.26	6.19	B	257
			(+) -Catechin	12.25	30	1.74	4.62	20.82	B	257
		Flavonols	Quercetin	0.45	30	0.07	0.10	0.71	B	257
99029	Pears without skin, raw	Flavan-3-ols	(-) -Epicatechin	1.74	12	0.43	0.82	2.96	B	4
			(-) -Epicatechin 3-gallate	0.00	12		0.00	0.00	B	4
			(-) -Epigallocatechin	0.00	12		0.00	0.00	B	4
			(-) -Epigallocatechin 3-gallate	0.00	12		0.00	0.00	B	4
			(+) -Catechin	0.14	12	0.03	0.01	0.36	B	4
			(+) -Gallocatechin	0.00	12		0.00	0.00	B	4
09252	Pears, raw ( <i>Pyrus communis</i> )	Anthocyanidins	Cyanidin	12.18	8	2.46	0.00	20.60	A	105
			Delphinidin	0.00	8		0.00	0.00	A	105
			Malvidin	0.00	8		0.00	0.00	A	105
			Pelargonidin	0.00	8		0.00	0.00	A	105
			Peonidin	0.00	8		0.00	0.00	A	105
			Petunidin	0.00	8		0.00	0.00	A	105
		Flavan-3-ols	(-) -Epicatechin	3.76	50	0.32	0.10	17.74	B	14, 4, 238, 54, 105, 262
			(-) -Epicatechin 3-gallate	0.02	28	0.02	0.00	0.50	A	14, 54, 105
			(-) -Epigallocatechin	0.59	28	0.25	0.00	5.07	A	14, 54, 105
			(-) -Epigallocatechin 3-gallate	0.17	28	0.12	0.00	2.52	A	14, 54, 105
			(+) -Catechin	0.27	47	0.04	0.00	2.32	B	14, 4, 54, 105, 262
			(+) -Gallocatechin	0.00	28		0.00	0.00	A	14, 54, 105
		Flavanones	Hesperetin	0.00	6		0.00	0.00	B	105
			Naringenin	0.00	6		0.00	0.00	B	105
		Flavones	Apigenin	0.00	12		0.00	0.00	A	111, 105, 163
			Luteolin	0.00	8		0.00	0.00	B	111, 105, 163
		Flavonols	Isorhamnetin	0.30	3	0.16	0.06	0.60	C	238
			Kaempferol	0.00	5		0.00	0.00	B	111, 163, 135
Myricetin	0.00		13		0.00	0.00	A	111, 105, 163, 135		
Quercetin	4.24		16	1.66	0.00	20.50	B	111, 238, 105, 163, 135		
99080	Pears, without skin, cooked	Flavan-3-ols	(-) -Epicatechin	2.12	4		2.12	2.12	B	4
			(-) -Epicatechin 3-gallate	0.00	4		0.00	0.00	B	4



## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data		
			(-) -Epigallocatechin	0.00	4		0.00	0.00	B	4		
			(-) -Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	4		
			(+) -Catechin	0.33	4		0.33	0.33	B	4		
			(+) -Gallocatechin	0.00	4		0.00	0.00	B	4		
97088	Persimmons, raw	Flavan-3-ols	(-) -Epicatechin	0.00	3		0.00	0.00	C	54		
			(-) -Epicatechin 3-gallate	0.00	3		0.00	0.00	C	54		
			(-) -Epigallocatechin	0.00	3		0.00	0.00	C	54		
			(-) -Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	54		
			(+) -Catechin	0.63	3		0.63	0.63	C	54		
			(+) -Gallocatechin	0.17	3		0.17	0.17	C	54		
		Flavones	Luteolin	0.14	1		0.14	0.14	C	12		
		Flavonols	Kaempferol	0.00	1		0.00	0.00	C	12		
			Myricetin	1.06	1		1.06	1.06	C	12		
			Quercetin	0.00	1		0.00	0.00	C	12		
09266	Pineapple, raw, all varieties ( <i>Ananas comosus</i> )	Anthocyanidins	Cyanidin	0.00	1		0.00	0.00	B	105		
			Delphinidin	0.00	1		0.00	0.00	B	105		
			Malvidin	0.00	1		0.00	0.00	B	105		
			Pelargonidin	0.00	1		0.00	0.00	B	105		
			Peonidin	0.00	1		0.00	0.00	B	105		
			Petunidin	0.00	1		0.00	0.00	B	105		
		Flavan-3-ols	(-) -Epicatechin	0.00	8		0.00	0.00	B	14, 54, 105		
			(-) -Epicatechin 3-gallate	0.00	8		0.00	0.00	B	14, 54, 105		
			(-) -Epigallocatechin	0.00	8		0.00	0.00	B	14, 54, 105		
			(-) -Epigallocatechin 3-gallate	0.00	8		0.00	0.00	B	14, 54, 105		
			(+) -Catechin	0.00	8		0.00	0.00	B	14, 54, 105		
			(+) -Gallocatechin	0.00	8		0.00	0.00	B	14, 54, 105		
		Flavanones	Hesperetin	0.00	1		0.00	0.00	B	105		
			Naringenin	0.00	1		0.00	0.00	B	105		
		Flavones	Apigenin	0.00	2	0.00	0.00	0.01	B	81, 105		
			Luteolin	0.01	2	0.01	0.00	0.02	B	81, 105		
		Flavonols	Kaempferol	0.00	2	0.00	0.00	0.01	B	81, 146		
			Myricetin	0.01	3	0.01	0.00	0.03	B	81, 105, 146		
			Quercetin	0.14	3	0.14	0.00	0.42	B	81, 105, 146		
		09430	Pineapple, raw, extra sweet variety ( <i>Ananas comosus</i> )	Anthocyanidins	Cyanidin	0.00	3		0.00	0.00	B	105
					Delphinidin	0.00	3		0.00	0.00	B	105
					Malvidin	0.00	3		0.00	0.00	B	105
Pelargonidin	0.00				3		0.00	0.00	B	105		
Peonidin	0.00				3		0.00	0.00	B	105		
Petunidin	0.00				3		0.00	0.00	B	105		

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
		Flavan-3-ols	(-) -Epicatechin	0.00	5		0.00	0.00	B	105
			(-) -Epicatechin 3-gallate	0.00	5		0.00	0.00	B	105
			(-) -Epigallocatechin	0.00	5		0.00	0.00	B	105
			(-) -Epigallocatechin 3-gallate	0.00	5		0.00	0.00	B	105
			(+) -Catechin	0.00	5		0.00	0.00	B	105
			(+) -Gallocatechin	0.00	5		0.00	0.00	B	105
		Flavanones	Hesperetin	0.00	5		0.00	0.00	B	105
			Naringenin	0.00	5		0.00	0.00	B	105
		Flavones	Apigenin	0.00	3		0.00	0.00	B	105
			Luteolin	0.00	2		0.00	0.00	B	105
Flavonols	Myricetin	0.00	3		0.00	0.00	B	105		
	Quercetin	0.00	3		0.00	0.00	B	105		
09276	Pitanga, (surinam-cherry) , raw ( <i>Eugenia uniflora</i> )	Flavones	Apigenin	0.00	7		0.00	0.00	C	223
			Luteolin	0.00	7		0.00	0.00	C	223
		Flavonols	Kaempferol	0.40	7		0.40	0.40	C	223
			Myricetin	3.36	7	1.15	3.10	3.70	C	223
			Quercetin	5.80	7	1.99	5.50	6.20	C	223
99621	Plum, Davidson's, raw ( <i>Davodsonia pruriens</i> )	Anthocyanidins	Cyanidin	28.42	1		28.42	28.42	C	184
			Delphinidin	11.03	1		11.03	11.03	C	184
			Peonidin	7.52	1		7.52	7.52	C	184
			Petunidin	1.99	1		1.99	1.99	C	184
99639	Plum, Illawara, raw ( <i>Podocarpus elatus</i> )	Anthocyanidins	Cyanidin	555.72	1		555.72	555.72	C	184
			Pelargonidin	2.47	1		2.47	2.47	C	184
97043	Plum, red, whole, raw	Anthocyanidins	Cyanidin	4.73	30	0.61	0.62	13.93	B	45, 81, 257
			Delphinidin	0.02	2		0.02	0.02	C	81
			Pelargonidin	0.02	2		0.02	0.02	C	81
			Peonidin	2.21	4		2.21	2.21	C	45
		Flavones	Apigenin	0.01	3	0.00	0.00	0.01	C	81, 163
			Luteolin	0.01	3	0.00	0.00	0.02	C	81, 163
		Flavonols	Kaempferol	0.01	4	0.00	0.00	0.01	C	81, 163, 135
			Myricetin	0.01	4	0.00	0.00	0.03	C	81, 163, 135
			Quercetin	1.79	32	0.19	0.00	7.04	B	45, 81, 163, 257, 135
97046	Plum, yellow, whole, raw ( <i>Prunus domestica</i> )	Anthocyanidins	Cyanidin	0.28	115	0.03	0.00	0.43	B	45, 257, 247
			Peonidin	0.02	109	0.00	0.00	0.03	C	45, 247
		Flavonols	Kaempferol	0.10	12	0.02	0.06	0.17	B	161
			Myricetin	0.10	12	0.02	0.07	0.11	B	161
			Quercetin	0.70	127	0.03	0.07	4.28	B	45, 161, 257, 247
97077	Plums, black diamond, with peel, raw	Anthocyanidins	Cyanidin	39.68	6	13.24	6.40	84.35	B	81, 105, 287
			Delphinidin	0.01	4	0.00	0.00	0.02	B	81, 105

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			Malvidin	0.00	2		0.00	0.00	B	105
			Pelargonidin	0.01	4	0.00	0.00	0.02	B	81, 105
			Peonidin	0.00	2		0.00	0.00	B	105
			Petunidin	0.00	2		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	2.44	2	2.44	0.00	4.88	B	105
			(-) -Epicatechin 3-gallate	0.00	2		0.00	0.00	B	105
			(-) -Epigallocatechin	13.06	2	7.34	5.72	20.40	B	105
			(-) -Epigallocatechin 3-gallate	0.48	2	0.48	0.00	0.97	B	105
			(+) -Catechin	17.55	2	11.45	6.10	29.00	B	105
			(+) -Gallocatechin	0.00	2		0.00	0.00	B	105
		Flavanones	Hesperetin	0.00	2		0.00	0.00	B	105
			Naringenin	0.00	2		0.00	0.00	B	105
		Flavones	Apigenin	0.00	4	0.00	0.00	0.01	B	81, 105
			Luteolin	0.60	3	0.21	0.00	0.90	B	81, 105
		Flavonols	Kaempferol	0.01	2		0.01	0.01	C	81
			Myricetin	0.01	4	0.00	0.00	0.03	B	81, 105
Quercetin	12.45		4	6.18	1.80	25.10	B	81, 105		
09291	Plums, dried (prunes) , uncooked	Anthocyanidins	Cyanidin	0.71	9	0.27	0.00	2.40	B	81, 105
			Delphinidin	0.04	9	0.02	0.00	0.20	B	81, 105
			Malvidin	0.00	7		0.00	0.00	B	105
			Pelargonidin	0.00	9	0.00	0.00	0.02	B	81, 105
			Peonidin	0.00	7		0.00	0.00	B	105
			Petunidin	0.00	7		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	0.00	3		0.00	0.00	B	105
			(-) -Epicatechin 3-gallate	0.00	3		0.00	0.00	B	105
			(-) -Epigallocatechin	0.00	3		0.00	0.00	B	105
			(-) -Epigallocatechin 3-gallate	0.00	3		0.00	0.00	B	105
			(+) -Catechin	0.00	3		0.00	0.00	B	105
			(+) -Gallocatechin	0.00	3		0.00	0.00	B	105
		Flavanones	Hesperetin	0.00	3		0.00	0.00	B	105
			Naringenin	0.00	3		0.00	0.00	B	105
		Flavones	Apigenin	0.00	9	0.00	0.00	0.01	B	81, 105
			Luteolin	0.01	6	0.00	0.00	0.02	B	81, 105
		Flavonols	Kaempferol	0.01	2		0.01	0.01	C	81
			Myricetin	0.01	9	0.00	0.00	0.03	B	81, 105
			Quercetin	1.80	9	0.60	0.00	4.00	B	81, 105
		99395	Plums, Greengage, raw	Flavones	Apigenin	0.00	2		0.00	0.00
Luteolin	0.00				2		0.00	0.00	C	163
Flavonols	Kaempferol			0.00	2		0.00	0.00	C	163

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			Myricetin	0.00	2		0.00	0.00	C	163
			Quercetin	0.00	2		0.00	0.00	C	163
99367	Plums, purple, raw	Anthocyanidins	Cyanidin	17.93	32	2.68	6.73	35.51	C	45
			Peonidin	5.21	32	0.77	1.56	11.52	C	45
		Flavonols	Quercetin	2.19	32	0.33	0.69	4.18	C	45
09279	Plums, raw ( <i>Prunus spp.</i> )	Anthocyanidins	Cyanidin	5.33	83	0.49	0.84	40.43	B	105, 287, 247, 266
			Delphinidin	0.00	8		0.00	0.00	A	105
			Malvidin	0.00	8		0.00	0.00	A	105
			Pelargonidin	0.00	8		0.00	0.00	A	105
			Peonidin	0.42	75	0.01	0.00	2.08	B	105, 247, 266
			Petunidin	0.00	8		0.00	0.00	A	105
		Flavan-3-ols	(-) -Epicatechin	3.20	20	0.49	0.00	10.38	A	14, 54, 105, 262
			(-) -Epicatechin 3-gallate	0.76	15	0.43	0.00	4.98	A	14, 54, 105
			(-) -Epigallocatechin	0.24	15	0.10	0.00	1.19	A	14, 54, 105
			(-) -Epigallocatechin 3-gallate	0.40	14	0.21	0.00	2.47	A	14, 54, 105
			(+) -Catechin	2.89	20	0.44	0.00	5.82	A	14, 54, 105, 262
			(+) -Gallocatechin	0.09	15	0.09	0.00	1.35	A	14, 54, 105
		Flavanones	Hesperetin	0.00	8		0.00	0.00	A	105
			Naringenin	0.00	8		0.00	0.00	A	105
		Flavones	Apigenin	0.00	10		0.00	0.00	A	111, 105, 163
			Luteolin	0.00	6		0.00	0.00	B	111, 105, 163
		Flavonols	Kaempferol	0.00	2		0.00	0.00	B	111, 163
			Myricetin	0.00	10		0.00	0.00	A	111, 105, 163
			Quercetin	0.90	62	0.19	0.22	7.35	B	111, 129, 105, 163, 247
09286	Pomegranates, raw ( <i>Punica granatum</i> )	Flavan-3-ols	(-) -Epicatechin	0.08	3		0.08	0.08	C	54
			(-) -Epicatechin 3-gallate	0.00	3		0.00	0.00	C	54
			(-) -Epigallocatechin	0.16	3		0.16	0.16	C	54
			(-) -Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	54
			(+) -Catechin	0.40	3		0.40	0.40	C	54
			(+) -Gallocatechin	0.17	3		0.17	0.17	C	54
		Flavones	Apigenin	0.00	1		0.00	0.00	C	163
			Luteolin	0.00	1		0.00	0.00	C	163
		Flavonols	Kaempferol	0.00	1		0.00	0.00	C	163
			Myricetin	0.00	1		0.00	0.00	C	163
			Quercetin	0.00	1		0.00	0.00	C	163
09287	Prickly pears, raw ( <i>Opuntia spp.</i> )	Flavonols	Isorhamnetin	0.65	4	0.59	0.00	2.41	C	144
			Kaempferol	0.18	4	0.08	0.00	0.38	C	144
			Quercetin	4.86	4	1.66	0.98	9.05	C	144
09295	Pummelo, raw ( <i>Citrus maxima</i> )	Flavanones	Hesperetin	8.40	2		8.40	8.40	C	81

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			Naringenin	24.72	2		24.72	24.72	C	81
09296	Quinces, raw ( <i>Cydonia oblonga</i> )	Flavan-3-ols	(-) -Epicatechin	0.67	3		0.67	0.67	C	54
			(-) -Epicatechin 3-gallate	0.00	3		0.00	0.00	C	54
			(-) -Epigallocatechin	0.00	3		0.00	0.00	C	54
			(-) -Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	54
			(+) -Catechin	0.75	3		0.75	0.75	C	54
			(+) -Gallocatechin	0.00	3		0.00	0.00	C	54
		Flavones	Apigenin	0.00	1		0.00	0.00	C	163
			Luteolin	0.00	1		0.00	0.00	C	163
		Flavonols	Kaempferol	0.00	1		0.00	0.00	C	163
			Myricetin	0.00	1		0.00	0.00	C	163
Quercetin	0.00		1		0.00	0.00	C	163		
09297	Raisins, golden seedless ( <i>Vitis vinifera</i> )	Flavonols	Kaempferol	1.69	20	0.35	0.57	2.47	B	132
			Quercetin	2.05	20	0.43	1.84	2.62	B	132
09298	Raisins, seedless ( <i>Vitis vinifera</i> )	Anthocyanidins	Cyanidin	0.03	7	0.01	0.00	0.10	B	81, 105
			Delphinidin	0.01	7	0.00	0.00	0.02	B	81, 105
			Malvidin	0.00	5		0.00	0.00	B	105
			Pelargonidin	0.01	7	0.00	0.00	0.02	B	81, 105
			Peonidin	0.00	5		0.00	0.00	B	105
			Petunidin	0.00	5		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	0.10	7	0.10	0.00	0.71	B	14, 105
			(-) -Epicatechin 3-gallate	0.00	7		0.00	0.00	B	14, 105
			(-) -Epigallocatechin	0.00	7		0.00	0.00	B	14, 105
			(-) -Epigallocatechin 3-gallate	0.00	7		0.00	0.00	B	14, 105
			(+) -Catechin	0.42	7	0.42	0.00	2.97	B	14, 105
			(+) -Gallocatechin	0.00	7		0.00	0.00	B	14, 105
		Flavanones	Hesperetin	0.00	6		0.00	0.00	B	105
			Naringenin	0.00	6		0.00	0.00	B	105
		Flavones	Apigenin	0.00	7	0.00	0.00	0.01	B	81, 105
			Luteolin	0.01	4	0.00	0.00	0.02	B	81, 105
		Flavonols	Kaempferol	0.01	2		0.01	0.01	C	81
			Myricetin	0.01	7	0.00	0.00	0.03	B	81, 105
Quercetin	0.25		7	0.24	0.00	1.70	B	81, 105		
99411	Raspberries, black	Anthocyanidins	Cyanidin	323.47	1		323.47	323.47	D	287
			Peonidin	0.55	1		0.55	0.55	D	287
09302	Raspberries, raw ( <i>Rubus spp.</i> )	Anthocyanidins	Cyanidin	36.74	27	1.90	0.00	88.30	B	5, 105, 183, 287, 115, 166
			Delphinidin	1.11	15	0.83	0.00	12.61	B	5, 105, 115
			Malvidin	0.71	15	0.16	0.00	2.75	B	5, 105, 115
			Pelargonidin	1.64	27	0.34	0.00	8.23	B	5, 105, 183, 287, 115, 166

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			Peonidin	0.12	7	0.12	0.00	0.87	B	105, 115
			Petunidin	0.31	7	0.31	0.00	2.14	B	105, 115
		Flavan-3-ols	(-) -Epicatechin	3.52	18	0.62	0.00	8.26	B	14, 54, 105, 262, 166
			(-) -Epicatechin 3-gallate	0.00	10		0.00	0.00	B	14, 54, 105
			(-) -Epigallocatechin	0.46	10	0.02	0.00	1.11	B	14, 54, 105
			(-) -Epigallocatechin 3-gallate	0.54	10	0.54	0.00	5.35	B	14, 54, 105
			(+) -Catechin	1.31	18	0.42	0.00	7.33	B	14, 54, 105, 262, 166
			(+) -Gallocatechin	0.00	10	0.00	0.00	0.01	B	14, 54, 105
		Flavanones	Hesperetin	0.00	3		0.00	0.00	B	105
			Naringenin	0.00	3		0.00	0.00	B	105
		Flavones	Apigenin	0.00	7		0.00	0.00	B	105, 163
			Luteolin	0.00	3		0.00	0.00	B	105, 163
		Flavonols	Isorhamnetin	0.00	3		0.00	0.00	C	166
			Kaempferol	0.07	12	0.05	0.00	0.66	B	104, 163, 183, 298, 166
Myricetin	0.00		9		0.00	0.00	B	104, 105		
Quercetin	1.05		61	0.09	0.00	4.58	B	102, 104, 129, 105, 163, 183, 298, 10, 126, 166		
99327	Raspberries, red, frozen	Anthocyanidins	Cyanidin	22.60	1		22.60	22.60	C	81
			Delphinidin	0.02	1		0.02	0.02	C	81
			Pelargonidin	1.60	1		1.60	1.60	C	81
		Flavones	Apigenin	0.01	1		0.01	0.01	C	81
			Luteolin	0.02	1		0.02	0.02	C	81
		Flavonols	Kaempferol	0.01	1		0.01	0.01	C	81
			Myricetin	0.03	1		0.03	0.03	C	81
			Quercetin	1.10	1		1.10	1.10	C	81
		99052	Rhubarb stalks, cooked	Flavan-3-ols	(-) -Epicatechin	0.38	4		0.38	0.38
(-) -Epicatechin 3-gallate	0.49				4		0.49	0.49	B	4
(-) -Epigallocatechin	0.00				4		0.00	0.00	B	4
(-) -Epigallocatechin 3-gallate	0.00				4		0.00	0.00	B	4
(+) -Catechin	1.48				4		1.48	1.48	B	4
(+) -Gallocatechin	0.00				4		0.00	0.00	B	4
09307	Rhubarb, raw ( <i>Rheum rhabarbarum</i> )				Flavan-3-ols	(-) -Epicatechin	0.51	4		0.51
		(-) -Epicatechin 3-gallate	0.60	4			0.60	0.60	B	14
		(-) -Epigallocatechin	0.00	4			0.00	0.00	B	14
		(-) -Epigallocatechin 3-gallate	0.00	4			0.00	0.00	B	14
		(+) -Catechin	2.17	4			2.17	2.17	B	14
		(+) -Gallocatechin	0.00	4			0.00	0.00	B	14
99335	Rowanberries, raw	Flavonols	Kaempferol	0.00	2		0.00	0.00	C	104
			Myricetin	0.00	2		0.00	0.00	C	104

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
99037	Sea buckthorn berry, raw	Anthocyanidins	Quercetin	7.40	2	1.10	6.30	8.50	C	104
			Cyanidin	0.04	1		0.04	0.04	C	115
			Delphinidin	0.01	1		0.01	0.01	C	115
			Malvidin	0.02	1		0.02	0.02	C	115
			Pelargonidin	0.00	1		0.00	0.00	C	115
			Peonidin	0.01	1		0.01	0.01	C	115
		Petunidin	0.00	1		0.00	0.00	C	115	
		Flavonols	Isorhamnetin	38.29	29	2.66	8.60	72.17	B	290
	Quercetin	7.58	29	0.92	2.56	20.53	B	290		
99616	Service (Saskatoon) berries ( <i>Amelanchier canadensis</i> )	Anthocyanidins	Cyanidin	111.08	8	16.78	18.68	249.60	C	2, 115, 194
			Delphinidin	50.38	1		50.38	50.38	C	115
			Malvidin	10.59	1		10.59	10.59	C	115
			Pelargonidin	0.00	1		0.00	0.00	C	115
			Peonidin	2.96	1		2.96	2.96	C	115
		Petunidin	6.27	1		6.27	6.27	C	115	
Flavonols	Quercetin	16.05	4	6.55	15.61	16.49	C	194		
09315	Soursop, raw ( <i>Annona muricata</i> )	Flavonols	Kaempferol	0.00	1		0.00	0.00	C	146
			Myricetin	0.00	1		0.00	0.00	C	146
			Quercetin	0.00	1		0.00	0.00	C	146
99382	Star apple, raw	Flavan-3-ols	(-) -Epicatechin	0.73	1		0.73	0.73	D	165
			(-) -Epigallocatechin	0.14	1		0.14	0.14	D	165
			(+) -Catechin	0.25	1		0.25	0.25	D	165
			(+) -Gallocatechin	0.53	1		0.53	0.53	D	165
		Flavonols	Myricetin	0.08	1		0.08	0.08	D	165
			Quercetin	0.26	1		0.26	0.26	D	165
09318	Strawberries, frozen, unsweetened	Anthocyanidins	Cyanidin	1.27	9	0.39	0.33	3.21	B	81, 89, 140
			Delphinidin	0.02	1		0.02	0.02	C	81
			Pelargonidin	19.32	9	5.54	7.35	48.50	B	81, 89, 140
		Flavones	Apigenin	0.01	1		0.01	0.01	C	81
			Luteolin	0.02	1		0.02	0.02	C	81
		Flavonols	Kaempferol	0.49	20	0.08	0.00	1.30	B	103, 102, 81, 140
	Myricetin	0.35	4	0.14	0.03	0.69	B	81, 140		
	Quercetin	0.46	17	0.04	0.30	0.90	B	103, 102, 81		
09316	Strawberries, raw ( <i>Fragaria X ananassa</i> )	Anthocyanidins	Cyanidin	1.63	156	0.04	0.00	5.42	B	81, 105, 89, 283, 282, 287, 33, 50, 115, 166, 188, 203
			Delphinidin	0.31	9	0.29	0.00	2.60	B	81, 105, 115
			Malvidin	0.01	8	0.01	0.00	0.09	B	105, 115
			Pelargonidin	25.69	151	0.43	5.91	57.49	B	105, 89, 283, 282, 287, 33, 50, 115, 166, 188, 203

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data		
			Peonidin	0.05	8	0.05	0.00	0.44	B	105, 115		
			Petunidin	0.07	9	0.07	0.00	0.63	B	105, 287, 115		
		Flavan-3-ols	(-) -Epicatechin	0.42	30	0.13	0.00	2.20	B	14, 30, 54, 105, 262, 166, 203		
			(-) -Epicatechin 3-gallate	0.15	13	0.03	0.00	0.66	A	14, 54, 105		
			(-) -Epigallocatechin	0.78	13	0.35	0.00	4.31	A	14, 54, 105		
			(-) -Epigallocatechin 3-gallate	0.11	13	0.07	0.00	0.73	A	14, 54, 105		
			(+) -Catechin	3.11	31	0.19	0.00	5.70	B	14, 30, 54, 105, 109, 262, 166, 203		
			(+) -Gallocatechin	0.03	12	0.01	0.00	0.12	A	14, 54, 105		
			Flavanones	Hesperetin	0.00	6		0.00	0.00	B	105	
		Naringenin		0.26	7	0.26	0.00	1.81	B	105, 109		
		Flavones	Apigenin	0.00	21	0.00	0.00	0.01	B	111, 105, 81, 163, 223		
			Luteolin	0.00	18	0.00	0.00	0.02	B	111, 105, 81, 163, 12, 223		
		Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	166		
			Kaempferol	0.54	135	0.01	0.00	2.30	B	102, 111, 104, 129, 30, 81, 109, 163, 283, 282, 12, 33, 126, 135, 166, 203, 223		
			Myricetin	0.04	24	0.04	0.00	0.98	B	111, 104, 105, 81, 12, 135, 223		
			Quercetin	1.11	118	0.04	0.00	4.40	B	102, 111, 104, 129, 30, 105, 81, 109, 163, 283, 12, 33, 126, 135, 166, 203, 223		
97007	Strawberry tree fruit (arbutus) , raw	Anthocyanidins	Cyanidin	2.16	1		2.16	2.16	C	196		
			Delphinidin	0.26	1		0.26	0.26	C	196		
		Flavan-3-ols	(-) -Epicatechin	1.56	4	0.09	1.11	2.89	C	54, 196		
			(-) -Epicatechin 3-gallate	0.00	3		0.00	0.00	C	54		
			(-) -Epigallocatechin	0.00	3		0.00	0.00	C	54		
			(-) -Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	54		
			(+) -Catechin	6.65	4	2.94	4.16	7.48	C	54, 196		
			(+) -Gallocatechin	1.60	3		1.60	1.60	C	54		
		Flavonols	Myricetin	0.64	1		0.64	0.64	C	196		
			Quercetin	0.48	1		0.48	0.48	C	196		
09218	Tangerines, (mandarin oranges) , raw ( <i>Citrus reticulata</i> )	Flavanones	Hesperetin	7.94	11	2.12	4.52	11.17	B	55, 81		
			Naringenin	10.02	11	1.47	1.74	29.15	B	55, 81		
		Flavones	Apigenin	0.00	1		0.00	0.00	C	163		
			Luteolin	0.00	1		0.00	0.00	C	163		
		Flavonols	Kaempferol	0.00	1		0.00	0.00	C	163		
			Myricetin	0.00	1		0.00	0.00	C	163		
			Quercetin	0.00	1		0.00	0.00	C	163		
		09326	Watermelon, raw ( <i>Citrullus lanatus</i> )	Anthocyanidins	Cyanidin	0.00	3		0.00	0.00	B	105
					Delphinidin	0.00	3		0.00	0.00	B	105
Malvidin	0.00				3		0.00	0.00	B	105		



## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			Pelargonidin	0.00	3		0.00	0.00	B	105
			Peonidin	0.00	3		0.00	0.00	B	105
			Petunidin	0.00	3		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	0.00	7		0.00	0.00	B	105
			(-) -Epicatechin 3-gallate	0.00	7		0.00	0.00	B	105
			(-) -Epigallocatechin	0.00	7		0.00	0.00	B	105
			(-) -Epigallocatechin 3-gallate	0.00	7		0.00	0.00	B	105
			(+) -Catechin	0.00	7		0.00	0.00	B	105
			(+) -Gallocatechin	0.00	7		0.00	0.00	B	105
			Flavanones	Hesperetin	0.00	7		0.00	0.00	B
		Naringenin		0.00	7		0.00	0.00	B	105
		Flavones	Apigenin	0.00	5		0.00	0.00	B	105, 163, 232
			Luteolin	0.46	4	0.46	0.00	1.84	B	105, 163, 232, 12
Flavonols	Kaempferol	0.45	4	0.45	0.00	1.81	B	163, 232, 12, 146		
	Myricetin	0.00	7		0.00	0.00	B	105, 163, 232, 12, 146		
	Quercetin	0.00	7		0.00	0.00	B	105, 163, 232, 12, 146		
99361	Yuzu, raw	Flavanones	Hesperetin	28.73	60	3.64	26.64	30.32	C	294
	Naringenin		24.82	60	3.15	22.80	26.12	C	294	
<b>11 – Vegetables and Vegetable Products</b>										
11001	Alfalfa seeds, sprouted, raw ( <i>Medicago sativa</i> )	Flavones	Apigenin	0.00	1		0.00	0.00	C	232
			Luteolin	0.00	1		0.00	0.00	C	232
		Flavonols	Kaempferol	0.00	1		0.00	0.00	C	232
			Myricetin	0.00	1		0.00	0.00	C	232
			Quercetin	1.70	1		1.70	1.70	C	232
11004	Amaranth leaves, cooked, boiled, drained, without salt	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	146
			Kaempferol	0.00	1		0.00	0.00	C	146
			Myricetin	0.55	1		0.55	0.55	C	146
			Quercetin	0.88	1		0.88	0.88	C	146
99001	Annual saw-thistle, leaves	Flavones	Apigenin	3.80	1		3.80	3.80	B	260
			Luteolin	6.50	1		6.50	6.50	B	260
		Flavonols	Isorhamnetin	0.70	1		0.70	0.70	B	260
			Kaempferol	3.80	1		3.80	3.80	B	260
			Myricetin	3.60	1		3.60	3.60	B	260
	Quercetin	16.00	1		16.00	16.00	B	260		
11006	Arrowhead, cooked, boiled, drained, without salt	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	146
			Kaempferol	0.00	1		0.00	0.00	C	146
			Myricetin	0.00	1		0.00	0.00	C	146
			Quercetin	0.00	1		0.00	0.00	C	146
11007	Artichokes, (globe or french) ,	Flavanones	Naringenin	12.51	10	2.45	0.00	22.93	C	239, 281

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data	
	raw ( <i>Cynara scolymus</i> )	Flavones	Apigenin	7.42	25	0.84	0.00	16.26	B	79, 148, 239, 281	
			Luteolin	2.27	13	0.45	0.00	6.14	B	148, 239, 281	
99362	Artichokes, Ocean Mist, boiled	Anthocyanidins	Cyanidin	0.00	1		0.00	0.00	B	105	
			Delphinidin	0.00	1		0.00	0.00	B	105	
			Malvidin	0.00	1		0.00	0.00	B	105	
			Pelargonidin	0.00	1		0.00	0.00	B	105	
			Peonidin	0.00	1		0.00	0.00	B	105	
			Petunidin	0.00	1		0.00	0.00	B	105	
		Flavan-3-ols	(-) -Epicatechin	0.00	1		0.00	0.00	B	105	
			(-) -Epicatechin 3-gallate	0.00	1		0.00	0.00	B	105	
			(-) -Epigallocatechin	0.00	1		0.00	0.00	B	105	
			(-) -Epigallocatechin 3-gallate	0.00	1		0.00	0.00	B	105	
			(+) -Catechin	0.00	1		0.00	0.00	B	105	
		Flavanones	Hesperetin	0.00	1		0.00	0.00	B	105	
			Naringenin	0.00	1		0.00	0.00	B	105	
		Flavones	Apigenin	0.00	1		0.00	0.00	B	105	
Luteolin	0.00		1		0.00	0.00	B	105			
Flavonols	Myricetin	0.00	1		0.00	0.00	B	105			
	Quercetin	0.00	1		0.00	0.00	B	105			
99363	Artichokes, Ocean Mist, Microwaved	Anthocyanidins	Cyanidin	0.00	1		0.00	0.00	B	105	
			Delphinidin	0.00	1		0.00	0.00	B	105	
			Malvidin	0.00	1		0.00	0.00	B	105	
			Pelargonidin	0.00	1		0.00	0.00	B	105	
			Peonidin	0.00	1		0.00	0.00	B	105	
			Petunidin	0.00	1		0.00	0.00	B	105	
		Flavones	Apigenin	0.00	1		0.00	0.00	B	105	
			Luteolin	0.00	1		0.00	0.00	B	105	
		Flavonols	Myricetin	0.00	1		0.00	0.00	B	105	
			Quercetin	0.00	1		0.00	0.00	B	105	
11959	Arugula, raw ( <i>Eruca sativa</i> )	Anthocyanidins	Cyanidin	0.00	2		0.00	0.00	C	11	
		Flavones	Apigenin	0.00	4		0.00	0.00	C	11, 119	
			Luteolin	0.00	2		0.00	0.00	C	11	
		Flavonols	Kaempferol	58.80	4	15.30	40.20	104.20	C	11, 119	
Quercetin	10.47		4	3.49	0.00	14.30	C	11, 119			
11012	Asparagus, cooked, boiled, drained	Flavonols	Quercetin	15.16	8	2.42	7.61	28.40	B	168, 73	
11011	Asparagus, raw ( <i>Asparagus officinalis</i> )	Flavonols	Isorhamnetin	5.70	10	0.91	0.46	10.28	B	83	
			Kaempferol	1.39	11	0.44	0.00	5.20	B	83, 135	

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			Myricetin	0.00	1		0.00	0.00	C	135
			Quercetin	13.98	36	0.91	0.05	28.72	B	168, 231, 83, 73, 135
11025	Balsam-pear (bitter gourd) , pods, cooked, boiled, drained, without salt	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	146
			Kaempferol	0.00	1		0.00	0.00	C	146
			Myricetin	0.00	1		0.00	0.00	C	146
			Quercetin	0.00	1		0.00	0.00	C	146
99655	Bay leaves, fresh	Flavones	Apigenin	0.00	1		0.00	0.00	D	246
			Luteolin	0.00	1		0.00	0.00	D	246
			Myricetin	0.00	1		0.00	0.00	D	246
		Flavonols	Kaempferol	4.82	1		4.82	4.82	D	246
			Quercetin	3.19	1		3.19	3.19	D	246
99643	Beans, butter, raw ( <i>Phaseolus coccineus</i> )	Flavonols	Isorhamnetin	0.00	3		0.00	0.00	C	118
			Kaempferol	0.00	3		0.00	0.00	C	118
			Quercetin	0.00	3		0.00	0.00	C	118
11056	Beans, snap, green, canned, regular pack, drained solids	Flavones	Apigenin	0.00	4		0.00	0.00	B	111
			Luteolin	0.00	4		0.00	0.00	B	111
		Flavonols	Kaempferol	0.02	5	0.02	0.00	0.09	C	111, 207
			Myricetin	0.00	4		0.00	0.00	B	111
			Quercetin	1.49	5	0.62	0.63	1.70	C	111, 207
11053	Beans, snap, green, cooked, boiled, drained, without salt	Anthocyanidins	Cyanidin	0.02	1		0.02	0.02	C	81
			Delphinidin	0.02	1		0.02	0.02	C	81
			Pelargonidin	0.02	1		0.02	0.02	C	81
		Flavonols	Kaempferol	0.00	1		0.00	0.00	B	146
			Myricetin	0.08	1		0.08	0.08	B	146
			Quercetin	2.84	11	0.42	0.32	4.81	B	7, 146
11060	Beans, snap, green, frozen, all styles, unprepared	Flavonols	Kaempferol	0.24	4		0.24	0.24	C	72
			Quercetin	1.30	1		1.30	1.30	C	72
			Kaempferol	0.26	8	0.07	0.20	0.31	C	72
			Quercetin	1.25	8	0.33	1.00	1.50	C	72
11052	Beans, snap, green, raw ( <i>Phaseolus vulgaris</i> )	Flavan-3-ols	(-) -Epicatechin	0.00	11		0.00	0.00	B	14, 54
			(-) -Epicatechin 3-gallate	0.00	11		0.00	0.00	B	14, 54
			(-) -Epigallocatechin	0.00	11		0.00	0.00	B	14, 54
			(-) -Epigallocatechin 3-gallate	0.00	11		0.00	0.00	B	14, 54
			(+) -Catechin	0.00	11		0.00	0.00	B	14, 54
			(+) -Gallocatechin	0.00	11		0.00	0.00	B	14, 54
		Flavones	Apigenin	0.00	5	0.00	0.00	0.01	B	111, 81
			Luteolin	0.13	8	0.13	0.00	1.01	B	111, 81, 12
		Flavonols	Kaempferol	0.45	23	0.06	0.00	1.86	B	111, 108, 207, 81, 12, 135
			Myricetin	0.13	9	0.12	0.00	1.11	B	111, 81, 12, 135

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			Quercetin	2.73	30	0.22	0.03	9.09	B	111, 108, 129, 207, 7, 81, 12, 135
11724	Beans, snap, yellow, cooked, boiled, drained, without salt	Flavonols	Kaempferol	0.00	1		0.00	0.00	C	146
			Myricetin	0.00	1		0.00	0.00	C	146
			Quercetin	0.20	1		0.20	0.20	C	146
11722	Beans, snap, yellow, raw ( <i>Phaseolus vulgaris</i> )	Flavonols	Kaempferol	0.42	9	0.06	0.20	0.71	C	108
			Quercetin	3.03	9	0.69	0.95	6.85	C	108
11080	Beets, raw ( <i>Beta vulgaris</i> )	Flavan-3-ols	(-) -Epicatechin	0.00	4		0.00	0.00	B	14
			(-) -Epicatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(+) -Catechin	0.00	4		0.00	0.00	B	14
			(+) -Gallocatechin	0.00	4		0.00	0.00	B	14
		Flavones	Apigenin	0.00	5		0.00	0.00	C	111, 164
			Luteolin	0.37	5	0.37	0.00	1.83	C	111, 164
		Flavonols	Kaempferol	0.00	5		0.00	0.00	C	111, 164
			Myricetin	0.00	5		0.00	0.00	C	111, 164
Quercetin	0.13		5	0.13	0.00	0.67	C	111, 164		
11089	Broadbeans, immature seeds, cooked, boiled, drained, without salt	Flavan-3-ols	(-) -Epicatechin	7.82	4		7.82	7.82	B	14
			(-) -Epicatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin	4.65	4		4.65	4.65	B	14
			(-) -Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(+) -Catechin	8.16	4		8.16	8.16	B	14
			(+) -Gallocatechin	0.00	4		0.00	0.00	B	14
11088	Broadbeans, immature seeds, raw ( <i>Vicia faba</i> )	Flavan-3-ols	(-) -Epicatechin	28.96	7	9.70	22.51	37.55	B	14, 54
			(-) -Epicatechin 3-gallate	0.00	7		0.00	0.00	B	14, 54
			(-) -Epigallocatechin	15.47	7	5.29	14.03	17.38	B	14, 54
			(-) -Epigallocatechin 3-gallate	0.00	7		0.00	0.00	B	14, 54
			(+) -Catechin	14.29	7	4.88	12.83	16.23	B	14, 54
			(+) -Gallocatechin	4.15	7	0.80	0.00	9.68	B	14, 54
		Flavones	Apigenin	0.00	1		0.00	0.00	B	111
			Luteolin	0.00	1		0.00	0.00	B	111
		Flavonols	Kaempferol	0.00	1		0.00	0.00	B	111
			Myricetin	2.60	1		2.60	2.60	B	111
			Quercetin	2.00	1		2.00	2.00	B	111
11097	Broccoli raab, cooked	Anthocyanidins	Cyanidin	0.00	3		0.00	0.00	B	105
			Delphinidin	0.00	3		0.00	0.00	B	105
			Malvidin	0.00	3		0.00	0.00	B	105
			Pelargonidin	0.00	3		0.00	0.00	B	105
			Peonidin	0.00	3		0.00	0.00	B	105

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
		Flavan-3-ols	Petunidin	0.00	3		0.00	0.00	B	105
			(-) -Epicatechin	0.00	4		0.00	0.00	B	105
			(-) -Epicatechin 3-gallate	0.00	4		0.00	0.00	B	105
			(-) -Epigallocatechin	0.00	4		0.00	0.00	B	105
			(-) -Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	105
			(+) -Catechin	0.00	4		0.00	0.00	B	105
			(+) -Gallocatechin	0.00	4		0.00	0.00	B	105
		Flavanones	Hesperetin	0.00	4		0.00	0.00	B	105
			Naringenin	0.00	4		0.00	0.00	B	105
		Flavones	Apigenin	0.00	3		0.00	0.00	B	105
			Luteolin	0.00	3		0.00	0.00	B	105
Flavonols	Myricetin	0.00	3		0.00	0.00	B	105		
	Quercetin	1.05	3	1.05	0.00	3.16	B	105		
11096	Broccoli raab, raw ( <i>Brassica ruvo</i> )	Anthocyanidins	Cyanidin	0.00	2		0.00	0.00	B	105
			Delphinidin	0.00	2		0.00	0.00	B	105
			Malvidin	0.00	2		0.00	0.00	B	105
			Pelargonidin	0.00	2		0.00	0.00	B	105
			Peonidin	0.00	2		0.00	0.00	B	105
			Petunidin	0.00	2		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	0.00	2		0.00	0.00	B	105
			(-) -Epicatechin 3-gallate	0.00	2		0.00	0.00	B	105
			(-) -Epigallocatechin	0.00	2		0.00	0.00	B	105
			(-) -Epigallocatechin 3-gallate	0.00	2		0.00	0.00	B	105
			(+) -Catechin	0.00	2		0.00	0.00	B	105
			(+) -Gallocatechin	0.00	2		0.00	0.00	B	105
		Flavanones	Hesperetin	0.00	2		0.00	0.00	B	105
			Naringenin	0.00	2		0.00	0.00	B	105
		Flavones	Apigenin	0.00	2		0.00	0.00	B	105
			Luteolin	0.00	2		0.00	0.00	B	105
		Flavonols	Myricetin	0.00	2		0.00	0.00	B	105
			Quercetin	2.25	2	2.25	0.00	4.49	B	105
11091	Broccoli, cooked, boiled, drained, without salt	Anthocyanidins	Cyanidin	0.00	4		0.00	0.00	B	105
			Delphinidin	0.00	4		0.00	0.00	B	105
			Malvidin	0.00	4		0.00	0.00	B	105
			Pelargonidin	0.00	4		0.00	0.00	B	105
			Peonidin	0.00	4		0.00	0.00	B	105
			Petunidin	0.00	4		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	0.00	1		0.00	0.00	B	105
			(-) -Epicatechin 3-gallate	0.00	1		0.00	0.00	B	105

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			(-) -Epigallocatechin	0.00	1		0.00	0.00	B	105
			(-) -Epigallocatechin 3-gallate	0.00	1		0.00	0.00	B	105
			(+) -Catechin	0.00	1		0.00	0.00	B	105
			(+) -Gallocatechin	0.00	1		0.00	0.00	B	105
		Flavanones	Hesperetin	0.00	1		0.00	0.00	B	105
			Naringenin	0.00	1		0.00	0.00	B	105
		Flavones	Apigenin	0.00	4		0.00	0.00	B	105
			Luteolin	0.00	2		0.00	0.00	B	105
		Flavonols	Kaempferol	1.06	31	0.12	0.13	3.28	B	206, 201
			Myricetin	0.00	4		0.00	0.00	B	105
Quercetin	1.33		35	0.16	0.00	3.28	B	206, 105, 201		
11092	Broccoli, frozen, chopped, unprepared	Flavonols	Kaempferol	2.49	3	0.76	0.96	3.27	C	214
			Quercetin	2.40	3	0.78	0.91	3.52	C	214
11090	Broccoli, raw ( <i>Brassica oleracea</i> var. <i>italica</i> )	Anthocyanidins	Cyanidin	0.00	4		0.00	0.00	B	105
			Delphinidin	0.00	4		0.00	0.00	B	105
			Malvidin	0.00	4		0.00	0.00	B	105
			Pelargonidin	0.00	4		0.00	0.00	B	105
			Peonidin	0.00	4		0.00	0.00	B	105
			Petunidin	0.00	4		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	0.00	10		0.00	0.00	A	14, 105
			(-) -Epicatechin 3-gallate	0.00	10		0.00	0.00	A	14, 105
			(-) -Epigallocatechin	0.00	10		0.00	0.00	A	14, 105
			(-) -Epigallocatechin 3-gallate	0.00	10		0.00	0.00	A	14, 105
			(+) -Catechin	0.00	10		0.00	0.00	A	14, 105
			(+) -Gallocatechin	0.00	10		0.00	0.00	A	14, 105
		Flavanones	Hesperetin	0.00	6		0.00	0.00	B	105
			Naringenin	0.00	6		0.00	0.00	B	105
		Flavones	Apigenin	0.00	11	0.00	0.00	0.01	B	111, 164, 17, 105, 81
			Luteolin	0.80	15	0.17	0.00	3.98	B	111, 164, 17, 105, 81, 231, 12
		Flavonols	Kaempferol	7.84	115	0.60	0.05	21.30	B	111, 129, 164, 173, 206, 17, 81, 231, 12, 94, 114, 135
			Myricetin	0.06	13	0.05	0.00	0.71	B	111, 164, 17, 105, 81, 12, 135
			Quercetin	3.26	116	0.22	0.00	13.70	B	111, 129, 164, 173, 206, 17, 105, 81, 12, 94, 114, 135
		11099	Brussels sprouts, cooked, boiled, drained, without salt	Flavanones	Naringenin	1.94	24	0.30	0.63	4.07
Flavones	Luteolin			0.50	24	0.07	0.06	1.24	C	201
Flavonols	Kaempferol			0.91	24	0.15	0.58	1.34	C	201
	Quercetin			4.33	24	0.70	2.53	8.34	C	201
11098	Brussels sprouts, raw ( <i>Brassica</i> )	Flavan-3-ols	(-) -Epicatechin	0.00	4		0.00	0.00	B	14

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
	<i>oleracea (Gemifera Group)</i>		(-) -Epicatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(+) -Catechin	0.00	4		0.00	0.00	B	14
			(+) -Gallocatechin	0.00	4		0.00	0.00	B	14
		Flavanones	Naringenin	3.29	6	1.19	2.74	3.85	C	201
		Flavones	Apigenin	0.00	2		0.00	0.00	B	111, 164
			Luteolin	0.33	8	0.06	0.00	0.67	B	111, 164, 201
		Flavonols	Kaempferol	0.86	10	0.18	0.73	1.28	B	111, 129, 164, 201
			Myricetin	0.00	2		0.00	0.00	B	111, 164
Quercetin	1.92		10	0.43	0.00	4.04	B	111, 129, 164, 201		
11117	Cabbage, chinese (pak-choi) , cooked, boiled, drained, without salt	Anthocyanidins	Cyanidin	0.02	2		0.02	0.02	C	81
			Delphinidin	0.02	2		0.02	0.02	C	81
			Pelargonidin	0.02	2		0.02	0.02	C	81
		Flavones	Apigenin	0.01	1		0.01	0.01	C	81
			Luteolin	0.02	1		0.02	0.02	C	81
		Flavonols	Isorhamnetin	0.16	1		0.16	0.16	B	146
			Kaempferol	1.52	2	0.88	0.64	2.40	C	81, 146
			Myricetin	0.01	2	0.02	0.00	0.03	C	81, 146
			Quercetin	0.19	2	0.11	0.08	0.30	C	81, 146
11116	Cabbage, chinese (pak-choi) , raw ( <i>Brassica rapa (Chinensis Group)</i> )	Flavan-3-ols	(-) -Epicatechin	0.00	4		0.00	0.00	B	14
			(-) -Epicatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(+) -Catechin	0.00	4		0.00	0.00	B	14
			(+) -Gallocatechin	0.00	4		0.00	0.00	B	14
		Flavones	Apigenin	0.26	19	0.24	0.00	4.50	B	43, 164, 17, 81, 296
			Luteolin	0.32	19	0.02	0.00	1.20	B	43, 164, 17, 81, 296
		Flavonols	Kaempferol	4.35	25	0.44	0.01	16.30	B	43, 164, 17, 81, 231, 296
			Myricetin	0.03	7	0.01	0.00	0.10	B	43, 164, 17, 81
Quercetin	2.12		19	2.05	0.00	39.00	B	43, 164, 17, 81, 296		
11119	Cabbage, chinese (pe-tsai) , raw ( <i>Brassica rapa (Pekinensis Group)</i> )	Flavones	Apigenin	0.01	2		0.01	0.01	C	81
			Luteolin	0.02	2		0.02	0.02	C	81
		Flavonols	Kaempferol	0.10	2		0.10	0.10	C	81
			Myricetin	0.03	2		0.03	0.03	C	81
			Quercetin	0.01	2		0.01	0.01	C	81
99377	Cabbage, Chinese, choi-sum, raw	Flavones	Apigenin	0.01	2		0.01	0.01	C	81
			Luteolin	0.02	2		0.02	0.02	C	81
		Flavonols	Kaempferol	2.80	2		2.80	2.80	C	81

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			Myricetin	0.03	2		0.03	0.03	C	81
			Quercetin	0.90	2		0.90	0.90	C	81
99378	Cabbage, Chinese, raw	Flavonols	Kaempferol	22.51	6	8.19	20.02	25.00	C	231
11110	Cabbage, cooked, boiled, drained, without salt	Flavones	Apigenin	0.01	2		0.01	0.01	C	81
			Luteolin	0.02	2		0.02	0.02	C	81
		Flavonols	Kaempferol	0.01	2		0.01	0.01	C	81
			Myricetin	0.03	2		0.03	0.03	C	81
			Quercetin	0.01	2		0.01	0.01	C	81
99599	Cabbage, napa, raw	Flavonols	Kaempferol	0.02	1		0.02	0.02	D	44
			Quercetin	0.04	1		0.04	0.04	D	44
11109	Cabbage, raw ( <i>Brassica oleracea</i> ( <i>Capitata Group</i> ))	Flavones	Apigenin	0.08	11	0.07	0.00	0.80	B	43, 111, 164, 17
			Luteolin	0.10	15	0.03	0.00	0.42	B	43, 111, 164, 17, 231, 12
		Flavonols	Kaempferol	0.18	19	0.07	0.00	1.19	B	43, 111, 164, 17, 214, 231, 12, 44
			Myricetin	0.00	12		0.00	0.00	B	43, 111, 164, 17, 12
			Quercetin	0.28	22	0.23	0.00	5.10	B	43, 111, 129, 164, 17, 214, 231, 12, 44
11113	Cabbage, red, cooked, boiled, drained, without salt	Anthocyanidins	Cyanidin	39.22	1		39.22	39.22	C	40
			Peonidin	0.00	1		0.00	0.00	C	40
99609	Cabbage, red, pickled	Anthocyanidins	Cyanidin	11.77	1		11.77	11.77	D	44
		Flavonols	Myricetin	0.52	1		0.52	0.52	D	44
			Quercetin	1.05	1		1.05	1.05	D	44
11112	Cabbage, red, raw ( <i>Brassica oleracea</i> ( <i>Capitata Group</i> ))	Anthocyanidins	Cyanidin	63.50	7	20.94	7.36	142.50	B	81, 287, 44
			Delphinidin	0.10	2		0.10	0.10	B	81
			Pelargonidin	0.02	2		0.02	0.02	B	81
		Flavan-3-ols	(-) -Epicatechin	0.00	4		0.00	0.00	B	14
			(-) -Epicatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(+) -Catechin	0.00	4		0.00	0.00	B	14
			(+) -Gallocatechin	0.00	4		0.00	0.00	B	14
		Flavones	Apigenin	0.06	13	0.05	0.00	0.61	B	43, 111, 164, 81, 44
			Luteolin	0.10	12	0.05	0.00	0.63	B	43, 111, 164, 81
		Flavonols	Kaempferol	0.00	14	0.00	0.00	0.01	B	25, 43, 111, 164, 81, 44
			Myricetin	0.20	12	0.09	0.00	1.20	B	43, 111, 164, 81
			Quercetin	0.36	14	0.05	0.02	0.92	B	25, 43, 111, 164, 81, 44
11115	Cabbage, savoy, cooked, boiled, drained, without salt	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	146
			Kaempferol	0.00	1		0.00	0.00	C	146
			Myricetin	0.00	1		0.00	0.00	C	146
			Quercetin	0.00	1		0.00	0.00	C	146
11114	Cabbage, savoy, raw ( <i>Brassica</i> )	Flavones	Apigenin	0.69	1		0.69	0.69	D	44



## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
	<i>oleracea (Capitata Group)</i>	Flavonols	Luteolin	0.18	1		0.18	0.18	D	44
			Kaempferol	0.79	1		0.79	0.79	D	44
			Myricetin	0.08	1		0.08	0.08	D	44
			Quercetin	0.36	1		0.36	0.36	D	44
11960	Carrots, baby, raw ( <i>Daucus carota</i> )	Anthocyanidins	Cyanidin	0.00	2		0.00	0.00	B	105
			Delphinidin	0.00	2		0.00	0.00	B	105
			Malvidin	0.00	2		0.00	0.00	B	105
			Pelargonidin	0.00	2		0.00	0.00	B	105
			Peonidin	0.00	2		0.00	0.00	B	105
			Petunidin	0.00	2		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	0.00	4		0.00	0.00	B	105
			(-) -Epicatechin 3-gallate	0.00	4		0.00	0.00	B	105
			(-) -Epigallocatechin	0.00	4		0.00	0.00	B	105
			(-) -Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	105
			(+) -Catechin	0.00	4		0.00	0.00	B	105
			(+) -Gallocatechin	0.00	4		0.00	0.00	B	105
		Flavanones	Hesperetin	0.00	4		0.00	0.00	B	105
			Naringenin	0.00	4		0.00	0.00	B	105
		Flavones	Apigenin	0.00	2		0.00	0.00	B	105
			Luteolin	0.00	1		0.00	0.00	B	105
Flavonols	Myricetin	0.00	2		0.00	0.00	B	105		
	Quercetin	0.00	2		0.00	0.00	B	105		
11128	Carrots, canned, regular pack, drained solids	Flavones	Apigenin	0.00	4		0.00	0.00	B	111
			Luteolin	0.00	4		0.00	0.00	B	111
		Flavonols	Kaempferol	0.00	4		0.00	0.00	B	111
			Myricetin	0.00	4		0.00	0.00	B	111
11125	Carrots, cooked, boiled, drained, without salt	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	146
			Kaempferol	0.00	1		0.00	0.00	C	146
			Myricetin	0.00	1		0.00	0.00	C	146
			Quercetin	0.00	1		0.00	0.00	C	146
11124	Carrots, raw ( <i>Daucus carota</i> )	Flavan-3-ols	(-) -Epicatechin	0.00	7		0.00	0.00	B	14, 54
			(-) -Epicatechin 3-gallate	0.00	7		0.00	0.00	B	14, 54
			(-) -Epigallocatechin	0.00	7		0.00	0.00	B	14, 54
			(-) -Epigallocatechin 3-gallate	0.00	7		0.00	0.00	B	14, 54
			(+) -Catechin	0.00	7		0.00	0.00	B	14, 54
			(+) -Gallocatechin	0.00	7		0.00	0.00	B	14, 54
		Flavones	Apigenin	0.00	6		0.00	0.00	B	111, 164, 17
			Luteolin	0.11	7	0.11	0.00	0.80	B	111, 164, 17, 12

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
		Flavonols	Isorhamnetin	0.00	1		0.00	0.00	B	146
			Kaempferol	0.24	9	0.17	0.00	1.53	B	111, 164, 17, 12, 135, 146
			Myricetin	0.04	9	0.04	0.00	0.40	B	111, 164, 17, 12, 135, 146
			Quercetin	0.21	9	0.17	0.00	1.50	B	111, 164, 17, 12, 135, 146
99612	Cassava (yuca) , boiled	Flavonols	Isorhamnetin	0.00	3		0.00	0.00	B	146
			Kaempferol	0.00	3		0.00	0.00	B	146
			Myricetin	0.00	3		0.00	0.00	B	146
			Quercetin	0.00	3		0.00	0.00	B	146
11935	Catsup	Flavonols	Kaempferol	0.01	3		0.01	0.01	C	253
			Quercetin	0.86	3		0.86	0.86	C	253
11136	Cauliflower, cooked, boiled, drained, without salt	Flavones	Luteolin	0.27	12	0.06	0.10	0.44	C	201
		Flavonols	Kaempferol	0.51	12	0.09	0.15	1.33	C	201
			Quercetin	0.36	12	0.08	0.19	0.76	C	201
11138	Cauliflower, frozen, cooked, boiled, drained, without salt	Flavones	Luteolin	0.24	12	0.06	0.10	0.37	C	201
		Flavonols	Kaempferol	0.39	12	0.09	0.27	0.50	C	201
			Quercetin	0.19	12	0.04	0.08	0.27	C	201
11137	Cauliflower, frozen, unprepared	Flavones	Luteolin	0.29	3		0.29	0.29	C	201
		Flavonols	Kaempferol	0.32	6	0.08	0.09	0.47	C	214, 201
			Quercetin	0.53	6	0.15	0.23	1.18	C	214, 201
11135	Cauliflower, raw ( <i>Brassica oleracea</i> ( <i>Botrytis</i> Group))	Flavan-3-ols	(-) -Epicatechin	0.00	4		0.00	0.00	B	14
			(-) -Epicatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(+) -Catechin	0.00	4		0.00	0.00	B	14
			(+) -Gallocatechin	0.00	4		0.00	0.00	B	14
		Flavones	Apigenin	0.03	6	0.03	0.00	0.20	B	111, 164, 17
			Luteolin	0.09	9	0.04	0.00	0.40	B	111, 164, 17, 201
		Flavonols	Kaempferol	0.36	10	0.14	0.00	1.25	B	111, 164, 17, 214, 201
			Myricetin	0.00	6		0.00	0.00	B	111, 164, 17
			Quercetin	0.54	10	0.38	0.00	3.90	B	111, 164, 17, 214, 201
11141	Celeriac, raw ( <i>Apium graveolens</i> )	Flavones	Apigenin	2.41	1		2.41	2.41	D	164
			Luteolin	0.00	1		0.00	0.00	D	164
		Flavonols	Kaempferol	0.00	1		0.00	0.00	D	164
			Myricetin	0.00	1		0.00	0.00	D	164
			Quercetin	0.18	1		0.18	0.18	D	164
99118	Celery hearts, green	Flavones	Apigenin	19.10	1		19.10	19.10	D	48
			Luteolin	3.50	1		3.50	3.50	D	48
99009	Celery hearts, white	Flavones	Apigenin	1.70	1		1.70	1.70	C	48
			Luteolin	0.66	1		0.66	0.66	C	48

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
99649	Celery, Chinese, raw	Flavones	Apigenin	24.02	3		24.02	24.02	C	157
			Luteolin	34.87	3		34.87	34.87	C	157
11143	Celery, raw ( <i>Apium graveolens</i> )	Anthocyanidins	Cyanidin	0.00	8		0.00	0.00	A	105
			Delphinidin	0.00	8		0.00	0.00	A	105
			Malvidin	0.00	8		0.00	0.00	A	105
			Pelargonidin	0.00	8		0.00	0.00	A	105
			Peonidin	0.00	8		0.00	0.00	A	105
			Petunidin	0.00	8		0.00	0.00	A	105
		Flavan-3-ols	(-) -Epicatechin	0.00	5		0.00	0.00	B	105
			(-) -Epicatechin 3-gallate	0.00	5		0.00	0.00	B	105
			(-) -Epigallocatechin	0.00	5		0.00	0.00	B	105
			(-) -Epigallocatechin 3-gallate	0.00	5		0.00	0.00	B	105
			(+) -Catechin	0.00	5		0.00	0.00	B	105
			(+) -Gallocatechin	0.00	5		0.00	0.00	B	105
		Flavanones	Hesperetin	0.00	5		0.00	0.00	B	105
			Naringenin	0.00	5		0.00	0.00	B	105
		Flavones	Apigenin	2.85	25	0.56	0.00	10.80	B	48, 112, 129, 105, 231, 157
			Luteolin	1.05	22	0.23	0.00	4.00	B	48, 112, 129, 105, 231, 157
		Flavonols	Kaempferol	0.22	1		0.22	0.22	C	135
Myricetin	0.00		9		0.00	0.00	B	105, 135		
Quercetin	0.39		10	0.35	0.00	3.50	B	47, 105, 135		
11147	Chard, swiss, raw ( <i>Beta vulgaris subsp. vulgaris</i> )	Flavan-3-ols	(+) -Catechin	2.15	12	0.25	0.10	6.70	C	215
		Flavonols	Kaempferol	4.30	12	0.87	0.50	9.20	C	215
			Myricetin	1.35	12	0.24	0.00	3.10	C	215
			Quercetin	2.63	12	0.40	0.30	7.50	C	215
11152	Chicory greens, raw ( <i>Cichorium intybus</i> )	Anthocyanidins	Cyanidin	0.00	2		0.00	0.00	C	11
		Flavan-3-ols	(-) -Epicatechin	0.00	4		0.00	0.00	B	14
			(-) -Epicatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(+) -Catechin	0.00	4		0.00	0.00	B	14
			(+) -Gallocatechin	0.00	4		0.00	0.00	B	14
		Flavones	Apigenin	0.77	6	0.50	0.00	2.80	B	111, 11
			Luteolin	2.08	9	1.00	0.00	7.80	B	111, 11, 122
		Flavonols	Kaempferol	2.45	6	1.83	0.00	11.10	B	111, 11
Myricetin	0.00		4		0.00	0.00	B	111		
Quercetin	6.49		9	2.97	0.00	25.20	B	111, 11, 122		
11156	Chives, raw ( <i>Allium schoenoprasum</i> )	Flavanones	Hesperetin	0.00	1		0.00	0.00	C	128
		Flavones	Apigenin	0.00	2		0.00	0.00	B	128, 260

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
		Flavonols	Luteolin	0.15	2	0.15	0.00	0.30	B	128, 260
			Isorhamnetin	6.75	2	1.75	5.00	8.50	B	128, 260
			Kaempferol	10.00	3	2.25	5.50	12.50	B	25, 128, 260
			Myricetin	0.00	1		0.00	0.00	B	260
			Quercetin	4.77	3	2.88	0.90	10.40	B	25, 128, 260
11161	Collards, raw ( <i>Brassica oleracea</i> var. <i>viridis</i> )	Flavones	Apigenin	0.02	12		0.02	0.02	C	296
			Luteolin	0.87	12		0.87	0.87	C	296
		Flavonols	Isorhamnetin	0.00	3		0.00	0.00	C	118
			Kaempferol	9.48	15	1.59	0.63	43.30	C	118, 296
			Quercetin	3.47	15	0.33	0.92	12.40	C	118, 296
11165	Coriander (cilantro) leaves, raw ( <i>Coriandrum sativum</i> )	Flavanones	Hesperetin	0.00	1		0.00	0.00	C	128
		Flavones	Apigenin	0.00	1		0.00	0.00	C	128
			Luteolin	0.00	1		0.00	0.00	C	128
		Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	128
			Kaempferol	0.00	1		0.00	0.00	C	128
			Quercetin	52.90	4	23.14	5.00	68.86	C	128, 231
99014	Corn poppy, leaves	Flavones	Apigenin	0.10	1		0.10	0.10	B	260
			Luteolin	0.10	1		0.10	0.10	B	260
		Flavonols	Isorhamnetin	1.10	1		1.10	1.10	B	260
			Kaempferol	2.30	1		2.30	2.30	B	260
			Myricetin	1.10	1		1.10	1.10	B	260
			Quercetin	26.30	1		26.30	26.30	B	260
11167	Corn, sweet, yellow, raw	Flavan-3-ols	(-) -Epicatechin	0.00	1		0.00	0.00	C	14
			(-) -Epicatechin 3-gallate	0.00	1		0.00	0.00	C	14
			(-) -Epigallocatechin	0.00	1		0.00	0.00	C	14
			(-) -Epigallocatechin 3-gallate	0.00	1		0.00	0.00	C	14
			(+) -Catechin	0.00	1		0.00	0.00	C	14
			(+) -Gallocatechin	0.00	1		0.00	0.00	C	14
11204	Cress, garden, cooked, boiled, drained, without salt	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	146
			Kaempferol	0.00	1		0.00	0.00	C	146
			Myricetin	0.00	1		0.00	0.00	C	146
			Quercetin	0.00	1		0.00	0.00	C	146
11203	Cress, garden, raw ( <i>Lepidium sativum</i> )	Flavanones	Hesperetin	0.00	1		0.00	0.00	C	128
		Flavones	Apigenin	0.00	1		0.00	0.00	C	128
			Luteolin	0.00	1		0.00	0.00	C	128
		Flavonols	Isorhamnetin	1.00	1		1.00	1.00	C	128
			Kaempferol	13.00	1		13.00	13.00	C	128
Quercetin	0.00		1		0.00	0.00	C	128		
99102	Crown daisy, leaves	Flavones	Apigenin	0.00	1		0.00	0.00	D	43

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
		Flavonols	Luteolin	0.01	1		0.01	0.01	D	43
			Kaempferol	0.00	1		0.00	0.00	D	43
			Myricetin	0.02	1		0.02	0.02	D	43
			Quercetin	0.16	1		0.16	0.16	D	43
11205	Cucumber, with peel, raw ( <i>Cucumis sativus</i> )	Flavan-3-ols	(-) -Epicatechin	0.00	4		0.00	0.00	B	14
			(-) -Epicatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(+) -Catechin	0.00	4		0.00	0.00	B	14
			(+) -Gallocatechin	0.00	4		0.00	0.00	B	14
		Flavones	Apigenin	0.00	6		0.00	0.00	B	43, 111, 164
			Luteolin	0.00	7	0.00	0.00	0.01	B	12, 43, 111, 164
		Flavonols	Isorhamnetin	0.00	1		0.00	0.00	B	146
			Kaempferol	0.15	10	0.08	0.00	0.76	B	12, 43, 111, 135, 146, 64
Myricetin	0.04		10	0.04	0.00	0.45	B	12, 43, 111, 135, 146, 64		
Quercetin	0.06		10	0.04	0.00	0.30	B	12, 43, 111, 135, 146, 64		
11616	Dock, raw ( <i>Rumex spp.</i> )	Flavones	Apigenin	0.00	1		0.00	0.00	B	260
			Luteolin	0.00	1		0.00	0.00	B	260
		Flavonols	Isorhamnetin	0.00	1		0.00	0.00	B	260
			Kaempferol	10.30	1		10.30	10.30	B	260
			Myricetin	5.70	1		5.70	5.70	B	260
			Quercetin	86.20	1		86.20	86.20	B	260
11222	Drumstick (horseradish tree) leaves, raw ( <i>Moringa oleifera</i> )	Flavonols	Isorhamnetin	0.44	2	0.07	0.36	0.51	B	146
			Kaempferol	5.95	2	0.17	5.78	6.12	B	146
			Myricetin	0.00	2		0.00	0.00	B	146
			Quercetin	16.65	2	1.35	15.30	18.00	B	146
11210	Eggplant, cooked, boiled, drained, without salt	Anthocyanidins	Cyanidin	0.02	2		0.02	0.02	C	81
			Delphinidin	0.02	2		0.02	0.02	C	81
			Pelargonidin	0.02	2		0.02	0.02	C	81
		Flavones	Apigenin	0.01	2		0.01	0.01	C	81
			Luteolin	0.02	2		0.02	0.02	C	81
		Flavonols	Kaempferol	0.01	3	0.00	0.00	0.01	B	81, 146
			Myricetin	0.07	3	0.03	0.03	0.14	B	81, 146
Quercetin	0.00		3		0.00	0.00	B	81, 146		
11209	Eggplant, raw ( <i>Solanum melongena</i> )	Anthocyanidins	Delphinidin	41.24	1		41.24	41.24	C	287
		Flavan-3-ols	(-) -Epicatechin	0.00	3		0.00	0.00	C	54
			(-) -Epicatechin 3-gallate	0.00	3		0.00	0.00	C	54
			(-) -Epigallocatechin	0.00	3		0.00	0.00	C	54
			(-) -Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	54

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			(+) -Catechin	0.00	3		0.00	0.00	C	54
			(+) -Gallocatechin	0.00	3		0.00	0.00	C	54
		Flavones	Luteolin	0.00	1		0.00	0.00	C	12
		Flavonols	Isorhamnetin	0.00	3		0.00	0.00	C	118
			Kaempferol	0.00	4		0.00	0.00	C	12, 118
			Myricetin	0.00	1		0.00	0.00	C	12
			Quercetin	0.04	4	0.04	0.00	0.16	C	12, 118
11213	Endive, raw ( <i>Cichorium endivia</i> )	Flavan-3-ols	(-) -Epicatechin	0.00	4		0.00	0.00	B	14
			(-) -Epicatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(+) -Catechin	0.00	4		0.00	0.00	B	14
			(+) -Gallocatechin	0.00	4		0.00	0.00	B	14
			Flavones	Apigenin	0.00	4		0.00	0.00	B
		Luteolin		0.00	4		0.00	0.00	B	111
		Flavonols	Kaempferol	10.10	14	1.88	1.80	24.83	B	112, 111, 68
			Myricetin	0.00	4		0.00	0.00	B	111
			Quercetin	0.00	4		0.00	0.00	B	111
11957	Fennel, bulb, raw ( <i>Foeniculum vulgare</i> )	Flavanones	Eriodictyol	1.08	8	0.36	0.00	2.31	B	78
		Flavonols	Quercetin	0.23	8	0.04	0.11	0.43	B	78
99058	Fennel, leaves, raw	Flavones	Apigenin	0.00	1		0.00	0.00	B	260
			Luteolin	0.10	1		0.10	0.10	B	260
		Flavonols	Isorhamnetin	9.30	1		9.30	9.30	B	260
			Kaempferol	6.50	1		6.50	6.50	B	260
			Myricetin	19.80	1		19.80	19.80	B	260
			Quercetin	48.80	1		48.80	48.80	B	260
99053	Garlic chives, raw	Flavonols	Kaempferol	2.12	1		2.12	2.12	C	25
			Quercetin	0.12	1		0.12	0.12	C	25
11215	Garlic, raw ( <i>Allium sativum</i> )	Flavonols	Kaempferol	0.26	1		0.26	0.26	D	135
			Myricetin	1.61	1		1.61	1.61	D	135
			Quercetin	1.74	1		1.74	1.74	D	135
99623	Ginger, steamed	Flavonols	Kaempferol	0.00	1		0.00	0.00	C	146
			Myricetin	0.00	1		0.00	0.00	C	146
			Quercetin	0.19	1		0.19	0.19	C	146
99644	Ginger, wild ( <i>Zingiber zerumbet</i> )	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	146
			Kaempferol	33.60	1		33.60	33.60	C	146
			Myricetin	0.00	1		0.00	0.00	C	146
			Quercetin	0.00	1		0.00	0.00	C	146
11220	Gourd, dishcloth (towelgourd) ,	Flavones	Apigenin	0.00	1		0.00	0.00	D	43

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
	raw ( <i>Luffa aegyptiaca</i> )	Flavonols	Luteolin	0.01	1		0.01	0.01	D	43
			Kaempferol	0.00	1		0.00	0.00	D	43
			Myricetin	0.13	1		0.13	0.13	D	43
			Quercetin	0.03	1		0.03	0.03	D	43
99019	Hartwort, leaves	Flavones	Apigenin	0.00	1		0.00	0.00	B	260
			Luteolin	0.60	1		0.60	0.60	B	260
		Flavonols	Isorhamnetin	5.10	1		5.10	5.10	B	260
			Kaempferol	2.90	1		2.90	2.90	B	260
			Myricetin	1.60	1		1.60	1.60	B	260
Quercetin	29.30	1		29.30	29.30	B	260			
99376	Hawthorn leaves, raw	Flavones	Apigenin	0.40	1		0.40	0.40	D	246
			Luteolin	0.00	1		0.00	0.00	D	246
		Flavonols	Kaempferol	0.00	1		0.00	0.00	D	246
			Myricetin	0.00	1		0.00	0.00	D	246
			Quercetin	24.10	1		24.10	24.10	D	246
99079	Horseradish, root, whole	Flavones	Apigenin	0.00	1		0.00	0.00	C	164
			Luteolin	0.90	1		0.90	0.90	C	164
		Flavonols	Kaempferol	1.58	2	0.99	0.60	2.57	C	25, 164
			Myricetin	0.00	1		0.00	0.00	C	164
			Quercetin	0.28	2	0.29	0.00	0.57	C	25, 164
99054	Kale, canned	Flavones	Apigenin	0.00	2		0.00	0.00	C	111
			Luteolin	0.00	2		0.00	0.00	C	111
		Flavonols	Kaempferol	18.40	2		18.40	18.40	C	111
			Myricetin	0.00	2		0.00	0.00	C	111
			Quercetin	4.50	2		4.50	4.50	C	111
99098	Kale, Chinese, raw	Flavones	Apigenin	0.01	1		0.01	0.01	D	43
			Luteolin	0.00	1		0.00	0.00	D	43
		Flavonols	Kaempferol	0.00	1		0.00	0.00	D	43
			Myricetin	0.01	1		0.01	0.01	D	43
			Quercetin	0.07	1		0.07	0.07	D	43
11233	Kale, raw ( <i>Brassica oleracea</i> ( <i>Acephala Group</i> ))	Flavones	Apigenin	0.00	4		0.00	0.00	B	111, 164, 119
			Luteolin	0.00	2		0.00	0.00	B	111, 164
		Flavonols	Isorhamnetin	23.60	3		23.60	23.60	C	118
			Kaempferol	46.80	18	5.56	0.48	90.50	B	25, 111, 129, 164, 118, 119, 190
			Myricetin	0.00	2		0.00	0.00	B	111, 164
Quercetin	22.58	18	2.94	0.00	56.20	B	25, 111, 129, 164, 118, 119, 190			
11241	Kohlrabi, raw ( <i>Brassica oleracea</i> ( <i>Gongylodes Group</i> ))	Flavones	Apigenin	0.00	1		0.00	0.00	D	164
			Luteolin	1.30	1		1.30	1.30	D	164
		Flavonols	Kaempferol	2.43	1		2.43	2.43	D	164

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data		
			Myricetin	0.00	1		0.00	0.00	D	164		
			Quercetin	0.40	1		0.40	0.40	D	164		
11246	Leeks, (bulb and lower leaf-portion) , raw ( <i>Allium ampeloprasum</i> )	Flavan-3-ols	(-) -Epicatechin	0.00	4		0.00	0.00	B	14		
			(-) -Epicatechin 3-gallate	0.00	4		0.00	0.00	B	14		
			(-) -Epigallocatechin	0.00	4		0.00	0.00	B	14		
			(-) -Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	14		
			(+) -Catechin	0.00	4		0.00	0.00	B	14		
			(+) -Gallocatechin	0.00	4		0.00	0.00	B	14		
		Flavones	Apigenin	0.00	5		0.00	0.00	B	111, 164		
			Luteolin	0.00	5		0.00	0.00	B	111, 164		
		Flavonols	Kaempferol	2.67	10	0.49	0.23	4.58	B	25, 112, 111, 129, 164, 135		
			Myricetin	0.22	6	0.22	0.00	1.32	B	111, 164, 135		
Quercetin	0.09		8	0.06	0.00	0.50	B	25, 112, 111, 164, 135				
99112	Lemon balm, leaves, raw	Flavanones	Hesperetin	0.00	1		0.00	0.00	C	128		
		Flavones	Apigenin	0.00	1		0.00	0.00	C	128		
			Luteolin	0.00	1		0.00	0.00	C	128		
		Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	128		
			Kaempferol	0.00	1		0.00	0.00	C	128		
			Quercetin	0.00	1		0.00	0.00	C	128		
11250	Lettuce, butterhead (includes boston and bibb types) , raw ( <i>Lactuca sativa var. capitata</i> )	Anthocyanidins	Cyanidin	0.00	8		0.00	0.00	B	105		
			Delphinidin	0.00	8		0.00	0.00	B	105		
			Malvidin	0.00	8		0.00	0.00	B	105		
			Pelargonidin	0.00	8		0.00	0.00	B	105		
			Peonidin	0.00	8		0.00	0.00	B	105		
			Petunidin	0.00	8		0.00	0.00	B	105		
		Flavan-3-ols	(-) -Epicatechin	0.00	4		0.00	0.00	B	105		
			(-) -Epicatechin 3-gallate	0.00	4		0.00	0.00	B	105		
			(-) -Epigallocatechin	0.00	4		0.00	0.00	B	105		
			(-) -Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	105		
			(+) -Catechin	0.00	3		0.00	0.00	B	105		
			(+) -Gallocatechin	0.00	4		0.00	0.00	B	105		
		Flavanones	Hesperetin	0.00	4		0.00	0.00	B	105		
			Naringenin	0.00	4		0.00	0.00	B	105		
		Flavones	Apigenin	0.00	8		0.00	0.00	B	105		
			Luteolin	0.00	4		0.00	0.00	B	105		
		Flavonols	Kaempferol	0.02	3	0.01	0.00	0.04	C	25		
			Myricetin	0.00	8		0.00	0.00	B	105		
			Quercetin	2.73	15	0.94	0.00	14.56	B	25, 105, 185		
		11251	Lettuce, cos or romaine, raw	Anthocyanidins	Cyanidin	0.00	11		0.00	0.00	B	68, 105



## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
	<i>(Lactuca sativa var. logifolia)</i>		Delphinidin	0.00	8		0.00	0.00	B	105
			Malvidin	0.00	8		0.00	0.00	B	105
			Pelargonidin	0.00	8		0.00	0.00	B	105
			Peonidin	0.00	8		0.00	0.00	B	105
			Petunidin	0.00	8		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	0.00	6		0.00	0.00	B	105
			(-) -Epicatechin 3-gallate	0.00	6		0.00	0.00	B	105
			(-) -Epigallocatechin	0.00	6		0.00	0.00	B	105
			(-) -Epigallocatechin 3-gallate	0.00	6		0.00	0.00	B	105
			(+) -Catechin	0.00	6		0.00	0.00	B	105
			(+) -Gallocatechin	0.00	6		0.00	0.00	B	105
		Flavanones	Hesperetin	0.00	6		0.00	0.00	B	105
			Naringenin	0.00	6		0.00	0.00	B	105
		Flavones	Apigenin	0.01	20	0.00	0.00	0.01	B	105, 296
			Luteolin	0.65	19	0.13	0.00	1.11	B	68, 105, 296
		Flavonols	Kaempferol	0.31	12	0.08	0.12	0.50	C	296
			Myricetin	0.00	8		0.00	0.00	B	105
			Quercetin	3.06	23	0.43	1.03	8.78	B	68, 105, 296
11253	Lettuce, green leaf, raw ( <i>Lactuca sativa var. crispata</i> )	Anthocyanidins	Cyanidin	0.00	24		0.00	0.00	B	11, 68, 105
			Delphinidin	0.00	8		0.00	0.00	A	105
			Malvidin	0.00	8		0.00	0.00	A	105
			Pelargonidin	0.00	8		0.00	0.00	A	105
			Peonidin	0.00	8		0.00	0.00	A	105
			Petunidin	0.00	8		0.00	0.00	A	105
		Flavan-3-ols	(-) -Epicatechin	0.00	2		0.00	0.00	B	105
			(-) -Epicatechin 3-gallate	0.00	2		0.00	0.00	B	105
			(-) -Epigallocatechin	0.00	2		0.00	0.00	B	105
			(-) -Epigallocatechin 3-gallate	0.00	2		0.00	0.00	B	105
			(+) -Catechin	0.00	2		0.00	0.00	B	105
			(+) -Gallocatechin	0.00	2		0.00	0.00	B	105
		Flavanones	Hesperetin	0.00	2		0.00	0.00	B	105
			Naringenin	0.00	2		0.00	0.00	B	105
		Flavones	Apigenin	0.13	18	0.13	0.00	2.30	B	43, 11, 17, 105, 119
			Luteolin	0.26	23	0.04	0.00	1.00	B	43, 11, 17, 68, 105, 12
		Flavonols	Kaempferol	0.01	17	0.01	0.00	0.20	B	25, 43, 11, 17, 12, 119, 135, 146
			Myricetin	0.07	13	0.07	0.00	0.90	B	43, 17, 105, 12, 135, 146
Quercetin	4.16		43	0.69	0.04	20.60	B	25, 43, 11, 17, 68, 105, 185, 12, 119, 135, 146		
11252	Lettuce, iceberg (includes	Anthocyanidins	Cyanidin	0.00	11		0.00	0.00	A	68, 105

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
	crisphead types) , raw ( <i>Lactuca sativa</i> var. <i>capitata</i> )		Delphinidin	0.00	8		0.00	0.00	A	105
			Malvidin	0.00	8		0.00	0.00	A	105
			Pelargonidin	0.00	8		0.00	0.00	A	105
			Peonidin	0.00	8		0.00	0.00	A	105
			Petunidin	0.00	8		0.00	0.00	A	105
		Flavan-3-ols	(-) -Epicatechin	0.00	8		0.00	0.00	A	14, 105
			(-) -Epicatechin 3-gallate	0.00	8		0.00	0.00	A	14, 105
			(-) -Epigallocatechin	0.00	8		0.00	0.00	A	14, 105
			(-) -Epigallocatechin 3-gallate	0.00	8		0.00	0.00	A	14, 105
			(+) -Catechin	0.00	7		0.00	0.00	B	14, 105
			(+) -Gallocatechin	0.00	8		0.00	0.00	A	14, 105
		Flavanones	Hesperetin	0.00	4		0.00	0.00	B	105
			Naringenin	0.00	4		0.00	0.00	B	105
		Flavones	Apigenin	0.13	21	0.13	0.00	2.65	B	111, 164, 105, 81
			Luteolin	0.03	20	0.02	0.00	0.39	B	111, 164, 68, 105, 81
		Flavonols	Kaempferol	0.15	19	0.03	0.00	0.84	B	25, 111, 164, 81
			Myricetin	0.06	21	0.05	0.00	1.02	B	111, 164, 105, 81
Quercetin	1.42		37	0.18	0.00	9.40	B	25, 48, 112, 111, 164, 68, 105, 81		
97041	Lettuce, not specified as to type	Flavan-3-ols	(-) -Epicatechin	0.00	3		0.00	0.00	C	54
			(-) -Epicatechin 3-gallate	0.00	3		0.00	0.00	C	54
			(-) -Epigallocatechin	0.00	3		0.00	0.00	C	54
			(-) -Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	54
			(+) -Catechin	0.00	3		0.00	0.00	C	54
			(+) -Gallocatechin	0.00	3		0.00	0.00	C	54
11257	Lettuce, red leaf, raw ( <i>Lactuca sativa</i> var. <i>crispa</i> )	Anthocyanidins	Cyanidin	2.75	23	1.13	0.00	20.80	B	11, 68, 105, 287
			Delphinidin	0.00	8		0.00	0.00	A	105
			Malvidin	0.00	8		0.00	0.00	A	105
			Pelargonidin	0.00	8		0.00	0.00	A	105
			Peonidin	0.00	8		0.00	0.00	A	105
			Petunidin	0.00	8		0.00	0.00	A	105
		Flavan-3-ols	(-) -Epicatechin	0.00	5		0.00	0.00	B	105
			(-) -Epicatechin 3-gallate	0.00	5		0.00	0.00	B	105
			(-) -Epigallocatechin	0.00	5		0.00	0.00	B	105
			(-) -Epigallocatechin 3-gallate	0.00	5		0.00	0.00	B	105
			(+) -Catechin	0.00	5		0.00	0.00	B	105
			(+) -Gallocatechin	0.00	5		0.00	0.00	B	105
		Flavanones	Hesperetin	0.00	5		0.00	0.00	B	105
			Naringenin	0.00	5		0.00	0.00	B	105
		Flavones	Apigenin	0.01	22	0.00	0.00	0.02	B	11, 105, 296

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
		Flavonols	Luteolin	2.50	24	0.25	0.00	8.80	B	11, 68, 105, 296
			Kaempferol	2.24	14	0.51	0.00	4.76	B	11, 296
			Myricetin	0.00	8		0.00	0.00	A	105
			Quercetin	11.90	29	0.74	2.01	44.90	B	11, 68, 105, 185, 296
11031	Lima beans, immature seeds, raw ( <i>Phaseolus lunatus</i> )	Flavonols	Isorhamnetin	0.00	3		0.00	0.00	C	118
			Kaempferol	0.00	3		0.00	0.00	C	118
			Quercetin	0.00	3		0.00	0.00	C	118
11254	Lotus root, raw ( <i>Nelumbo nucifera</i> )	Flavones	Luteolin	0.36	1		0.36	0.36	D	12
		Flavonols	Kaempferol	0.76	1		0.76	0.76	D	12
			Myricetin	0.59	1		0.59	0.59	D	12
			Quercetin	0.44	1		0.44	0.44	D	12
99111	Lovage, leaves, raw	Flavanones	Hesperetin	0.00	1		0.00	0.00	C	128
		Flavones	Apigenin	0.00	1		0.00	0.00	C	128
			Luteolin	0.00	1		0.00	0.00	C	128
		Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	128
			Kaempferol	7.00	1		7.00	7.00	C	128
			Quercetin	170.00	1		170.00	170.00	C	128
99374	Mizuna (Japanese mustard)	Flavonols	Isorhamnetin	3.84	9	0.38	0.00	11.03	B	231, 172
			Kaempferol	6.03	9	0.93	0.00	16.18	B	231, 172
			Quercetin	8.55	9	1.55	0.00	21.64	B	231, 172
11043	Mung beans, mature seeds, sprouted, raw ( <i>Vigna radiata</i> )	Flavones	Luteolin	0.00	1		0.00	0.00	D	12
		Flavonols	Kaempferol	0.33	1		0.33	0.33	D	12
			Myricetin	0.00	1		0.00	0.00	D	12
			Quercetin	0.15	1		0.15	0.15	D	12
11264	Mushrooms, canned, drained solids	Flavones	Apigenin	0.00	4		0.00	0.00	B	111
			Luteolin	0.00	4		0.00	0.00	B	111
		Flavonols	Kaempferol	0.00	4		0.00	0.00	B	111
			Myricetin	0.00	4		0.00	0.00	B	111
			Quercetin	0.00	4		0.00	0.00	B	111
11260	Mushrooms, white, raw ( <i>Agaricus bisporus</i> )	Flavan-3-ols	(-) -Epicatechin	0.00	4		0.00	0.00	B	14
			(-) -Epicatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(+) -Catechin	0.00	4		0.00	0.00	B	14
			(+) -Gallocatechin	0.00	4		0.00	0.00	B	14
		Flavones	Apigenin	0.00	4		0.00	0.00	B	111
			Luteolin	0.00	4		0.00	0.00	B	111
		Flavonols	Kaempferol	0.00	4		0.00	0.00	B	111
			Myricetin	0.00	4		0.00	0.00	B	111

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			Quercetin	0.00	4		0.00	0.00	B	111
11271	Mustard greens, cooked, boiled, drained, without salt	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	146
			Kaempferol	0.84	1		0.84	0.84	C	146
			Myricetin	0.00	1		0.00	0.00	C	146
			Quercetin	0.00	1		0.00	0.00	C	146
11270	Mustard greens, raw ( <i>Brassica juncea</i> )	Flavonols	Isorhamnetin	16.20	3		16.20	16.20	C	118
			Kaempferol	38.30	3		38.30	38.30	C	118
			Quercetin	8.80	3		8.80	8.80	C	118
99373	Nalta jute, raw	Flavones	Luteolin	0.00	2		0.00	0.00	C	12
		Flavonols	Kaempferol	5.51	8	1.04	2.43	11.80	C	231, 12
			Myricetin	1.93	2		1.93	1.93	C	12
			Quercetin	22.51	8	5.75	9.24	40.53	C	231, 12
11276	New Zealand spinach, raw ( <i>Tetragonia tetragonioides</i> )	Flavones	Apigenin	0.00	2		0.00	0.00	C	119
			Kaempferol	15.75	2	1.25	14.50	17.00	C	119
			Quercetin	5.75	2	0.45	5.30	6.20	C	119
11278	Okra, raw ( <i>Abelmoschus esculentus</i> )	Flavonols	Isorhamnetin	0.00	3		0.00	0.00	C	118
			Kaempferol	0.00	3		0.00	0.00	C	118
			Quercetin	20.97	12	4.98	11.10	33.22	B	231, 118
99401	Olive leaves, raw	Flavones	Apigenin	2.84	1		2.84	2.84	D	246
			Luteolin	27.70	1		27.70	27.70	D	246
		Flavonols	Kaempferol	0.00	1		0.00	0.00	D	246
			Myricetin	1.43	1		1.43	1.43	D	246
			Quercetin	6.24	1		6.24	6.24	D	246
99383	Onion, spring, red, leaves	Flavonols	Kaempferol	4.10	1		4.10	4.10	D	187
			Quercetin	12.60	1		12.60	12.60	D	187
11283	Onions, cooked, boiled, drained, without salt	Flavonols	Kaempferol	0.34	28	0.06	0.29	0.41	B	72
			Quercetin	24.36	32	3.93	19.87	31.00	B	72, 168
11282	Onions, raw ( <i>Allium cepa</i> )	Flavan-3-ols	(-) -Epicatechin	0.00	7		0.00	0.00	B	14, 54
			(-) -Epicatechin 3-gallate	0.00	7		0.00	0.00	B	14, 54
			(-) -Epigallocatechin	0.00	7		0.00	0.00	B	14, 54
			(-) -Epigallocatechin 3-gallate	0.00	7		0.00	0.00	B	14, 54
			(+) -Catechin	0.00	7		0.00	0.00	B	14, 54
			(+) -Gallocatechin	0.00	7		0.00	0.00	B	14, 54
		Flavones	Apigenin	0.01	18	0.00	0.00	0.01	B	111, 164, 81, 232
			Luteolin	0.02	19	0.01	0.00	0.19	B	111, 164, 81, 232, 12
		Flavonols	Isorhamnetin	5.01	43	0.69	1.26	7.16	B	264, 171
			Kaempferol	0.63	26	0.10	0.00	1.41	B	26, 72, 112, 111, 164, 81, 232, 12, 135
			Myricetin	0.03	20	0.01	0.00	0.30	B	111, 164, 81, 232, 12, 135
Quercetin	21.40		410	0.55	0.03	118.70	B	12, 26, 72, 81, 112, 111, 129, 164,		

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
										173, 199, 198, 210, 264, 160, 168, 171, 232, 289, 135
99055	Onions, red, raw	Anthocyanidins	Cyanidin	2.56	43	0.53	0.36	23.99	B	80, 11, 81, 90, 287, 200
			Delphinidin	2.28	7	0.79	0.10	3.15	B	81, 90
			Pelargonidin	0.02	2		0.02	0.02	B	81
			Peonidin	1.22	1		1.22	1.22	C	287
		Flavones	Apigenin	0.26	8	0.26	0.00	2.10	B	164, 11, 17, 81, 119
			Luteolin	0.19	6	0.18	0.00	1.10	B	164, 11, 17, 81
		Flavonols	Isorhamnetin	3.01	70	0.05	0.00	22.60	B	80, 264, 171, 200
			Kaempferol	0.86	9	0.52	0.00	4.50	B	26, 164, 11, 17, 81, 119
Myricetin	2.70		4	0.61	0.00	3.80	C	164, 17, 81		
Quercetin	31.77		156	1.73	0.00	191.70	B	26, 48, 80, 129, 164, 173, 199, 209, 210, 264, 11, 17, 81, 90, 160, 171, 289, 119, 200		
11291	Onions, spring or scallions (includes tops and bulb) , raw ( <i>Allium cepa</i> or <i>Allium fistulosum</i> )	Flavones	Apigenin	0.00	1		0.00	0.00	C	164
			Luteolin	0.00	1		0.00	0.00	C	164
		Flavonols	Kaempferol	1.36	4	0.68	0.60	3.45	B	129, 164, 146
			Myricetin	0.00	2		0.00	0.00	C	164, 146
			Quercetin	10.68	4	2.69	0.00	18.00	B	129, 164, 146
99645	Onions, spring, red, bulb	Flavonols	Kaempferol	0.00	1		0.00	0.00	D	187
			Quercetin	30.60	1		30.60	30.60	D	187
11294	Onions, sweet, raw ( <i>Allium cepa</i> )	Anthocyanidins	Cyanidin	0.00	8		0.00	0.00	B	105
			Delphinidin	0.00	8		0.00	0.00	B	105
			Malvidin	0.00	8		0.00	0.00	B	105
			Pelargonidin	0.00	8		0.00	0.00	B	105
			Peonidin	0.00	8		0.00	0.00	B	105
			Petunidin	0.00	8		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	0.00	5		0.00	0.00	B	105
			(-) -Epicatechin 3-gallate	0.00	5		0.00	0.00	B	105
			(-) -Epigallocatechin	0.00	5		0.00	0.00	B	105
			(-) -Epigallocatechin 3-gallate	0.08	5	0.08	0.00	0.41	B	105
			(+) -Catechin	0.00	5		0.00	0.00	B	105
			(+) -Gallocatechin	0.00	5		0.00	0.00	B	105
		Flavanones	Hesperetin	0.00	5		0.00	0.00	B	105
			Naringenin	0.00	5		0.00	0.00	B	105
		Flavones	Apigenin	0.00	11	0.00	0.00	0.01	B	81, 105, 232
			Luteolin	0.01	7	0.00	0.00	0.02	B	81, 105, 232
		Flavonols	Kaempferol	1.03	11	0.22	0.00	1.98	B	26, 81, 232, 241
			Myricetin	1.07	16	0.41	0.00	4.13	B	81, 105, 232, 241

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			Quercetin	14.80	29	0.67	0.97	46.32	B	26, 199, 105, 81, 232, 241
11293	Onions, welsh, raw ( <i>Allium fistulosum</i> )	Flavonols	Kaempferol	24.95	6	9.09	22.62	27.28	C	231
99056	Onions, white, raw	Anthocyanidins	Cyanidin	0.00	2		0.00	0.00	C	11
		Flavones	Apigenin	0.00	5		0.00	0.00	B	11, 232, 119
			Luteolin	0.00	3		0.00	0.00	C	11, 232
		Flavonols	Isorhamnetin	0.51	23	0.10	0.00	0.69	B	264, 200
			Kaempferol	0.00	5		0.00	0.00	B	11, 232, 119
			Myricetin	0.00	1		0.00	0.00	C	232
Quercetin	8.06	104	1.01	0.00	63.40	B	48, 47, 199, 209, 264, 11, 232, 119, 200			
11292	Onions, young green, tops only ( <i>Allium cepa</i> )	Flavones	Apigenin	0.01	3		0.01	0.01	C	81
			Luteolin	0.02	3		0.02	0.02	C	81
		Flavonols	Isorhamnetin	0.00	3		0.00	0.00	C	118
			Kaempferol	3.60	6	1.28	2.40	4.80	C	81, 118
			Myricetin	0.03	3		0.03	0.03	C	81
			Quercetin	0.00	6	0.00	0.00	0.01	C	81, 118
99642	Pako fern, steamed ( <i>Athyrium esculentum</i> )	Flavonols	Kaempferol	0.21	1		0.21	0.21	C	146
			Myricetin	0.00	1		0.00	0.00	C	146
			Quercetin	0.42	1		0.42	0.42	C	146
11297	Parsley, fresh ( <i>Petroselinum crispum</i> )	Flavanones	Hesperetin	0.00	2		0.00	0.00	C	128
		Flavones	Apigenin	215.46	13	36.08	0.00	630.00	B	128, 129, 164, 231, 119
			Luteolin	1.09	6	0.58	0.00	4.00	B	128, 129, 164, 12
		Flavonols	Isorhamnetin	0.00	2		0.00	0.00	C	128
			Kaempferol	1.49	14	0.09	0.00	4.51	B	128, 129, 164, 231, 12, 119
			Myricetin	14.84	2	6.76	8.08	21.60	C	164, 12
Quercetin	0.28	6	0.18	0.00	1.00	B	128, 164, 12, 119			
11298	Parsnips, raw ( <i>Pastinaca sativa</i> )	Flavones	Apigenin	0.00	1		0.00	0.00	D	164
			Luteolin	0.00	1		0.00	0.00	D	164
		Flavonols	Kaempferol	0.00	1		0.00	0.00	D	164
			Myricetin	0.00	1		0.00	0.00	D	164
			Quercetin	0.99	1		0.99	0.99	D	164
11300	Peas, edible-podded, raw ( <i>Pisum sativum</i> )	Flavan-3-ols	(-) -Epicatechin	0.00	4		0.00	0.00	B	14
			(-) -Epicatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(+) -Catechin	0.00	4		0.00	0.00	B	14
			(+) -Gallocatechin	0.00	4		0.00	0.00	B	14
11308	Peas, green (includes baby and	Flavan-3-ols	(-) -Epicatechin	0.00	4		0.00	0.00	B	14

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
	lesuer types) , canned, drained solids, unprepared		(-) -Epicatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin	0.00	4		0.00	0.00	B	14
			(-) -Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	14
			(+) -Catechin	0.00	4		0.00	0.00	B	14
			(+) -Gallocatechin	0.00	4		0.00	0.00	B	14
		Flavones	Apigenin	0.00	4		0.00	0.00	B	111
			Luteolin	0.00	4		0.00	0.00	B	111
		Flavonols	Kaempferol	0.00	4		0.00	0.00	B	111
			Myricetin	0.00	4		0.00	0.00	B	111
			Quercetin	0.11	4		0.11	0.11	B	111
11313	Peas, green, frozen, cooked, boiled, drained, without salt	Anthocyanidins	Cyanidin	0.03	2		0.03	0.03	C	81
			Delphinidin	0.03	2		0.03	0.03	C	81
			Pelargonidin	0.02	2		0.02	0.02	C	81
		Flavones	Apigenin	0.01	2		0.01	0.01	C	81
			Luteolin	0.40	2		0.40	0.40	C	81
		Flavonols	Kaempferol	0.07	6	0.02	0.00	0.20	C	72, 81
			Myricetin	0.03	2		0.03	0.03	C	81
11312	Peas, green, frozen, unprepared	Flavonols	Kaempferol	0.00	1		0.00	0.00	C	72
			Quercetin	0.15	1		0.15	0.15	C	72
11304	Peas, green, raw ( <i>Pisum sativum</i> )	Flavan-3-ols	(-) -Epicatechin	0.01	3		0.01	0.01	C	54
			(-) -Epicatechin 3-gallate	0.00	3		0.00	0.00	C	54
			(-) -Epigallocatechin	0.00	3		0.00	0.00	C	54
			(-) -Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	54
			(+) -Catechin	0.01	3		0.01	0.01	C	54
			(+) -Gallocatechin	0.00	3		0.00	0.00	C	54
		Flavones	Apigenin	0.00	1		0.00	0.00	B	111
			Luteolin	0.00	1		0.00	0.00	B	111
		Flavonols	Kaempferol	0.00	1		0.00	0.00	B	111
			Myricetin	0.00	1		0.00	0.00	B	111
Quercetin	14.27		4	6.14	0.00	19.03	B	111, 231		
99041	Peppers, ancho	Flavones	Luteolin	3.36	1		3.36	3.36	D	155
		Flavonols	Quercetin	27.60	1		27.60	27.60	D	155
99088	Peppers, Californian (purchased in Hungary)	Flavones	Apigenin	0.00	1		0.00	0.00	D	164
			Luteolin	1.13	1		1.13	1.13	D	164
		Flavonols	Kaempferol	0.00	1		0.00	0.00	D	164
			Myricetin	0.00	1		0.00	0.00	D	164
			Quercetin	0.51	1		0.51	0.51	D	164
99384	Peppers, cascabella, raw	Flavones	Luteolin	0.60	1		0.60	0.60	C	117

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
		Flavonols	Quercetin	2.40	1		2.40	2.40	C	117
99369	Peppers, cayenne, raw	Flavones	Luteolin	1.73	1		1.73	1.73	C	117
		Flavonols	Quercetin	2.48	1		2.48	2.48	C	117
99370	Peppers, habanero, raw	Flavones	Luteolin	0.07	2	0.02	0.04	0.09	C	117
		Flavonols	Quercetin	0.30	2	0.16	0.14	0.46	C	117
11670	Peppers, hot chili, green, raw ( <i>Capsicum frutescens</i> )	Flavones	Apigenin	1.40	1		1.40	1.40	C	17
			Luteolin	3.87	3	1.24	1.40	5.15	C	155, 17
		Flavonols	Kaempferol	0.00	1		0.00	0.00	C	17
			Myricetin	1.20	1		1.20	1.20	C	17
			Quercetin	14.70	3	3.22	10.50	21.02	C	155, 17
99042	Peppers, hot, yellow wax, raw	Flavones	Luteolin	6.93	3	1.93	3.68	10.35	C	155
		Flavonols	Quercetin	50.63	3	14.61	28.83	78.38	C	155
11979	Peppers, jalapeno, raw ( <i>Capsicum anuum</i> )	Flavones	Luteolin	1.34	5	0.64	0.00	3.75	C	155
		Flavonols	Quercetin	5.07	5	2.64	0.00	15.12	C	155
99372	Peppers, long yellow, raw	Flavones	Luteolin	1.68	1		1.68	1.68	C	117
		Flavonols	Quercetin	6.45	1		6.45	6.45	C	117
99356	Peppers, pimento	Flavones	Luteolin	10.36	6	3.75	8.58	12.13	C	231
11977	Peppers, serrano, raw ( <i>Capsicum anuum</i> )	Flavones	Luteolin	4.14	1		4.14	4.14	D	155
		Flavonols	Quercetin	15.98	1		15.98	15.98	D	155
11333	Peppers, sweet, green, raw ( <i>Capsicum annuum</i> )	Anthocyanidins	Cyanidin	0.00	2		0.00	0.00	C	11
		Flavan-3-ols	(-) -Epicatechin	0.00	3		0.00	0.00	C	54
			(-) -Epicatechin 3-gallate	0.00	3		0.00	0.00	C	54
			(-) -Epigallocatechin	0.00	3		0.00	0.00	C	54
			(-) -Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	54
			(+) -Catechin	0.00	3		0.00	0.00	C	54
			(+) -Gallocatechin	0.00	3		0.00	0.00	C	54
		Flavones	Apigenin	0.00	4		0.00	0.00	C	164, 11, 232
			Luteolin	4.71	13	0.75	0.50	12.87	B	129, 164, 11, 232, 231, 12
		Flavonols	Kaempferol	0.06	6	0.05	0.00	0.32	B	164, 11, 232, 12, 135
			Myricetin	0.00	4		0.00	0.00	C	164, 232, 12, 135
			Quercetin	2.21	17	0.32	0.06	4.23	B	129, 164, 11, 232, 231, 12, 135
11821	Peppers, sweet, red, raw	Anthocyanidins	Cyanidin	0.00	2		0.00	0.00	C	11
		Flavan-3-ols	(-) -Epicatechin	0.00	7		0.00	0.00	B	14, 54
			(-) -Epicatechin 3-gallate	0.00	7		0.00	0.00	B	14, 54
			(-) -Epigallocatechin	0.00	7		0.00	0.00	B	14, 54
			(-) -Epigallocatechin 3-gallate	0.00	7		0.00	0.00	B	14, 54
			(+) -Catechin	0.00	7		0.00	0.00	B	14, 54
			(+) -Gallocatechin	0.00	7		0.00	0.00	B	14, 54
		Flavones	Apigenin	0.00	6		0.00	0.00	B	11, 111



## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
		Flavonols	Luteolin	0.61	10	0.14	0.10	1.10	B	11, 111, 129
			Kaempferol	0.02	7	0.02	0.00	0.16	B	111, 11, 135
			Myricetin	0.00	5		0.00	0.00	B	111, 135
			Quercetin	0.23	7	0.17	0.00	1.20	B	111, 11, 135
11951	Peppers, sweet, yellow, raw ( <i>Capsicum annuum</i> )	Anthocyanidins	Cyanidin	0.00	2		0.00	0.00	C	11
		Flavones	Apigenin	0.00	2		0.00	0.00	C	11
			Luteolin	1.02	3	0.06	0.90	1.10	C	11, 117
		Flavonols	Kaempferol	0.01	3	0.01	0.00	0.02	C	11, 135
			Myricetin	0.22	1		0.22	0.22	C	135
			Quercetin	1.04	4	0.40	0.08	2.00	C	11, 117, 135
99371	Peppers, tabasco, raw	Flavones	Luteolin	3.57	1		3.57	3.57	C	117
		Flavonols	Quercetin	0.09	1		0.09	0.09	C	117
99629	Peppers, tasmanian	Anthocyanidins	Cyanidin	752.68	1		752.68	752.68	C	184
99105	Perilla leaves, raw	Flavones	Apigenin	0.07	1		0.07	0.07	D	43
			Luteolin	0.32	1		0.32	0.32	D	43
		Flavonols	Kaempferol	0.00	1		0.00	0.00	D	43
			Myricetin	0.43	1		0.43	0.43	D	43
			Quercetin	0.53	1		0.53	0.53	D	43
11352	Potato, flesh and skin, raw ( <i>Solanum tuberosum</i> )	Anthocyanidins	Cyanidin	0.00	9		0.00	0.00	A	105
			Delphinidin	0.00	9		0.00	0.00	A	105
			Malvidin	0.00	9		0.00	0.00	A	105
			Pelargonidin	0.00	9		0.00	0.00	A	105
			Peonidin	0.00	9		0.00	0.00	A	105
			Petunidin	0.00	9		0.00	0.00	A	105
		Flavan-3-ols	(-) -Epicatechin	0.00	13		0.00	0.00	A	14, 105
			(-) -Epicatechin 3-gallate	0.00	13		0.00	0.00	A	14, 105
			(-) -Epigallocatechin	0.00	13		0.00	0.00	A	14, 105
			(-) -Epigallocatechin 3-gallate	0.00	13		0.00	0.00	A	14, 105
			(+) -Catechin	0.00	13		0.00	0.00	A	14, 105
			(+) -Gallocatechin	0.00	13		0.00	0.00	A	14, 105
		Flavanones	Hesperetin	0.00	9		0.00	0.00	A	105
			Naringenin	0.00	9		0.00	0.00	A	105
		Flavones	Apigenin	0.00	10		0.00	0.00	A	43, 105
			Luteolin	0.00	7		0.00	0.00	B	43, 105, 12
		Flavonols	Kaempferol	0.80	3	0.77	0.00	2.34	C	43, 214, 12
			Myricetin	0.00	11		0.00	0.00	B	43, 105, 12
			Quercetin	0.70	12	0.29	0.00	3.41	B	43, 105, 214, 12
		11358	Potatoes, red, flesh and skin, baked	Anthocyanidins	Cyanidin	0.00	8		0.00	0.00
Delphinidin	0.00				8		0.00	0.00	B	105

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			Malvidin	0.00	8		0.00	0.00	B	105
			Pelargonidin	0.00	8		0.00	0.00	B	105
			Peonidin	0.00	8		0.00	0.00	B	105
			Petunidin	0.00	8		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	0.00	7		0.00	0.00	B	105
			(-) -Epicatechin 3-gallate	0.00	7		0.00	0.00	B	105
			(-) -Epigallocatechin	0.00	7		0.00	0.00	B	105
			(-) -Epigallocatechin 3-gallate	0.00	7		0.00	0.00	B	105
			(+) -Catechin	0.00	7		0.00	0.00	B	105
		Flavanones	(+) -Gallocatechin	0.00	7		0.00	0.00	B	105
			Hesperetin	0.00	7		0.00	0.00	B	105
		Flavones	Naringenin	0.00	7		0.00	0.00	B	105
			Apigenin	0.00	8		0.00	0.00	B	105
		Flavonols	Luteolin	0.00	4		0.00	0.00	B	105
			Myricetin	0.00	8		0.00	0.00	B	105
			Quercetin	1.43	8	0.22	0.00	1.90	B	105
11355	Potatoes, red, flesh and skin, raw ( <i>Solanum tuberosum</i> )	Anthocyanidins	Cyanidin	0.00	3		0.00	0.00	B	105
			Delphinidin	0.00	3		0.00	0.00	B	105
			Malvidin	0.00	3		0.00	0.00	B	105
			Pelargonidin	0.00	3		0.00	0.00	B	105
			Peonidin	0.00	3		0.00	0.00	B	105
			Petunidin	0.00	3		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	0.00	2		0.00	0.00	B	105
			(-) -Epicatechin 3-gallate	0.00	2		0.00	0.00	B	105
			(-) -Epigallocatechin	0.00	2		0.00	0.00	B	105
			(-) -Epigallocatechin 3-gallate	0.00	2		0.00	0.00	B	105
			(+) -Catechin	0.00	2		0.00	0.00	B	105
			(+) -Gallocatechin	0.00	2		0.00	0.00	B	105
		Flavanones	Hesperetin	0.00	2		0.00	0.00	B	105
			Naringenin	0.00	2		0.00	0.00	B	105
		Flavones	Apigenin	0.00	3		0.00	0.00	B	105
			Luteolin	0.00	2		0.00	0.00	B	105
		Flavonols	Myricetin	0.00	3		0.00	0.00	B	105
			Quercetin	0.65	3	0.34	0.00	1.13	B	105
11356	Potatoes, Russet, flesh and skin, baked	Anthocyanidins	Cyanidin	0.00	8		0.00	0.00	B	105
			Delphinidin	0.00	8		0.00	0.00	B	105
			Malvidin	0.00	8		0.00	0.00	B	105
			Pelargonidin	0.00	8		0.00	0.00	B	105
			Peonidin	0.00	8		0.00	0.00	B	105

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data		
		Flavan-3-ols	Petunidin	0.00	8		0.00	0.00	B	105		
			(-) -Epicatechin	0.00	6		0.00	0.00	B	105		
			(-) -Epicatechin 3-gallate	0.00	6		0.00	0.00	B	105		
			(-) -Epigallocatechin	0.00	6		0.00	0.00	B	105		
			(-) -Epigallocatechin 3-gallate	0.00	6		0.00	0.00	B	105		
			(+) -Catechin	0.00	6		0.00	0.00	B	105		
			(+) -Gallocatechin	0.00	6		0.00	0.00	B	105		
		Flavanones	Hesperetin	0.00	6		0.00	0.00	B	105		
			Naringenin	0.00	6		0.00	0.00	B	105		
		Flavones	Apigenin	0.00	8		0.00	0.00	B	105		
			Luteolin	0.00	4		0.00	0.00	B	105		
		Flavonols	Myricetin	0.00	8		0.00	0.00	B	105		
Quercetin	0.73		8	0.22	0.00	1.60	B	105				
11357	Potatoes, white, flesh and skin, baked	Anthocyanidins	Cyanidin	0.00	6		0.00	0.00	B	105		
			Delphinidin	0.00	6		0.00	0.00	B	105		
			Malvidin	0.00	6		0.00	0.00	B	105		
			Pelargonidin	0.00	6		0.00	0.00	B	105		
			Peonidin	0.00	6		0.00	0.00	B	105		
			Petunidin	0.00	6		0.00	0.00	B	105		
		Flavan-3-ols	(-) -Epicatechin	0.00	6		0.00	0.00	B	105		
			(-) -Epicatechin 3-gallate	0.00	6		0.00	0.00	B	105		
			(-) -Epigallocatechin	0.00	6		0.00	0.00	B	105		
			(-) -Epigallocatechin 3-gallate	0.00	6		0.00	0.00	B	105		
			(+) -Catechin	0.00	6		0.00	0.00	B	105		
			(+) -Gallocatechin	0.00	6		0.00	0.00	B	105		
		Flavanones	Hesperetin	0.00	6		0.00	0.00	B	105		
			Naringenin	0.00	6		0.00	0.00	B	105		
		Flavones	Apigenin	0.00	6		0.00	0.00	B	105		
			Luteolin	0.00	3		0.00	0.00	B	105		
		Flavonols	Myricetin	0.00	6		0.00	0.00	B	105		
			Quercetin	1.19	6	0.44	0.00	2.60	B	105		
		11354	Potatoes, white, flesh and skin, raw ( <i>Solanum tuberosum</i> )	Anthocyanidins	Cyanidin	0.00	3		0.00	0.00	B	105
					Delphinidin	0.00	3		0.00	0.00	B	105
Malvidin	0.00				3		0.00	0.00	B	105		
Pelargonidin	0.00				3		0.00	0.00	B	105		
Peonidin	0.00				3		0.00	0.00	B	105		
Petunidin	0.00				3		0.00	0.00	B	105		
Flavan-3-ols	(-) -Epicatechin			0.00	3		0.00	0.00	B	105		
	(-) -Epicatechin 3-gallate			0.00	3		0.00	0.00	B	105		

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			(-) -Epigallocatechin	0.00	3		0.00	0.00	B	105
			(-) -Epigallocatechin 3-gallate	0.00	3		0.00	0.00	B	105
			(+) -Catechin	0.00	3		0.00	0.00	B	105
			(+) -Gallocatechin	0.00	3		0.00	0.00	B	105
		Flavanones	Hesperetin	0.00	3		0.00	0.00	B	105
			Naringenin	0.00	3		0.00	0.00	B	105
		Flavones	Apigenin	0.00	3		0.00	0.00	B	105
			Luteolin	0.00	2		0.00	0.00	B	105
		Flavonols	Myricetin	0.00	3		0.00	0.00	B	105
			Quercetin	0.49	3	0.30	0.00	1.04	B	105
11422	Pumpkin, raw ( <i>Cucurbita spp.</i> )	Flavones	Apigenin	0.00	1		0.00	0.00	C	163
			Luteolin	1.63	1		1.63	1.63	C	163
		Flavonols	Isorhamnetin	0.00	1		0.00	0.00	B	146
			Kaempferol	0.00	2		0.00	0.00	C	163, 146
			Myricetin	0.00	2		0.00	0.00	C	163, 146
			Quercetin	0.00	2		0.00	0.00	C	163, 146
11427	Purslane, raw ( <i>Portulaca oleracea</i> )	Flavones	Apigenin	0.00	2		0.00	0.00	B	111
			Luteolin	0.00	2		0.00	0.00	B	111
		Flavonols	Isorhamnetin	2.80	3		2.80	2.80	C	118
			Kaempferol	0.66	5	0.22	0.00	1.10	C	111, 118
			Myricetin	0.00	2		0.00	0.00	B	111
			Quercetin	0.78	5	0.26	0.00	1.30	C	111, 118
99032	Queen Anne's Lace, leaves, raw	Flavones	Apigenin	12.60	1		12.60	12.60	B	260
			Luteolin	34.10	1		34.10	34.10	B	260
		Flavonols	Isorhamnetin	0.00	1		0.00	0.00	B	260
			Kaempferol	0.20	1		0.20	0.20	B	260
			Myricetin	0.40	1		0.40	0.40	B	260
			Quercetin	1.10	1		1.10	1.10	B	260
11952	Radicchio, raw ( <i>Cichorium intybus</i> )	Anthocyanidins	Cyanidin	126.99	6	32.72	59.82	253.85	C	122
			Delphinidin	7.68	6	2.98	1.94	20.76	C	122
		Flavones	Luteolin	37.98	6	9.88	16.60	77.27	C	122
		Flavonols	Quercetin	31.51	6	8.73	9.06	52.73	C	122
99386	Radish leaves, raw	Flavonols	Kaempferol	7.72	3		7.72	7.72	C	231
			Quercetin	70.37	3		70.37	70.37	C	231
11676	Radish seeds, sprouted, raw ( <i>Raphanus sativus</i> )	Flavonols	Kaempferol	21.85	9	6.00	13.76	35.18	B	231
11430	Radishes, oriental, raw ( <i>Raphanus sativus</i> ( <i>Longipinratus</i> Group))	Flavones	Luteolin	0.00	1		0.00	0.00	D	12
		Flavonols	Kaempferol	0.34	1		0.34	0.34	D	12
			Myricetin	0.00	1		0.00	0.00	D	12

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			Quercetin	0.00	1		0.00	0.00	D	12
11429	Radishes, raw ( <i>Raphanus sativus</i> )	Anthocyanidins	Cyanidin	0.00	7		0.00	0.00	B	105
			Delphinidin	0.00	7		0.00	0.00	B	105
			Malvidin	0.00	7		0.00	0.00	B	105
			Pelargonidin	25.66	15	1.95	7.40	34.80	B	105, 287
			Peonidin	0.00	7		0.00	0.00	B	105
			Petunidin	0.00	7		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	0.00	3		0.00	0.00	B	105
			(-) -Epicatechin 3-gallate	0.00	3		0.00	0.00	B	105
			(-) -Epigallocatechin	0.00	3		0.00	0.00	B	105
			(-) -Epigallocatechin 3-gallate	0.00	3		0.00	0.00	B	105
			(+) -Catechin	0.00	3		0.00	0.00	B	105
			(+) -Gallocatechin	0.00	3		0.00	0.00	B	105
		Flavanones	Hesperetin	0.00	3		0.00	0.00	B	105
			Naringenin	0.00	3		0.00	0.00	B	105
		Flavones	Apigenin	0.00	13		0.00	0.00	A	105, 111, 164
Luteolin	0.00		9		0.00	0.00	B	105, 111, 164		
Flavonols	Kaempferol	0.86	7	0.15	0.40	2.11	B	25, 111, 164		
	Myricetin	0.00	13		0.00	0.00	A	105, 111, 164		
	Quercetin	0.00	14		0.00	0.00	B	25, 105, 111, 164		
99634	Rocket, wild, raw ( <i>Diplotaxis tenuifolia</i> )	Flavonols	Isorhamnetin	0.78	3		0.78	0.78	C	172
			Kaempferol	1.78	3		1.78	1.78	C	172
			Quercetin	66.19	3		66.19	66.19	C	172
11435	Rutabagas, raw ( <i>Brassica napus</i> var. <i>napobrassica</i> )	Flavones	Apigenin	3.85	4	3.85	0.00	15.40	B	111, 164
			Luteolin	0.00	4		0.00	0.00	B	111, 164
		Flavonols	Isorhamnetin	0.00	3		0.00	0.00	C	118
			Kaempferol	0.32	7	0.32	0.00	2.27	B	111, 164, 118
			Myricetin	2.13	4	2.14	0.00	8.54	B	111, 164
Quercetin	0.05	7	0.05	0.00	0.32	B	111, 164, 118			
11439	Sauerkraut, canned, solids and liquids	Flavones	Apigenin	0.02	5	0.02	0.00	0.12	B	111, 44
			Luteolin	0.00	4		0.00	0.00	B	111
		Flavonols	Kaempferol	0.03	7	0.01	0.00	0.08	C	111, 44
			Myricetin	0.01	5	0.01	0.00	0.06	B	111, 44
			Quercetin	0.01	5	0.01	0.00	0.06	B	111, 44
99627	Seaweed ( <i>Caulerpa racemosa</i> , Nama) , Green algae (sea grapes or green caviar) , raw	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	146
			Kaempferol	0.00	1		0.00	0.00	C	146
			Myricetin	0.00	1		0.00	0.00	C	146
			Quercetin	0.00	1		0.00	0.00	C	146
99628	Seaweed ( <i>Gracilaria</i> sp, Lumi) , Red algae, raw	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	146
			Kaempferol	0.00	1		0.00	0.00	C	146

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			Myricetin	0.00	1		0.00	0.00	C	146
			Quercetin	0.00	1		0.00	0.00	C	146
11450	Soybeans, green, raw ( <i>Glycine max</i> )	Flavones	Luteolin	0.00	1		0.00	0.00	D	12
		Flavonols	Kaempferol	1.23	1		1.23	1.23	D	12
			Myricetin	0.00	1		0.00	0.00	D	12
			Quercetin	0.03	1		0.03	0.03	D	12
11463	Spinach, frozen, chopped or leaf, unprepared	Flavones	Apigenin	0.00	4		0.00	0.00	B	111
			Luteolin	0.00	4		0.00	0.00	B	111
		Flavonols	Kaempferol	0.00	4		0.00	0.00	B	111
			Myricetin	0.00	4		0.00	0.00	B	111
			Quercetin	0.00	4		0.00	0.00	B	111
11457	Spinach, raw ( <i>Spinacia oleracea</i> )	Flavones	Apigenin	0.00	9	0.00	0.00	0.01	B	43, 111, 164, 81
			Luteolin	0.74	10	0.66	0.00	6.64	B	43, 111, 164, 81, 12
		Flavonols	Kaempferol	6.38	12	4.43	0.00	55.00	B	43, 111, 164, 81, 187, 12, 135
			Myricetin	0.35	11	0.34	0.00	3.75	B	43, 111, 164, 81, 12, 135
			Quercetin	3.97	12	2.37	0.00	27.22	B	43, 111, 164, 81, 187, 12, 135
11478	Squash, summer, zucchini, includes skin, cooked, boiled, drained, without salt	Flavonols	Quercetin	0.47	10	0.05	0.25	0.73	C	7
11477	Squash, summer, zucchini, includes skin, raw	Flavan-3-ols	(-) -Epicatechin	0.00	3		0.00	0.00	C	54
			(-) -Epicatechin 3-gallate	0.00	3		0.00	0.00	C	54
			(-) -Epigallocatechin	0.00	3		0.00	0.00	C	54
			(-) -Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	54
			(+) -Catechin	0.00	3		0.00	0.00	C	54
			(+) -Gallocatechin	0.00	3		0.00	0.00	C	54
		Flavonols	Quercetin	0.66	5	0.13	0.40	1.12	C	7
11506	Sweet potato leaves, cooked, steamed, without salt	Flavonols	Isorhamnetin	0.13	1		0.13	0.13	C	146
			Kaempferol	0.74	4	0.13	0.42	1.04	B	146
			Myricetin	2.93	4	0.28	2.40	3.64	B	146
			Quercetin	9.83	4	0.96	7.36	11.70	B	146
11505	Sweet potato leaves, raw ( <i>Ipomoea batatas</i> )	Flavones	Apigenin	0.06	4	0.06	0.00	0.24	C	43, 81
			Luteolin	0.11	4	0.10	0.00	0.41	C	43, 81
		Flavonols	Isorhamnetin	0.00	3		0.00	0.00	C	118
			Kaempferol	2.13	8	0.42	0.00	5.00	B	43, 81, 118, 146
			Myricetin	4.38	5	2.90	0.03	15.59	B	43, 81, 146
			Quercetin	16.94	8	3.17	2.60	27.90	B	43, 81, 118, 146
11510	Sweet potato, cooked, boiled, without skin	Flavonols	Isorhamnetin	0.00	3		0.00	0.00	B	146
			Kaempferol	0.00	4		0.00	0.00	B	146
			Myricetin	0.00	4		0.00	0.00	B	146

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			Quercetin	0.00	4		0.00	0.00	B	146
99385	Sweet potato, purple, cooked	Anthocyanidins	Cyanidin	10.60	1		10.60	10.60	C	81
			Delphinidin	0.90	1		0.90	0.90	C	81
			Pelargonidin	0.02	1		0.02	0.02	C	81
11507	Sweet potato, raw, unprepared ( <i>Ipomoea batatas</i> )	Flavones	Apigenin	0.01	2		0.01	0.01	C	81
			Luteolin	0.02	2		0.02	0.02	C	81
		Flavonols	Kaempferol	0.01	2		0.01	0.01	C	81
			Myricetin	0.03	2		0.03	0.03	C	81
			Quercetin	0.01	2		0.01	0.01	C	81
11521	Taro leaves, cooked, steamed, without salt	Anthocyanidins	Cyanidin	0.02	1		0.02	0.02	C	81
			Delphinidin	0.02	1		0.02	0.02	C	81
			Pelargonidin	0.02	1		0.02	0.02	C	81
		Flavonols	Isorhamnetin	0.14	1		0.14	0.14	B	146
			Kaempferol	0.00	1		0.00	0.00	B	146
			Myricetin	0.14	1		0.14	0.14	B	146
			Quercetin	0.14	1		0.14	0.14	B	146
11520	Taro leaves, raw ( <i>Colocasia esculenta</i> )	Flavones	Apigenin	0.01	1		0.01	0.01	C	81
			Luteolin	0.02	1		0.02	0.02	C	81
		Flavonols	Kaempferol	0.01	1		0.01	0.01	C	81
			Myricetin	0.03	1		0.03	0.03	C	81
			Quercetin	0.01	1		0.01	0.01	C	81
11519	Taro, cooked, without salt	Flavonols	Isorhamnetin	0.00	3		0.00	0.00	B	146
			Kaempferol	0.23	3	0.23	0.00	0.68	B	146
			Myricetin	0.00	3		0.00	0.00	B	146
			Quercetin	0.11	3	0.11	0.00	0.34	B	146
11518	Taro, raw ( <i>Colocasia esculenta</i> )	Flavonols	Quercetin	2.87	3		2.87	2.87	C	231
11886	Tomato juice, canned, without salt added	Flavones	Apigenin	0.00	1		0.00	0.00	B	110
			Luteolin	0.00	1		0.00	0.00	B	110
		Flavonols	Kaempferol	0.06	7	0.02	0.00	0.08	B	110, 253
			Myricetin	0.05	1		0.05	0.05	B	110
			Quercetin	1.19	10	0.29	0.56	1.58	B	110, 253, 182
11547	Tomato products, canned, puree, without salt added	Flavonols	Kaempferol	0.08	9	0.02	0.03	0.13	C	253
			Quercetin	4.12	9	1.10	1.63	7.09	C	253
99011	Tomatoes, cherry, raw	Flavanones	Naringenin	3.19	1		3.19	3.19	C	217
		Flavones	Luteolin	0.00	1		0.00	0.00	C	11
		Flavonols	Kaempferol	0.10	67	0.01	0.00	0.27	B	253, 11
			Quercetin	2.76	91	0.21	0.17	20.30	B	48, 253, 11, 217
99051	Tomatoes, plum, raw	Flavonols	Kaempferol	0.00	3		0.00	0.00	C	253
			Quercetin	0.03	3		0.03	0.03	C	253

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data		
11531	Tomatoes, red, ripe, canned, packed in tomato juice	Flavones	Apigenin	0.01	2		0.01	0.01	C	81		
			Luteolin	0.02	2		0.02	0.02	C	81		
		Flavonols	Kaempferol	0.01	2		0.01	0.01	C	81		
			Myricetin	0.03	2		0.03	0.03	C	81		
			Quercetin	0.50	2		0.50	0.50	C	81		
11530	Tomatoes, red, ripe, cooked	Anthocyanidins	Cyanidin	0.00	8		0.00	0.00	B	105		
			Delphinidin	0.00	8		0.00	0.00	B	105		
			Malvidin	0.00	8		0.00	0.00	B	105		
			Pelargonidin	0.00	8		0.00	0.00	B	105		
			Peonidin	0.00	8		0.00	0.00	B	105		
			Petunidin	0.00	8		0.00	0.00	B	105		
		Flavan-3-ols	(-) -Epicatechin	0.00	5		0.00	0.00	B	105		
			(-) -Epicatechin 3-gallate	0.00	5		0.00	0.00	B	105		
			(-) -Epigallocatechin	0.00	5		0.00	0.00	B	105		
			(-) -Epigallocatechin 3-gallate	0.00	5		0.00	0.00	B	105		
			(+) -Catechin	0.00	5		0.00	0.00	B	105		
			(+) -Gallocatechin	0.00	5		0.00	0.00	B	105		
		Flavanones	Hesperetin	0.00	5		0.00	0.00	B	105		
			Naringenin	0.00	5		0.00	0.00	B	105		
		Flavones	Apigenin	0.00	10	0.00	0.00	0.01	B	81, 105		
			Luteolin	0.01	6	0.00	0.00	0.02	B	81, 105		
		Flavonols	Kaempferol	0.01	2		0.01	0.01	C	81		
			Myricetin	0.01	10	0.00	0.00	0.03	B	81, 105		
			Quercetin	0.70	10	0.22	0.00	1.76	B	81, 105		
		11529	Tomatoes, red, ripe, raw, year round average ( <i>Lycopersicon esculentum</i> )	Anthocyanidins	Cyanidin	0.00	8		0.00	0.00	A	105
					Delphinidin	0.00	8		0.00	0.00	A	105
Malvidin	0.00				8		0.00	0.00	A	105		
Pelargonidin	0.00				8		0.00	0.00	A	105		
Peonidin	0.00				8		0.00	0.00	A	105		
Petunidin	0.00				8		0.00	0.00	A	105		
Flavan-3-ols	(-) -Epicatechin			0.00	13		0.00	0.00	A	14, 54, 105		
	(-) -Epicatechin 3-gallate			0.00	13		0.00	0.00	A	14, 54, 105		
	(-) -Epigallocatechin			0.00	13		0.00	0.00	A	14, 54, 105		
	(-) -Epigallocatechin 3-gallate			0.00	13		0.00	0.00	A	14, 54, 105		
	(+) -Catechin			0.00	13		0.00	0.00	A	14, 54, 105		
	(+) -Gallocatechin			0.00	13		0.00	0.00	A	14, 54, 105		
Flavanones	Hesperetin			0.00	6		0.00	0.00	B	105		
	Naringenin			0.68	11	0.16	0.00	1.50	A	129, 105		
Flavones	Apigenin			0.00	16	0.00	0.00	0.01	A	111, 164, 17, 105, 81		



## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
		Flavonols	Luteolin	0.00	15	0.00	0.00	0.02	B	111, 164, 11, 17, 105, 81, 12
			Isorhamnetin	0.00	1		0.00	0.00	B	146
			Kaempferol	0.09	49	0.02	0.00	0.84	B	111, 164, 253, 11, 17, 81, 12, 135, 146
			Myricetin	0.13	22	0.03	0.00	0.92	B	111, 164, 17, 105, 81, 231, 12, 135, 146
			Quercetin	0.58	96	0.01	0.00	3.80	B	48, 111, 129, 164, 253, 11, 17, 105, 81, 231, 12, 135, 146
11696	Tomatoes, yellow, raw ( <i>Lycopersicon esculentum</i> )	Flavonols	Kaempferol	0.04	3		0.04	0.04	C	253
			Quercetin	0.21	3		0.21	0.21	C	253
99656	Tree Spinach, cooked	Flavonols	Kaempferol	3.40	2		1.81	5.00	C	145
			Quercetin	2.01	2		0.00	4.02	C	145
99364	Tree Spinach, raw ( <i>Cnidoscolus aconitifolius</i> )	Flavonols	Kaempferol	4.03	2		2.24	5.82	C	145
			Quercetin	3.08	2		1.69	4.47	C	145
99617	Turmeric, steamed ( <i>Curcuma longa</i> )	Flavonols	Kaempferol	0.00	1		0.00	0.00	C	146
			Myricetin	2.04	1		2.04	2.04	C	146
			Quercetin	4.92	1		4.92	4.92	C	146
11568	Turnip greens, raw ( <i>Brassica rapa</i> (Rapifera Group))	Flavones	Apigenin	0.00	2		0.00	0.00	B	111
			Luteolin	0.00	2		0.00	0.00	B	111
		Flavonols	Kaempferol	11.87	5	4.51	4.80	16.59	B	111, 231
			Myricetin	0.00	2		0.00	0.00	B	111
			Quercetin	0.73	2		0.73	0.73	B	111
11587	Vinespinach, (basella) , raw ( <i>Basella alba</i> )	Flavones	Apigenin	62.20	6	22.71	62.10	62.31	C	231
99107	Water spinach	Flavones	Apigenin	0.01	1		0.01	0.01	C	43
			Luteolin	0.04	1		0.04	0.04	C	43
		Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	146
			Kaempferol	0.26	2	0.26	0.00	0.52	C	43, 146
			Myricetin	0.01	2	0.02	0.00	0.03	C	43, 146
			Quercetin	1.65	2	1.47	0.18	3.12	C	43, 146
11591	Watercress, raw ( <i>Nasturtium officinale</i> )	Flavanones	Hesperetin	0.00	1		0.00	0.00	C	128
		Flavones	Apigenin	0.01	5	0.00	0.00	0.01	B	128, 81
			Luteolin	0.02	5	0.01	0.00	0.02	B	128, 81
		Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	128
			Kaempferol	23.03	8	3.66	1.00	59.08	B	128, 81, 172
			Myricetin	0.20	4		0.20	0.20	B	81
			Quercetin	29.99	8	6.74	4.00	67.58	B	128, 81, 172
99647	Watercress, steamed	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	146
			Kaempferol	0.27	1		0.27	0.27	C	146
			Myricetin	0.00	1		0.00	0.00	C	146
			Quercetin	0.63	1		0.63	0.63	C	146

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
11602	Yam, cooked, boiled, drained, or baked, without salt	Flavonols	Isorhamnetin	0.00	2		0.00	0.00	B	146
			Kaempferol	0.00	3		0.00	0.00	B	146
			Myricetin	0.00	3		0.00	0.00	B	146
			Quercetin	0.25	3	0.25	0.00	0.76	B	146
99637	Yam, winged or water, red, boiled ( <i>Dioscorea alata</i> var <i>Vura</i> )	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	146
			Kaempferol	0.00	1		0.00	0.00	C	146
			Myricetin	0.00	1		0.00	0.00	C	146
			Quercetin	0.00	1		0.00	0.00	C	146
99638	Yam, winged or water, white, boiled ( <i>Dioscorea alata</i> var <i>Vura</i> )	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	146
			Kaempferol	0.00	1		0.00	0.00	C	146
			Myricetin	0.00	1		0.00	0.00	C	146
			Quercetin	0.00	1		0.00	0.00	C	146
11200	Yardlong bean, cooked, boiled, drained, without salt	Anthocyanidins	Cyanidin	1.10	2		1.10	1.10	C	81
			Delphinidin	0.02	2		0.02	0.02	C	81
			Pelargonidin	0.02	2		0.02	0.02	C	81
		Flavones	Apigenin	0.01	2		0.01	0.01	C	81
			Luteolin	0.02	2		0.02	0.02	C	81
		Flavonols	Kaempferol	0.50	2		0.50	0.50	C	81
			Myricetin	0.03	2		0.03	0.03	C	81
			Quercetin	5.30	2		5.30	5.30	C	81
<b>12 – Nuts and Seeds</b>										
99602	Chia seeds, raw	Flavonols	Kaempferol	12.30	3	0.29	12.01	12.87	C	16
			Quercetin	18.42	3	1.84	15.10	21.44	C	16
12061	Nuts, almonds ( <i>Prunus dulcis</i> )	Anthocyanidins	Cyanidin	2.46	8	0.58	0.00	4.40	B	105
			Delphinidin	0.00	8		0.00	0.00	B	105
			Malvidin	0.00	8		0.00	0.00	B	105
			Pelargonidin	0.00	8		0.00	0.00	B	105
			Peonidin	0.00	8		0.00	0.00	B	105
			Petunidin	0.00	8		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	0.60	12	0.10	0.00	1.27	B	105, 177
			(-) -Epicatechin 3-gallate	0.00	4		0.00	0.00	B	105
			(-) -Epigallocatechin	2.59	3	0.31	1.97	2.98	B	105
			(-) -Epigallocatechin 3-gallate	0.00	2		0.00	0.00	B	105
			(+) -Catechin	1.28	12	0.33	0.00	3.86	B	105, 177
			(+) -Gallocatechin	0.00	4		0.00	0.00	B	105
		Flavanones	Eriodictyol	0.25	8	0.06	0.03	0.57	B	177
			Hesperetin	0.00	4		0.00	0.00	B	105
Naringenin	0.43		51	0.05	0.00	1.05	B	105, 177, 27		
Flavones	Apigenin	0.00	8		0.00	0.00	B	105		

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data		
		Flavonols	Luteolin	0.00	4		0.00	0.00	B	105		
			Isorhamnetin	2.64	47	0.27	0.91	10.32	B	177, 27		
			Kaempferol	0.39	47	0.04	0.11	0.71	B	177, 27		
			Myricetin	0.00	8		0.00	0.00	B	105		
			Quercetin	0.36	16	0.11	0.00	1.09	B	105, 177		
12078	Nuts, brazilnuts, dried, unblanched ( <i>Bertholletia excelsa</i> )	Anthocyanidins	Cyanidin	0.00	2		0.00	0.00	B	105		
			Delphinidin	0.00	2		0.00	0.00	B	105		
			Malvidin	0.00	2		0.00	0.00	B	105		
			Pelargonidin	0.00	2		0.00	0.00	B	105		
			Peonidin	0.00	2		0.00	0.00	B	105		
			Petunidin	0.00	2		0.00	0.00	B	105		
		Flavan-3-ols	(-) -Epicatechin	0.00	2		0.00	0.00	B	105		
			(-) -Epicatechin 3-gallate	0.00	2		0.00	0.00	B	105		
			(-) -Epigallocatechin	0.00	2		0.00	0.00	B	105		
			(-) -Epigallocatechin 3-gallate	0.00	2		0.00	0.00	B	105		
			(+) -Catechin	0.00	2		0.00	0.00	B	105		
			(+) -Gallocatechin	0.00	2		0.00	0.00	B	105		
		Flavanones	Hesperetin	0.00	2		0.00	0.00	B	105		
			Naringenin	0.00	2		0.00	0.00	B	105		
		Flavones	Apigenin	0.00	2		0.00	0.00	B	105		
			Luteolin	0.00	1		0.00	0.00	B	105		
		Flavonols	Myricetin	0.00	2		0.00	0.00	B	105		
			Quercetin	0.00	2		0.00	0.00	B	105		
		12086	Nuts, cashew nuts, oil roasted, without salt added	Anthocyanidins	Cyanidin	0.00	7		0.00	0.00	B	105
					Delphinidin	0.00	7		0.00	0.00	B	105
Malvidin	0.00				7		0.00	0.00	B	105		
Pelargonidin	0.00				7		0.00	0.00	B	105		
Peonidin	0.00				7		0.00	0.00	B	105		
Petunidin	0.00				7		0.00	0.00	B	105		
Flavan-3-ols	(-) -Epicatechin			0.93	6	0.22	0.00	1.44	B	105		
	(-) -Epicatechin 3-gallate			0.15	6	0.10	0.00	0.59	B	105		
	(-) -Epigallocatechin			0.00	6		0.00	0.00	B	105		
	(-) -Epigallocatechin 3-gallate			0.00	6		0.00	0.00	B	105		
	(+) -Catechin			0.90	6	0.28	0.00	1.79	B	105		
	(+) -Gallocatechin			0.00	6		0.00	0.00	B	105		
Flavanones	Hesperetin			0.00	6		0.00	0.00	B	105		
	Naringenin			0.00	6		0.00	0.00	B	105		
Flavones	Apigenin			0.00	7		0.00	0.00	B	105		
	Luteolin			0.00	3		0.00	0.00	B	105		

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
		Flavonols	Myricetin	0.00	7		0.00	0.00	B	105
			Quercetin	0.00	7		0.00	0.00	B	105
12098	Nuts, chestnuts, european, raw, peeled	Flavan-3-ols	(-) -Epicatechin	0.00	3		0.00	0.00	C	54
			(-) -Epicatechin 3-gallate	0.00	3		0.00	0.00	C	54
			(-) -Epigallocatechin	0.00	3		0.00	0.00	C	54
			(-) -Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	54
			(+) -Catechin	0.01	3		0.01	0.01	C	54
			(+) -Gallocatechin	0.01	3		0.01	0.01	C	54
12119	Nuts, coconut water (liquid from coconuts)	Flavonols	Isorhamnetin	0.00	1		0.00	0.00	C	146
			Kaempferol	0.00	1		0.00	0.00	C	146
			Myricetin	0.00	1		0.00	0.00	C	146
			Quercetin	0.00	1		0.00	0.00	C	146
12120	Nuts, hazelnuts or filberts ( <i>Corylus spp.</i> )	Anthocyanidins	Cyanidin	6.71	7	1.18	4.40	13.60	B	105
			Delphinidin	0.00	8		0.00	0.00	B	105
			Malvidin	0.00	8		0.00	0.00	B	105
			Pelargonidin	0.00	8		0.00	0.00	B	105
			Peonidin	0.00	8		0.00	0.00	B	105
			Petunidin	0.00	8		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	0.22	5	0.09	0.00	0.44	B	105
			(-) -Epicatechin 3-gallate	0.00	5		0.00	0.00	B	105
			(-) -Epigallocatechin	2.78	5	1.21	0.00	5.54	B	105
			(-) -Epigallocatechin 3-gallate	1.06	5	0.46	0.00	2.26	B	105
			(+) -Catechin	1.19	5	0.49	0.00	2.09	B	105
			(+) -Gallocatechin	0.00	5		0.00	0.00	B	105
		Flavanones	Hesperetin	0.00	5		0.00	0.00	B	105
			Naringenin	0.00	5		0.00	0.00	B	105
		Flavones	Apigenin	0.00	8		0.00	0.00	B	105
			Luteolin	0.00	4		0.00	0.00	B	105
Flavonols	Myricetin	0.00	8		0.00	0.00	B	105		
	Quercetin	0.00	8		0.00	0.00	B	105		
12131	Nuts, macadamia nuts, raw ( <i>Macadamia integrifolia</i> , <i>M. tetraphylla</i> )	Anthocyanidins	Cyanidin	0.00	2		0.00	0.00	B	105
			Delphinidin	0.00	2		0.00	0.00	B	105
			Malvidin	0.00	2		0.00	0.00	B	105
			Pelargonidin	0.00	2		0.00	0.00	B	105
			Peonidin	0.00	2		0.00	0.00	B	105
			Petunidin	0.00	2		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	0.00	2		0.00	0.00	B	105
			(-) -Epicatechin 3-gallate	0.00	2		0.00	0.00	B	105
			(-) -Epigallocatechin	0.00	2		0.00	0.00	B	105

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data		
			(-) -Epigallocatechin 3-gallate	0.00	2		0.00	0.00	B	105		
			(+) -Catechin	0.00	2		0.00	0.00	B	105		
			(+) -Gallocatechin	0.00	2		0.00	0.00	B	105		
		Flavanones	Hesperetin	0.00	2		0.00	0.00	B	105		
			Naringenin	0.00	2		0.00	0.00	B	105		
		Flavones	Apigenin	0.00	2		0.00	0.00	B	105		
			Luteolin	0.00	1		0.00	0.00	B	105		
		Flavonols	Myricetin	0.00	2		0.00	0.00	B	105		
Quercetin	0.00		2		0.00	0.00	B	105				
12142	Nuts, pecans ( <i>Carya illinoensis</i> )	Anthocyanidins	Cyanidin	10.74	7	1.50	6.21	17.40	B	105		
			Delphinidin	7.28	7	0.92	3.99	9.90	B	105		
			Malvidin	0.00	7		0.00	0.00	B	105		
			Pelargonidin	0.00	7		0.00	0.00	B	105		
			Peonidin	0.00	7		0.00	0.00	B	105		
			Petunidin	0.00	7		0.00	0.00	B	105		
		Flavan-3-ols	(-) -Epicatechin	0.82	7	0.08	0.48	1.17	B	105		
			(-) -Epicatechin 3-gallate	0.00	7		0.00	0.00	B	105		
			(-) -Epigallocatechin	5.63	7	1.47	0.00	13.20	B	105		
			(-) -Epigallocatechin 3-gallate	2.30	7	0.46	0.00	3.46	B	105		
			(+) -Catechin	7.24	7	0.51	4.89	9.17	B	105		
			(+) -Gallocatechin	0.00	7		0.00	0.00	B	105		
		Flavanones	Hesperetin	0.00	7		0.00	0.00	B	105		
			Naringenin	0.00	7		0.00	0.00	B	105		
		Flavones	Apigenin	0.00	7		0.00	0.00	B	105		
			Luteolin	0.00	3		0.00	0.00	B	105		
		Flavonols	Myricetin	0.00	7		0.00	0.00	B	105		
			Quercetin	0.00	7		0.00	0.00	B	105		
		12149	Nuts, pine nuts, pinyon, dried ( <i>Pinus edulis</i> )	Anthocyanidins	Cyanidin	0.00	2		0.00	0.00	B	105
					Delphinidin	0.00	2		0.00	0.00	B	105
Malvidin	0.00				2		0.00	0.00	B	105		
Pelargonidin	0.00				2		0.00	0.00	B	105		
Peonidin	0.00				2		0.00	0.00	B	105		
Petunidin	0.00			2		0.00	0.00	B	105			
Flavan-3-ols	(-) -Epicatechin			0.00	3		0.00	0.00	B	105		
	(-) -Epicatechin 3-gallate			0.00	3		0.00	0.00	B	105		
	(-) -Epigallocatechin			0.49	3	0.25	0.00	0.75	B	105		
	(-) -Epigallocatechin 3-gallate			0.00	3		0.00	0.00	B	105		
	(+) -Catechin			0.00	3		0.00	0.00	B	105		
	(+) -Gallocatechin	0.00	3		0.00	0.00	B	105				

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
		Flavanones	Hesperetin	0.00	3		0.00	0.00	B	105
			Naringenin	0.00	3		0.00	0.00	B	105
		Flavones	Apigenin	0.00	2		0.00	0.00	B	105
			Luteolin	0.00	1		0.00	0.00	B	105
		Flavonols	Myricetin	0.00	2		0.00	0.00	B	105
			Quercetin	0.00	2		0.00	0.00	B	105
12151	Nuts, pistachio nuts, raw ( <i>Pistacia vera</i> )	Anthocyanidins	Cyanidin	6.06	15	0.79	3.15	14.30	B	105, 287
			Delphinidin	0.00	8		0.00	0.00	B	105
			Malvidin	0.00	8		0.00	0.00	B	105
			Pelargonidin	0.00	8		0.00	0.00	B	105
			Peonidin	0.00	8		0.00	0.00	B	105
			Petunidin	0.00	8		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	0.83	7	0.46	0.00	3.15	B	105
			(-) -Epicatechin 3-gallate	0.00	7		0.00	0.00	B	105
			(-) -Epigallocatechin	2.05	7	0.82	0.00	5.65	B	105
			(-) -Epigallocatechin 3-gallate	0.40	7	0.40	0.00	2.83	B	105
			(+) -Catechin	3.57	7	1.00	0.00	6.39	B	105
			(+) -Gallocatechin	0.00	7		0.00	0.00	B	105
		Flavanones	Hesperetin	0.00	7		0.00	0.00	B	105
			Naringenin	0.00	7		0.00	0.00	B	105
		Flavones	Apigenin	0.00	8		0.00	0.00	B	105
			Luteolin	0.00	4		0.00	0.00	B	105
Flavonols	Myricetin	0.00	8		0.00	0.00	B	105		
	Quercetin	1.46	8	0.64	0.00	4.30	B	105		
99409	Nuts, walnuts (not specified as to type, purchased in Hungary)	Flavones	Apigenin	0.00	1		0.00	0.00	C	163
			Luteolin	0.00	1		0.00	0.00	C	163
		Flavonols	Kaempferol	0.00	1		0.00	0.00	C	163
			Quercetin	0.00	1		0.00	0.00	C	163
12155	Nuts, walnuts, english ( <i>Juglans regia</i> )	Anthocyanidins	Cyanidin	2.71	6	0.25	2.11	3.74	B	105
			Delphinidin	0.00	6		0.00	0.00	B	105
			Malvidin	0.00	6		0.00	0.00	B	105
			Pelargonidin	0.00	6		0.00	0.00	B	105
			Peonidin	0.00	6		0.00	0.00	B	105
			Petunidin	0.00	6		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	0.00	4		0.00	0.00	B	105
			(-) -Epicatechin 3-gallate	0.00	4		0.00	0.00	B	105
			(-) -Epigallocatechin	0.00	4		0.00	0.00	B	105
			(-) -Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	105
(+) -Catechin	0.00	4		0.00	0.00	B	105			

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			(+) -Gallocatechin	0.00	4		0.00	0.00	B	105
		Flavanones	Hesperetin	0.00	4		0.00	0.00	B	105
			Naringenin	0.00	4		0.00	0.00	B	105
		Flavones	Apigenin	0.00	6		0.00	0.00	B	105
			Luteolin	0.00	2		0.00	0.00	B	105
		Flavonols	Myricetin	0.00	6		0.00	0.00	B	105
			Quercetin	0.00	6		0.00	0.00	B	105
<b>14 - Beverages</b>										
14003	Alcoholic beverage, beer, regular, all	Flavan-3-ols	(-) -Epicatechin	0.33	14	0.27	0.00	3.79	B	15, 46, 54, 174, 219
			(-) -Epicatechin 3-gallate	0.00	4		0.00	0.00	B	15, 54
			(-) -Epigallocatechin	0.00	4		0.00	0.00	B	15, 54
			(-) -Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	15, 54
			(+) -Catechin	2.07	15	0.84	0.00	10.06	B	15, 1, 46, 54, 174, 219
			(+) -Gallocatechin	0.08	4	0.03	0.00	0.10	B	15, 54
		Flavanones	Hesperetin	0.00	1		0.00	0.00	C	1
			Naringenin	0.00	1		0.00	0.00	C	1
		Flavones	Apigenin	0.00	1		0.00	0.00	B	110
			Luteolin	0.00	1		0.00	0.00	B	110
		Flavonols	Kaempferol	0.81	2	0.81	0.00	1.63	B	110, 1
Myricetin	0.03		2	0.03	0.00	0.05	B	110, 1		
Quercetin	0.02		11	0.01	0.00	0.09	B	110, 1, 46, 219		
99611	Alcoholic beverage, sparkling wine, Champagne	Flavan-3-ols	(-) -Epicatechin	0.10	4	0.03	0.04	0.19	C	37
			(+) -Catechin	0.20	4	0.10	0.03	0.49	C	37
		Flavonols	Quercetin	0.01	4	0.00	0.01	0.02	C	37
99323	Alcoholic beverage, wine, berry, colored	Flavonols	Kaempferol	0.03	28	0.01	0.00	0.33	B	189, 277
			Myricetin	0.72	28	0.12	0.13	2.26	B	189, 277
			Quercetin	0.63	28	0.08	0.14	2.43	B	189, 277
99074	Alcoholic beverage, wine, berry, white	Flavonols	Kaempferol	0.00	2		0.00	0.00	B	277
			Myricetin	0.00	2		0.00	0.00	B	277
			Quercetin	0.20	2	0.21	0.00	0.41	B	277
14057	Alcoholic beverage, wine, dessert, sweet	Anthocyanidins	Delphinidin	5.80	4		5.80	5.80	C	204
			Malvidin	94.83	4		94.83	94.83	C	204
			Peonidin	5.85	4		5.85	5.85	C	204
			Petunidin	9.87	4		9.87	9.87	C	204
14057	Alcoholic beverage, wine, dessert, sweet	Flavan-3-ols	(-) -Epicatechin	7.56	4		7.56	7.56	C	204
			(+) -Catechin	9.86	4		9.86	9.86	C	204
		Flavonols	Quercetin	1.94	4		1.94	1.94	C	204
99075	Alcoholic beverage, wine, sherry	Flavan-3-ols	(-) -Epicatechin	1.25	3		1.25	1.25	C	18
			(+) -Catechin	1.60	6	0.47	0.37	2.37	C	18, 101

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
		Flavonols	Isorhamnetin	0.00	3		0.00	0.00	C	222
			Kaempferol	0.00	3		0.00	0.00	C	222
			Myricetin	0.00	3		0.00	0.00	C	222
			Quercetin	0.01	3		0.01	0.01	C	222
14096	Alcoholic beverage, wine, table, red	Anthocyanidins	Cyanidin	0.45	91	0.12	0.00	7.17	B	6, 82, 66, 86, 91, 236, 188
			Delphinidin	2.75	144	0.18	0.17	8.50	B	6, 97, 66, 86, 91, 236, 188, 204
			Malvidin	15.29	163	0.46	0.00	93.42	A	6, 82, 97, 256, 66, 86, 91, 236, 188, 204
			Peonidin	2.02	144	0.05	0.04	16.08	B	6, 97, 66, 86, 91, 236, 188, 204
			Petunidin	2.67	144	0.17	0.18	8.43	B	6, 97, 66, 86, 91, 236, 188, 204
		Flavan-3-ols	(-) -Epicatechin	3.76	938	0.10	0.00	16.50	A	15, 6, 82, 97, 173, 225, 226, 256, 53, 54, 96, 91, 95, 224, 204, 255
			(-) -Epicatechin 3-gallate	0.01	19	0.01	0.00	0.11	A	15, 53, 54
			(-) -Epigallocatechin	0.06	18	0.01	0.00	0.28	A	15, 54
			(-) -Epigallocatechin 3-gallate	0.00	18		0.00	0.00	A	15, 54
			(+) -Catechin	7.12	942	0.19	0.00	39.00	B	15, 82, 97, 173, 225, 226, 256, 1, 53, 54, 96, 91, 95, 224, 204, 255
			(+) -Gallocatechin	0.10	18	0.02	0.00	0.42	A	15, 54
		Flavanones	Hesperetin	0.63	2	0.36	0.27	0.99	C	1
			Naringenin	1.77	2	0.74	1.03	2.51	C	1
		Flavones	Apigenin	1.33	24	0.25	0.00	4.70	B	110, 86, 232
			Luteolin	0.04	39	0.01	0.00	0.40	B	110, 232, 76, 75, 76
		Flavonols	Isorhamnetin	0.05	64	0.00	0.00	0.24	B	222, 244, 67, 76, 75, 76
			Kaempferol	0.20	166	0.01	0.00	3.02	B	110, 225, 226, 222, 244, 277, 1, 67, 91, 224, 232, 261, 76, 75, 76
			Myricetin	0.83	219	0.07	0.00	9.70	B	82, 110, 129, 173, 225, 226, 222, 244, 277, 1, 67, 86, 91, 224, 232, 261, 76, 75, 76
			Quercetin	1.76	310	0.06	0.00	24.41	A	1, 67, 75, 76, 82, 86, 91, 96, 110, 129, 162, 173, 204, 222, 224, 225, 226, 232, 244, 255, 262, 277
		14098	Alcoholic Beverage, wine, table, red, Cabernet Franc	Anthocyanidins	Delphinidin	5.81	5		5.81	5.81
Malvidin	44.09				5		44.09	44.09	C	204
Peonidin	3.57				5		3.57	3.57	C	204
Petunidin	6.99				5		6.99	6.99	C	204
Flavan-3-ols	(-) -Epicatechin			9.20	5		9.20	9.20	C	204
	(+) -Catechin			6.21	5		6.21	6.21	C	204
Flavones	Luteolin			0.06	3	0.04	0.01	0.13	C	75
Flavonols	Isorhamnetin			0.05	3	0.01	0.02	0.06	C	75
	Kaempferol			0.02	3	0.01	0.00	0.03	C	75
	Myricetin			0.08	3	0.03	0.04	0.14	C	75



## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
14097	Alcoholic Beverage, wine, table, red, Cabernet Sauvignon	Anthocyanidins	Quercetin	0.62	8	0.20	0.14	0.84	C	75, 204
			Delphinidin	6.08	17	1.39	2.23	8.50	B	188, 204
			Malvidin	26.24	17	6.06	8.67	37.97	B	188, 204
			Peonidin	2.73	17	0.64	0.70	3.96	B	188, 204
			Petunidin	4.90	17	1.14	1.49	7.11	B	188, 204
		Flavan-3-ols	(-) -Epicatechin	10.66	16	2.57	10.28	11.30	B	204
			(+) -Catechin	7.70	16	1.86	6.90	8.18	B	204
		Flavones	Luteolin	0.04	24	0.00	0.01	0.11	B	76, 75, 76
		Flavonols	Isorhamnetin	0.02	24	0.00	0.00	0.05	B	76, 75, 76
			Kaempferol	0.01	24	0.00	0.00	0.03	B	76, 75, 76
			Myricetin	0.28	24	0.04	0.03	0.45	B	76, 75, 76
Quercetin	0.58		40	0.08	0.02	1.21	B	76, 75, 204, 76		
14100	Alcoholic Beverage, wine, table, red, Syrah	Anthocyanidins	Delphinidin	13.92	2		13.92	13.92	C	204
			Malvidin	0.00	2		0.00	0.00	C	204
			Peonidin	11.64	2		11.64	11.64	C	204
			Petunidin	21.07	2		21.07	21.07	C	204
		Flavan-3-ols	(-) -Epicatechin	9.97	2		9.97	9.97	C	204
			(+) -Catechin	6.82	2		6.82	6.82	C	204
		Flavonols	Quercetin	2.11	2		2.11	2.11	C	204
14106	Alcoholic beverage, wine, table, white	Anthocyanidins	Cyanidin	0.00	6		0.00	0.00	B	82
			Malvidin	0.06	7	0.04	0.00	0.24	B	82, 256
		Flavan-3-ols	(-) -Epicatechin	0.55	50	0.12	0.05	6.00	B	15, 6, 22, 82, 225, 256, 54
			(-) -Epicatechin 3-gallate	0.00	9		0.00	0.00	A	15, 54
			(-) -Epigallocatechin	0.00	9		0.00	0.00	A	15, 54
			(-) -Epigallocatechin 3-gallate	0.00	9		0.00	0.00	A	15, 54
			(+) -Catechin	0.77	52	0.18	0.00	5.80	B	15, 6, 22, 82, 225, 256, 1, 54
			(+) -Gallocatechin	0.00	9	0.00	0.00	0.01	A	15, 54
		Flavanones	Hesperetin	0.40	2	0.08	0.32	0.48	C	1
			Naringenin	0.38	2	0.38	0.00	0.77	C	1
		Flavones	Apigenin	0.00	2		0.00	0.00	B	110
			Luteolin	0.00	2		0.00	0.00	B	110
		Flavonols	Isorhamnetin	0.00	32	0.00	0.00	0.02	B	222, 244, 67
			Kaempferol	0.01	39	0.01	0.00	0.27	B	110, 225, 222, 244, 277, 1, 67
			Myricetin	0.03	45	0.00	0.00	0.19	B	82, 110, 225, 222, 244, 277, 1, 67
Quercetin	0.09		76	0.01	0.00	0.84	B	22, 82, 110, 225, 222, 244, 277, 1, 67		
14192	Cocoa mix, powder	Flavan-3-ols	(-) -Epicatechin	31.22	45	2.83	18.00	73.03	C	28, 8
			(+) -Catechin	21.51	30	3.08	12.07	29.74	C	8
		Flavonols	Quercetin	2.03	30	0.12	0.96	5.46	C	8
14194	Cocoa mix, powder, prepared	Flavan-3-ols	(-) -Epicatechin	0.59	3		0.59	0.59	C	54

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
	with water		(-) -Epicatechin 3-gallate	0.00	3		0.00	0.00	C	54
			(-) -Epigallocatechin	0.00	3		0.00	0.00	C	54
			(-) -Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	54
			(+) -Catechin	0.74	3		0.74	0.74	C	54
			(+) -Gallocatechin	0.00	3		0.00	0.00	C	54
14209	Coffee, brewed from grounds, prepared with tap water	Flavan-3-ols	(-) -Epicatechin	0.04	4	0.02	0.00	0.06	B	15, 54
			(-) -Epicatechin 3-gallate	0.00	4		0.00	0.00	B	15, 54
			(-) -Epigallocatechin	0.04	4	0.02	0.00	0.05	B	15, 54
			(-) -Epigallocatechin 3-gallate	0.00	4		0.00	0.00	B	15, 54
			(+) -Catechin	0.00	4		0.00	0.00	B	15, 54
			(+) -Gallocatechin	0.00	4		0.00	0.00	B	15, 54
		Flavones	Apigenin	0.00	1		0.00	0.00	B	110
			Luteolin	0.00	1		0.00	0.00	B	110
		Flavonols	Kaempferol	0.00	1		0.00	0.00	B	110
			Myricetin	0.05	1		0.05	0.05	B	110
Quercetin	0.05		1		0.05	0.05	B	110		
14355	Tea, black, brewed, prepared with tap water	Flavan-3-ols	(-) -Epicatechin	2.13	94	0.10	0.15	8.74	B	15, 31, 60, 143, 265, 154, 173, 54, 137, 218
			(-) -Epicatechin 3-gallate	5.86	94	0.17	0.80	18.98	B	15, 31, 60, 143, 265, 154, 173, 54, 137, 218
			(-) -Epigallocatechin	8.07	94	0.45	0.29	31.04	B	15, 31, 60, 143, 265, 154, 173, 54, 137, 218
			(-) -Epigallocatechin 3-gallate	9.36	94	0.46	0.68	40.66	B	15, 31, 60, 143, 265, 154, 173, 54, 137, 218
			(+) -Catechin	1.51	55	0.07	0.35	4.79	B	15, 60, 143, 173, 54
			(+) -Gallocatechin	1.25	9	0.22	0.56	2.78	A	15, 54
			Theaflavin	1.58	39	0.16	0.36	5.27	B	60, 265, 252
			Theaflavin-3, 3'-digallate	1.75	39	0.21	0.06	4.96	B	60, 265, 252
			Theaflavin-3'-gallate	1.51	39	0.16	0.12	4.13	B	60, 265, 252
			Theaflavin-3-gallate	1.25	39	0.14	0.06	3.19	B	60, 265, 252
		Thearubigins	81.30	32	9.76	48.28	139.50	A	265, 218	
		Flavones	Apigenin	0.00	10		0.00	0.00	A	110
			Luteolin	0.00	10		0.00	0.00	A	110
		Flavonols	Kaempferol	1.31	64	0.08	0.25	2.41	B	110, 129, 265, 173, 211, 284, 218
			Myricetin	0.45	32	0.01	0.17	0.90	A	110, 129, 265, 173, 284
			Quercetin	1.99	64	0.05	0.41	4.75	B	110, 129, 265, 173, 211, 284, 218
		14352	Tea, black, brewed, prepared with tap water, decaffeinated	Flavan-3-ols	(-) -Epicatechin	0.49	4	0.13	0.34	0.87
(-) -Epicatechin 3-gallate	0.64				4	0.36	0.25	1.71	B	265
(-) -Epigallocatechin	0.55				4	0.16	0.36	1.01	B	265
(-) -Epigallocatechin 3-gallate	1.01				4	0.48	0.49	2.45	B	265

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data			
			Theaflavin	0.35	4	0.18	0.08	0.86	B	265			
			Theaflavin-3, 3'-digallate	0.43	4	0.37	0.00	1.52	B	265			
			Theaflavin-3'-gallate	0.18	4	0.15	0.00	0.61	B	265			
			Theaflavin-3-gallate	0.41	4	0.24	0.11	1.14	B	265			
			Thearubigins	49.03	4	1.13	46.05	51.52	B	265			
		Flavones	Apigenin	0.00	3		0.00	0.00	C	232			
			Luteolin	0.00	3		0.00	0.00	C	232			
		Flavonols	Kaempferol	0.88	7	0.20	0.39	1.84	B	265, 232			
			Myricetin	0.89	7	0.30	0.26	2.10	B	265, 232			
			Quercetin	2.74	7	0.12	2.46	3.38	B	265, 232			
99342	Tea, black, ready-to-drink, diet, plain and flavored	Flavan-3-ols	(-) -Epicatechin	0.37	6	0.16	0.00	1.05	B	265			
			(-) -Epicatechin 3-gallate	0.08	6	0.08	0.00	0.49	B	265			
			(-) -Epigallocatechin	0.09	6	0.05	0.00	0.29	B	265			
			(-) -Epigallocatechin 3-gallate	0.12	6	0.11	0.00	0.68	B	265			
			Theaflavin	0.01	6	0.01	0.00	0.03	B	265			
			Theaflavin-3, 3'-digallate	0.00	6		0.00	0.00	B	265			
			Theaflavin-3'-gallate	0.00	6		0.00	0.00	B	265			
			Theaflavin-3-gallate	0.01	6	0.01	0.00	0.05	B	265			
		Flavonols	Thearubigins	15.82	6	2.93	4.72	21.27	B	265			
			Kaempferol	0.33	6	0.10	0.00	0.64	B	265			
			Myricetin	0.12	6	0.04	0.00	0.20	B	265			
			Quercetin	0.72	6	0.23	0.02	1.59	B	265			
			99341	Tea, black, ready-to-drink, plain and flavored	Flavan-3-ols	(-) -Epicatechin	0.49	17	0.15	0.00	2.66	B	265
						(-) -Epicatechin 3-gallate	0.21	17	0.06	0.00	0.67	B	265
(-) -Epigallocatechin	0.85	17				0.42	0.00	7.45	B	265			
(-) -Epigallocatechin 3-gallate	0.51	17				0.19	0.00	3.11	B	265			
Theaflavin	0.05	17				0.02	0.00	0.19	B	265			
Theaflavin-3, 3'-digallate	0.04	17				0.02	0.00	0.31	B	265			
Theaflavin-3'-gallate	0.02	17				0.01	0.00	0.09	B	265			
Theaflavin-3-gallate	0.06	17				0.02	0.00	0.27	B	265			
Flavonols	Thearubigins	25.49			17	3.17	7.80	56.78	B	265			
	Kaempferol	0.66			17	0.08	0.14	1.23	B	265			
	Myricetin	0.87			17	0.09	0.11	1.46	B	265			
	Quercetin	0.74			17	0.15	0.20	2.10	B	265			
	99365	Tea, fruit, dry			Flavan-3-ols	(-) -Epicatechin	230.00	6	16.33	200.00	300.00	C	136
						(-) -Epicatechin 3-gallate	273.33	6	20.44	220.00	360.00	C	136
(-) -Epigallocatechin			106.67	6		5.58	90.00	130.00	C	136			
(-) -Epigallocatechin 3-gallate			415.00	6		41.53	330.00	610.00	C	136			
(+) -Catechin			0.00	6			0.00	0.00	C	136			

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data		
99070	Tea, green, brewed	Flavan-3-ols	(-) -Epicatechin	7.36	94	0.31	1.90	26.00	B	31, 54, 137, 143, 154, 159, 173, 208, 220, 242, 265		
			(-) -Epicatechin 3-gallate	16.39	97	1.93	1.69	139.60	B	31, 54, 137, 143, 154, 159, 173, 208, 220, 228, 242, 265		
			(-) -Epigallocatechin	22.27	97	0.89	1.00	54.40	B	31, 54, 137, 143, 154, 159, 173, 208, 220, 228, 242, 265		
			(-) -Epigallocatechin 3-gallate	64.15	97	5.02	2.31	203.20	B	31, 54, 137, 143, 154, 159, 173, 208, 220, 228, 242, 265		
			(+) -Catechin	3.28	66	0.88	0.00	44.40	B	143, 159, 173, 242, 54, 220		
			(+) -Gallocatechin	1.54	3		1.54	1.54	B	54		
			Theaflavin	0.05	4	0.01	0.02	0.08	A	265		
			Theaflavin-3, 3'-digallate	0.01	4	0.01	0.00	0.03	A	265		
			Theaflavin-3'-gallate	0.01	4	0.00	0.00	0.01	A	265		
			Theaflavin-3-gallate	0.01	4	0.01	0.00	0.03	A	265		
		Thearubigins	1.08	4	1.08	0.00	4.30	A	265			
		Flavones	Apigenin	0.17	3	0.17	0.00	0.50	B	110, 259		
			Luteolin	0.13	4	0.13	0.00	0.50	B	110, 259, 12		
		Flavonols	Kaempferol	1.31	13	0.23	0.06	3.31	A	110, 265, 173, 259, 284, 12		
Myricetin	1.02		13	0.13	0.00	1.60	A	110, 265, 173, 259, 284, 12				
Quercetin	2.49		13	0.31	0.11	4.10	A	110, 265, 173, 259, 284, 12				
99069	Tea, green, brewed, decaffeinated	Flavan-3-ols	(-) -Epicatechin	6.16	2	0.85	5.31	7.01	B	265		
			(-) -Epicatechin 3-gallate	7.57	2	1.15	6.42	8.72	B	265		
			(-) -Epigallocatechin	16.02	2	0.46	15.56	16.48	B	265		
			(-) -Epigallocatechin 3-gallate	26.05	2	0.69	25.36	26.73	B	265		
			Theaflavin	0.12	2	0.08	0.04	0.20	B	265		
			Theaflavin-3, 3'-digallate	0.11	2	0.10	0.01	0.21	B	265		
			Theaflavin-3'-gallate	0.04	2	0.04	0.00	0.08	B	265		
			Theaflavin-3-gallate	0.11	2	0.09	0.02	0.20	B	265		
		Thearubigins	8.78	2	3.14	5.65	11.92	B	265			
		Flavonols	Kaempferol	1.00	2	0.18	0.81	1.18	B	265		
			Myricetin	1.00	2	0.11	0.89	1.11	B	265		
			Quercetin	2.77	2	0.37	2.40	3.13	B	265		
		99068	Tea, green, brewed, flavored	Flavan-3-ols	(-) -Epicatechin	4.45	5	0.50	3.77	6.38	B	265
					(-) -Epicatechin 3-gallate	5.11	5	0.74	3.09	7.69	B	265
(-) -Epigallocatechin	13.34				5	1.87	8.80	19.44	B	265		
(-) -Epigallocatechin 3-gallate	19.97				5	3.05	12.77	29.78	B	265		
Theaflavin	0.02				5	0.01	0.00	0.04	B	265		
Theaflavin-3, 3'-digallate	0.00				5	0.00	0.00	0.01	B	265		
Theaflavin-3'-gallate	0.00				5		0.00	0.00	B	265		
Theaflavin-3-gallate	0.00				5	0.00	0.00	0.02	B	265		

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			Thearubigins	8.14	5	4.98	0.00	22.07	B	265
		Flavonols	Kaempferol	0.54	5	0.05	0.36	0.64	B	265
			Myricetin	0.58	5	0.04	0.48	0.73	B	265
			Quercetin	1.69	5	0.12	1.34	2.07	B	265
99353	Tea, green, large leaf, Quingmao, dry leaves		Flavan-3-ols	(-) -Epicatechin	2300.00	2	300.00	2000.00	2600.00	C
		(-) -Epicatechin 3-gallate		13620.00	2	340.00	13280.00	13960.00	C	242
		(-) -Epigallocatechin		1600.00	2	200.00	1400.00	1800.00	C	242
		(-) -Epigallocatechin 3-gallate		7380.00	2	220.00	7160.00	7600.00	C	242
		(+) -Catechin		4320.00	2	120.00	4200.00	4440.00	C	242
99343	Tea, green, ready-to-drink	Flavan-3-ols	(-) -Epicatechin	1.98	2	0.11	1.88	2.09	B	265
			(-) -Epicatechin 3-gallate	0.93	2	0.06	0.87	0.98	B	265
			(-) -Epigallocatechin	4.99	2	0.53	4.47	5.52	B	265
			(-) -Epigallocatechin 3-gallate	3.96	2	0.40	3.56	4.35	B	265
			Theaflavin	0.02	2	0.02	0.00	0.04	B	265
			Theaflavin-3, 3'-digallate	0.00	2		0.00	0.00	B	265
			Theaflavin-3'-gallate	0.00	2		0.00	0.00	B	265
			Theaflavin-3-gallate	0.02	2	0.02	0.00	0.04	B	265
			Thearubigins	0.00	2		0.00	0.00	B	265
			Flavonols	Kaempferol	0.32	2	0.08	0.24	0.40	B
		Myricetin		1.03	2	0.08	0.95	1.10	B	265
		Quercetin		0.21	2	0.01	0.19	0.22	B	265
99324	Tea, iced, lemon flavor, ready-to-drink	Flavan-3-ols		(-) -Epicatechin	0.08	1		0.08	0.08	B
			(-) -Epicatechin 3-gallate	0.00	1		0.00	0.00	B	15
			(-) -Epigallocatechin	0.00	1		0.00	0.00	B	15
			(-) -Epigallocatechin 3-gallate	0.00	1		0.00	0.00	B	15
			(+) -Catechin	0.00	1		0.00	0.00	B	15
			(+) -Gallocatechin	0.00	1		0.00	0.00	B	15
99344	Tea, instant, decaffeinated, prepared	Flavan-3-ols	(-) -Epicatechin	0.07	4	0.07	0.00	0.30	B	265
			(-) -Epicatechin 3-gallate	0.14	4	0.14	0.00	0.54	B	265
			(-) -Epigallocatechin	0.25	4	0.23	0.00	0.94	B	265
			(-) -Epigallocatechin 3-gallate	0.45	4	0.45	0.00	1.81	B	265
			Theaflavin	0.01	4	0.01	0.00	0.03	B	265
			Theaflavin-3, 3'-digallate	0.01	4	0.01	0.00	0.03	B	265
			Theaflavin-3'-gallate	0.00	4	0.00	0.00	0.01	B	265
			Theaflavin-3-gallate	0.01	4	0.01	0.00	0.03	B	265
			Thearubigins	8.38	4	9.03	-0.97	35.47	B	265
			Flavonols	Kaempferol	0.38	4	0.15	0.02	0.69	B
		Myricetin		0.49	4	0.30	0.00	1.36	B	265

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
99349	Tea, instant, diet, prepared	Flavan-3-ols	Quercetin	0.60	4	0.25	0.05	1.16	B	265
			(-) -Epicatechin	0.25	4	0.23	0.00	0.93	B	265
			(-) -Epicatechin 3-gallate	0.11	4	0.11	0.00	0.45	B	265
			(-) -Epigallocatechin	0.66	4	0.64	0.00	2.59	B	265
			(-) -Epigallocatechin 3-gallate	0.49	4	0.49	0.00	1.98	B	265
			Theaflavin	0.00	4	0.00	0.00	0.01	B	265
			Theaflavin-3, 3'-digallate	0.00	4		0.00	0.00	B	265
			Theaflavin-3'-gallate	0.00	4	0.00	0.00	0.00	B	265
			Theaflavin-3-gallate	0.00	4	0.00	0.00	0.01	B	265
		Thearubigins	10.19	4	1.84	5.20	14.00	B	265	
		Flavonols	Kaempferol	0.12	4	0.08	0.02	0.35	B	265
			Myricetin	0.07	4	0.04	0.01	0.19	B	265
			Quercetin	0.25	4	0.15	0.04	0.70	B	265
99350	Tea, instant, sweetened with sugar, plain and flavored, prepared	Flavan-3-ols	(-) -Epicatechin	0.24	8	0.08	0.00	0.62	B	265
			(-) -Epicatechin 3-gallate	0.14	8	0.05	0.00	0.33	B	265
			(-) -Epigallocatechin	0.54	8	0.20	0.00	1.75	B	265
			(-) -Epigallocatechin 3-gallate	0.55	8	0.14	0.00	1.10	B	265
			Theaflavin	0.00	8	0.00	0.00	0.03	B	265
			Theaflavin-3, 3'-digallate	0.00	8		0.00	0.00	B	265
			Theaflavin-3'-gallate	0.00	8		0.00	0.00	B	265
			Theaflavin-3-gallate	0.00	8	0.00	0.00	0.01	B	265
			Thearubigins	27.95	8	5.58	8.64	55.67	B	265
		Flavonols	Kaempferol	0.42	3	0.26	0.11	0.94	B	265
			Myricetin	0.87	3	0.38	0.13	1.38	B	265
			Quercetin	0.34	3	0.25	0.08	0.84	B	265
14367	Tea, instant, unsweetened, powder, prepared	Flavan-3-ols	(-) -Epicatechin	0.31	3	0.21	0.00	0.70	B	265
			(-) -Epicatechin 3-gallate	0.24	3	0.23	0.00	0.70	B	265
			(-) -Epigallocatechin	0.61	3	0.43	0.00	1.44	B	265
			(-) -Epigallocatechin 3-gallate	0.86	3	0.80	0.00	2.46	B	265
			Theaflavin	0.01	3	0.00	0.00	0.01	B	265
			Theaflavin-3, 3'-digallate	0.01	3	0.00	0.00	0.01	B	265
			Theaflavin-3'-gallate	0.00	3	0.00	0.00	0.00	B	265
			Theaflavin-3-gallate	0.01	3	0.00	0.00	0.01	B	265
			Thearubigins	23.65	3	8.85	8.35	39.02	B	265
		Flavonols	Kaempferol	0.32	3	0.15	0.07	0.57	B	265
			Myricetin	0.21	3	0.14	0.00	0.47	B	265
			Quercetin	0.87	3	0.46	0.08	1.66	B	265
99071	Tea, oolong, brewed	Flavan-3-ols	(-) -Epicatechin	2.54	16	0.06	1.20	4.50	B	143, 154, 159, 137
			(-) -Epicatechin 3-gallate	6.33	16	0.69	0.30	12.10	B	143, 154, 159, 137

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			(-) -Epigallocatechin	6.10	16	0.29	1.80	16.37	B	143, 154, 159, 137
			(-) -Epigallocatechin 3-gallate	34.48	16	4.76	7.36	71.10	B	143, 154, 159, 137
			(+) -Catechin	0.23	13	0.02	0.00	0.70	B	143, 159
		Flavones	Apigenin	0.00	1		0.00	0.00	B	110
			Luteolin	0.00	1		0.00	0.00	B	110
		Flavonols	Kaempferol	0.90	1		0.90	0.90	B	110
			Myricetin	0.49	1		0.49	0.49	B	110
Quercetin	1.30		1		1.30	1.30	B	110		
99582	Tea, white, brewed	Flavan-3-ols	(-) -Epicatechin 3-gallate	9.20	3		9.20	9.20	C	228
			(-) -Epigallocatechin	19.40	3		19.40	19.40	C	228
			(-) -Epigallocatechin 3-gallate	46.00	3		46.00	46.00	C	228
99652	Tea, white, dry leaves	Flavan-3-ols	(-) -Epicatechin 3-gallate	835.00	6	304.11	750.00	920.00	C	228
			(-) -Epigallocatechin	1865.00	6	680.73	1790.00	1940.00	C	228
			(-) -Epigallocatechin 3-gallate	4245.00	6	1547.34	3890.00	4600.00	C	228
<b>16 – Legumes and Legume Products</b>										
16014	Beans, black, mature seeds, raw ( <i>Phaseolus vulgaris</i> )	Anthocyanidins	Delphinidin	11.98	1		11.98	11.98	D	287
			Malvidin	6.45	1		6.45	6.45	D	287
			Petunidin	9.57	1		9.57	9.57	D	287
99396	Beans, common, raw (P. vulgaris, cv. Zolfino) ( <i>Phaseolus vulgaris</i> , cv. Zolfino)	Anthocyanidins	Delphinidin	2.50	12	0.43	0.00	9.99	B	227
			Malvidin	0.10	12	0.02	0.00	0.40	B	227
			Petunidin	0.14	12	0.02	0.00	0.55	B	227
		Flavonols	Kaempferol	26.00	177	1.82	8.00	52.82	C	227, 59
			Quercetin	0.00	12	0.00	0.00	0.01	B	227
16029	Beans, kidney, all types, mature seeds, canned	Flavan-3-ols	(-) -Epicatechin	0.35	1		0.35	0.35	C	4
			(-) -Epicatechin 3-gallate	0.00	1		0.00	0.00	C	4
			(-) -Epigallocatechin	0.00	1		0.00	0.00	C	4
			(-) -Epigallocatechin 3-gallate	0.00	1		0.00	0.00	C	4
			(+) -Catechin	1.66	1		1.66	1.66	C	4
			(+) -Gallocatechin	0.00	1		0.00	0.00	C	4
16033	Beans, kidney, red, mature seeds, cooked, boiled, without salt	Flavonols	Kaempferol	0.11	1		0.11	0.11	C	146
			Myricetin	0.33	1		0.33	0.33	C	146
			Quercetin	6.82	1		6.82	6.82	C	146
		Anthocyanidins	Cyanidin	1.19	1		1.19	1.19	D	287
			Pelargonidin	2.42	1		2.42	2.42	D	287
16042	Beans, pinto, mature seeds, raw ( <i>Phaseolus vulgaris</i> )	Flavan-3-ols	(-) -Epicatechin	0.14	3		0.14	0.14	C	54
			(-) -Epicatechin 3-gallate	0.00	3		0.00	0.00	C	54
			(-) -Epigallocatechin	0.05	3		0.05	0.05	C	54
			(-) -Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	54
			(+) -Catechin	5.07	3		5.07	5.07	C	54

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
		Flavonols	(+) -Gallocatechin	0.00	3		0.00	0.00	C	54
			Kaempferol	2.35	1		2.35	2.35	C	71
			Quercetin	0.23	1		0.23	0.23	C	71
16049	Beans, white, mature seeds, raw ( <i>Phaseolus vulgaris</i> )	Flavan-3-ols	(-) -Epicatechin	0.09	3		0.09	0.09	C	54
			(-) -Epicatechin 3-gallate	0.00	3		0.00	0.00	C	54
			(-) -Epigallocatechin	0.00	3		0.00	0.00	C	54
			(-) -Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	54
			(+) -Catechin	0.01	3		0.01	0.01	C	54
			(+) -Gallocatechin	0.00	3		0.00	0.00	C	54
		Flavonols	Kaempferol	3.40	6	1.10	1.19	5.61	B	231
16054	Broadbeans (fava beans) , mature seeds, canned	Flavan-3-ols	(-) -Epicatechin	0.00	1		0.00	0.00	C	4
			(-) -Epicatechin 3-gallate	0.00	1		0.00	0.00	C	4
			(-) -Epigallocatechin	0.00	1		0.00	0.00	C	4
			(-) -Epigallocatechin 3-gallate	0.00	1		0.00	0.00	C	4
			(+) -Catechin	0.00	1		0.00	0.00	C	4
			(+) -Gallocatechin	0.00	1		0.00	0.00	C	4
		Flavones	Apigenin	0.00	4		0.00	0.00	B	111
			Luteolin	0.00	4		0.00	0.00	B	111
		Flavonols	Kaempferol	0.35	4		0.35	0.35	B	111
Myricetin	0.00		4		0.00	0.00	B	111		
Quercetin	0.55		4		0.55	0.55	B	111		
99399	Carob fiber (Caromax)	Flavonols	Kaempferol	11.67	4	2.32	6.75	17.74	C	197
			Myricetin	47.74	4	1.95	43.75	51.76	C	197
			Quercetin	58.13	4	9.03	39.11	74.97	C	197
16055	Carob flour ( <i>Ceratonia siliqua</i> )	Flavan-3-ols	(-) -Epicatechin 3-gallate	30.06	3		30.06	30.06	C	231
			(-) -Epigallocatechin 3-gallate	109.46	3		109.46	109.46	C	231
			(+) -Catechin	50.75	3		50.75	50.75	C	231
		Flavonols	Kaempferol	0.44	3	0.31	0.00	1.03	C	197
			Myricetin	6.73	3	1.12	5.03	8.83	C	197
			Quercetin	38.78	6	11.49	5.92	69.76	B	197, 231
99400	Carob kibbles	Flavonols	Kaempferol	0.57	1		0.57	0.57	C	197
			Myricetin	11.67	1		11.67	11.67	C	197
			Quercetin	3.63	1		3.63	3.63	C	197
16056	Chickpeas (garbanzo beans, bengal gram) , mature seeds, raw ( <i>Cicer arietinum</i> )	Flavan-3-ols	(-) -Epicatechin	0.00	3		0.00	0.00	C	54
			(-) -Epicatechin 3-gallate	0.00	3		0.00	0.00	C	54
			(-) -Epigallocatechin	0.00	3		0.00	0.00	C	54
			(-) -Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	54
			(+) -Catechin	0.00	3		0.00	0.00	C	54
			(+) -Gallocatechin	0.00	3		0.00	0.00	C	54



## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
16062	Cowpeas, common (blackeyes, crowder, southern) , mature seeds, raw ( <i>Vigna unguiculata</i> )	Anthocyanidins	Cyanidin	94.72	3		94.72	94.72	C	38
			Delphinidin	94.60	3		94.60	94.60	C	38
			Malvidin	34.28	3		34.28	34.28	C	38
			Peonidin	11.07	3		11.07	11.07	C	38
			Petunidin	27.82	3		27.82	27.82	C	38
		Flavonols	Isorhamnetin	0.00	3		0.00	0.00	C	118
			Kaempferol	0.96	6	0.25	0.00	1.92	C	38, 118
			Myricetin	2.60	3		2.60	2.60	C	38
			Quercetin	11.36	6	3.86	5.50	17.22	C	38, 118
16069	Lentils, raw ( <i>Lens culinaris</i> )	Flavan-3-ols	(-) -Epicatechin	0.00	3		0.00	0.00	C	54
			(-) -Epicatechin 3-gallate	0.00	3		0.00	0.00	C	54
			(-) -Epigallocatechin	0.00	3		0.00	0.00	C	54
			(-) -Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	54
			(+) -Catechin	0.35	3		0.35	0.35	C	54
			(+) -Gallocatechin	0.14	3		0.14	0.14	C	54
99404	Locust bean powder	Flavonols	Kaempferol	0.53	1		0.53	0.53	C	197
			Myricetin	0.00	1		0.00	0.00	C	197
			Quercetin	3.33	1		3.33	3.33	C	197
99022	Marrowfat pea, canned, drained solids	Flavan-3-ols	(-) -Epicatechin	0.00	1		0.00	0.00	C	4
			(-) -Epicatechin 3-gallate	0.00	1		0.00	0.00	C	4
			(-) -Epigallocatechin	5.64	1		5.64	5.64	C	4
			(-) -Epigallocatechin 3-gallate	0.00	1		0.00	0.00	C	4
			(+) -Catechin	0.00	1		0.00	0.00	C	4
			(+) -Gallocatechin	4.33	1		4.33	4.33	C	4
16089	Peanuts, all types, oil-roasted, with salt	Anthocyanidins	Cyanidin	0.00	1		0.00	0.00	B	105
			Delphinidin	0.00	1		0.00	0.00	B	105
			Malvidin	0.00	1		0.00	0.00	B	105
			Pelargonidin	0.00	1		0.00	0.00	B	105
			Peonidin	0.00	1		0.00	0.00	B	105
			Petunidin	0.00	1		0.00	0.00	B	105
		Flavan-3-ols	(-) -Epicatechin	0.00	1		0.00	0.00	B	105
			(-) -Epicatechin 3-gallate	0.00	1		0.00	0.00	B	105
			(-) -Epigallocatechin	0.66	1		0.66	0.66	B	105
			(-) -Epigallocatechin 3-gallate	0.00	1		0.00	0.00	B	105
			(+) -Catechin	0.00	1		0.00	0.00	B	105
			(+) -Gallocatechin	0.00	1		0.00	0.00	B	105
		Flavanones	Hesperetin	0.00	1		0.00	0.00	B	105
			Naringenin	0.00	1		0.00	0.00	B	105
Flavones	Apigenin	0.00	1		0.00	0.00	B	105		

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			Myricetin	0.00	1		0.00	0.00	B	105
			Quercetin	0.00	1		0.00	0.00	B	105
16108	Soybeans, mature seeds, raw	Flavan-3-ols	(-) -Epicatechin	37.41	3		37.41	37.41	C	231
16126	Tofu, firm, prepared with calcium sulfate and magnesium chloride (nigari)	Flavones	Luteolin	0.00	1		0.00	0.00	D	12
		Flavonols	Kaempferol	1.19	1		1.19	1.19	D	12
			Myricetin	0.00	1		0.00	0.00	D	12
			Quercetin	0.00	1		0.00	0.00	D	12
<b>18 – Baked Products</b>										
18075	Bread, whole-wheat, commercially prepared	Flavan-3-ols	(-) -Epicatechin	0.00	1		0.00	0.00	C	4
			(-) -Epicatechin 3-gallate	0.00	1		0.00	0.00	C	4
			(-) -Epigallocatechin	0.00	1		0.00	0.00	C	4
			(-) -Epigallocatechin 3-gallate	0.00	1		0.00	0.00	C	4
			(+) -Catechin	0.00	1		0.00	0.00	C	4
			(+) -Gallocatechin	0.00	1		0.00	0.00	C	4
99016	Greek greens pie (prepared from wild greens)	Flavones	Apigenin	0.00	1		0.00	0.00	B	260
			Luteolin	6.60	1		6.60	6.60	B	260
		Flavonols	Isorhamnetin	1.80	1		1.80	1.80	B	260
			Kaempferol	4.30	1		4.30	4.30	B	260
			Myricetin	1.40	1		1.40	1.40	B	260
			Quercetin	12.40	1		12.40	12.40	B	260
<b>19 - Sweets</b>										
19078	Baking chocolate, unsweetened, squares	Flavan-3-ols	(-) -Epicatechin	141.83	6	23.58	66.00	201.00	B	100
			(+) -Catechin	64.33	6	15.49	26.00	117.00	B	100
43201	Bee Pollen	Flavan-3-ols	(-) -Epicatechin	0.00	3		0.00	0.00	C	54
			(-) -Epicatechin 3-gallate	0.00	3		0.00	0.00	C	54
			(-) -Epigallocatechin	0.00	3		0.00	0.00	C	54
			(-) -Epigallocatechin 3-gallate	0.00	3		0.00	0.00	C	54
			(+) -Catechin	0.00	3		0.00	0.00	C	54
			(+) -Gallocatechin	0.00	3		0.00	0.00	C	54
		Flavonols	Isorhamnetin	0.68	11	0.01	0.64	0.78	B	29
			Kaempferol	1.12	11	0.10	0.71	1.68	B	29
	Myricetin	3.34	11	1.13	0.00	13.64	B	29		
	Quercetin	20.95	11	1.36	16.22	31.76	B	29		
97034	Cacao beans	Flavan-3-ols	(-) -Epicatechin	99.18	3		99.18	99.18	C	231
			(-) -Epigallocatechin	156.67	3		156.67	156.67	C	231
			(+) -Catechin	88.45	3		88.45	88.45	C	231
			(+) -Gallocatechin	8262.00	3		8262.00	8262.00	C	231
99412	Candies, chocolate, dark	Flavan-3-ols	(-) -Epicatechin	84.40	5	13.54	52.00	125.00	C	100
			(+) -Catechin	24.20	5	5.70	11.00	40.00	C	100

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
99321	Candies, dark chocolate (purchased in the Netherlands)	Flavan-3-ols	(-) -Epicatechin	41.50	2	8.75	32.74	50.25	B	4
			(-) -Epicatechin 3-gallate	0.00	2		0.00	0.00	B	4
			(-) -Epigallocatechin	0.00	2		0.00	0.00	B	4
			(-) -Epigallocatechin 3-gallate	0.00	2		0.00	0.00	B	4
			(+) -Catechin	11.99	2	1.24	10.75	13.24	B	4
			(+) -Gallocatechin	0.00	2		0.00	0.00	B	4
19120	Candies, milk chocolate	Flavan-3-ols	(-) -Epicatechin	10.88	9	2.68	2.18	24.00	B	4, 54, 100
			(-) -Epicatechin 3-gallate	0.00	6		0.00	0.00	B	4, 54
			(-) -Epigallocatechin	0.00	6		0.00	0.00	B	4, 54
			(-) -Epigallocatechin 3-gallate	0.00	6		0.00	0.00	B	4, 54
			(+) -Catechin	4.16	9	1.21	1.25	12.00	B	4, 54, 100
			(+) -Gallocatechin	0.00	6		0.00	0.00	B	4, 54
19165	Cocoa, dry powder, unsweetened	Flavan-3-ols	(-) -Epicatechin	196.43	13	45.38	158.00	258.00	B	8, 100
			(+) -Catechin	64.82	13	14.53	61.00	90.00	B	8, 100
19165	Cocoa, dry powder, unsweetened	Flavonols	Quercetin	10.00	11	2.36	8.99	20.13	B	147, 8
		Flavan-3-ols	(-) -Epicatechin	56.60	12	15.76	18.00	62.32	B	8, 100
			(+) -Catechin	36.71	12	9.91	23.00	38.25	B	8, 100
		Flavonols	Quercetin	3.37	10		3.37	3.37	C	8
99035	Honey, mixed varieties (samples obtained in Argentina, Australia, Italy, Portugal, and Spain)	Flavones	Apigenin	0.03	40	0.00	0.03	0.07	B	92, 134
			Luteolin	0.28	83	0.04	0.02	3.19	B	92, 291, 292, 123, 134
		Flavonols	Isorhamnetin	0.06	61	0.01	0.00	0.40	B	92, 291, 292, 134
			Kaempferol	0.06	67	0.01	0.03	0.17	B	92, 291, 292, 134
			Myricetin	0.36	76	0.04	0.00	2.73	B	291, 292, 123, 134
			Quercetin	0.31	83	0.02	0.02	1.30	B	92, 291, 292, 123, 134
19719	Jams and preserves, apricot	Flavan-3-ols	(-) -Epicatechin	0.28	16	0.05	0.00	0.57	B	4, 63
			(-) -Epicatechin 3-gallate	0.00	1		0.00	0.00	B	4
			(-) -Epigallocatechin	0.00	1		0.00	0.00	B	4
			(-) -Epigallocatechin 3-gallate	0.00	1		0.00	0.00	B	4
			(+) -Catechin	0.31	16	0.06	0.15	0.49	B	4, 63
			(+) -Gallocatechin	0.00	1		0.00	0.00	B	4
		Flavonols	Kaempferol	0.06	21	0.01	0.00	0.20	B	63, 258
			Quercetin	0.31	21	0.06	0.04	1.05	B	63, 258
99114	Jams and preserves, cherry	Flavan-3-ols	(-) -Epicatechin	0.90	1		0.90	0.90	C	4
			(-) -Epicatechin 3-gallate	0.00	1		0.00	0.00	C	4
			(-) -Epigallocatechin	0.00	1		0.00	0.00	C	4
			(-) -Epigallocatechin 3-gallate	0.00	1		0.00	0.00	C	4
			(+) -Catechin	0.16	1		0.16	0.16	C	4
			(+) -Gallocatechin	0.00	1		0.00	0.00	C	4
99113	Jams and preserves, forest fruit	Flavan-3-ols	(-) -Epicatechin	1.57	1		1.57	1.57	C	4

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
			(-) -Epicatechin 3-gallate	0.00	1		0.00	0.00	C	4
			(-) -Epigallocatechin	0.00	1		0.00	0.00	C	4
			(-) -Epigallocatechin 3-gallate	0.00	1		0.00	0.00	C	4
			(+) -Catechin	0.07	1		0.07	0.07	C	4
			(+) -Gallocatechin	0.00	1		0.00	0.00	C	4
99368	Jams and preserves, grape	Flavones	Apigenin	0.01	2		0.01	0.01	C	81
			Luteolin	0.02	2		0.02	0.02	C	81
		Flavonols	Kaempferol	0.01	2		0.01	0.01	C	81
			Myricetin	0.03	2		0.03	0.03	C	81
99387	Jams and preserves, guava	Anthocyanidins	Cyanidin	0.20	2		0.20	0.20	C	81
			Delphinidin	0.02	2		0.02	0.02	C	81
			Pelargonidin	0.02	2		0.02	0.02	C	81
		Flavones	Apigenin	0.01	2		0.01	0.01	C	81
			Luteolin	0.02	2		0.02	0.02	C	81
		Flavonols	Kaempferol	0.01	2		0.01	0.01	C	81
			Myricetin	0.03	2		0.03	0.03	C	81
99027	Jams and preserves, peach	Flavonols	Kaempferol	0.26	6	0.11	0.05	0.77	C	258
			Quercetin	0.32	6	0.08	0.12	0.59	C	258
99031	Jams and preserves, plum	Flavonols	Quercetin	0.63	3	0.22	0.18	0.85	C	258
99403	Jams and preserves, raspberry	Flavonols	Kaempferol	0.53	1		0.53	0.53	C	298
			Quercetin	4.30	1		4.30	4.30	C	298
99038	Jams and preserves, sour orange	Flavanones	eriodictyol	3.03	3	0.43	2.48	3.87	C	258
			Hesperetin	4.02	3	0.45	3.17	4.70	C	258
			Naringenin	4.56	3	0.49	3.72	5.43	C	258
99064	Jams and preserves, strawberry	Anthocyanidins	Pelargonidin	0.31	15	0.01	0.00	1.10	B	202
		Flavan-3-ols	(-) -Epicatechin	0.00	1		0.00	0.00	B	4
			(-) -Epicatechin 3-gallate	0.00	1		0.00	0.00	B	4
			(-) -Epigallocatechin	0.00	1		0.00	0.00	B	4
			(-) -Epigallocatechin 3-gallate	0.00	1		0.00	0.00	B	4
			(+) -Catechin	0.90	1		0.90	0.90	B	4
			(+) -Gallocatechin	0.00	1		0.00	0.00	B	4
		Flavonols	Kaempferol	0.65	21	0.08	0.00	1.07	B	102, 202, 258
Quercetin	0.54		21	0.07	0.14	1.20	B	102, 202, 258		
99406	Jellies, grape	Anthocyanidins	Cyanidin	0.20	2		0.20	0.20	C	81
			Delphinidin	0.02	2		0.02	0.02	C	81
			Pelargonidin	0.02	2		0.02	0.02	C	81

**20 – Cereal Grains and Pasta**

## USDA Database for the Flavonoid Content of Selected Foods, Release 3 (2011)

(For mean, standard error, min and max, units = mg/100, edible portion)

NDB No.	Food Description	Class	Flavonoid	Mean	N	Standard Error	Min	Max	CC	Sources of Data
20004	Barley, hulled ( <i>Hordeum vulgare L.</i> )	Flavan-3-ols	(+) -Catechin	2.39	16	0.17	1.40	4.10	B	113
20008	Buckwheat ( <i>Fagopyrum esculentum Moench</i> )	Flavonols	Quercetin	15.38	24	1.61	5.10	36.29	C	141, 192
20011	Buckwheat flour, whole-groat	Flavan-3-ols	(-) -Epicatechin	3.53	1		3.53	3.53	C	216
		Flavonols	Quercetin	3.47	17	0.55	1.15	8.40	B	141, 142, 216, 251
20009	Buckwheat groats, roasted, dry	Flavones	Apigenin	0.28	5	0.09	0.16	0.65	C	58
		Flavonols	Quercetin	7.09	14	0.81	2.14	11.49	B	58, 141, 251
99086	Buckwheat, bran	Flavonols	Quercetin	14.90	12		14.90	14.90	C	142
20100	Macaroni, cooked, enriched	Flavan-3-ols	(-) -Epicatechin	0.00	1		0.00	0.00	C	4
			(-) -Epicatechin 3-gallate	0.00	1		0.00	0.00	C	4
			(-) -Epigallocatechin	0.00	1		0.00	0.00	C	4
			(-) -Epigallocatechin 3-gallate	0.00	1		0.00	0.00	C	4
			(+) -Catechin	0.00	1		0.00	0.00	C	4
			(+) -Gallocatechin	0.00	1		0.00	0.00	C	4
20045	Rice, white, long-grain, regular, cooked	Flavan-3-ols	(-) -Epicatechin	0.00	1		0.00	0.00	C	4
			(-) -Epicatechin 3-gallate	0.00	1		0.00	0.00	C	4
			(-) -Epigallocatechin	0.00	1		0.00	0.00	C	4
			(-) -Epigallocatechin 3-gallate	0.00	1		0.00	0.00	C	4
			(+) -Catechin	0.00	1		0.00	0.00	C	4
			(+) -Gallocatechin	0.00	1		0.00	0.00	C	4
99461	Sorghum, grain, red	Flavanones	Eriodictyol	0.29	12	0.13	0.00	1.29	C	69
			Naringenin	1.67	12	0.40	0.00	4.84	C	69
		Flavones	Apigenin	2.54	12	1.68	0.00	20.37	C	69
			Luteolin	3.93	12	1.54	0.00	18.22	C	69
99460	Sorghum, grain, white	Flavanones	Eriodictyol	0.00	1		0.00	0.00	D	69
			Naringenin	0.00	1		0.00	0.00	D	69
		Flavones	Apigenin	2.54	1		2.54	2.54	D	69
			Luteolin	0.45	1		0.45	0.45	D	69
99394	Wheat, purple	Anthocyanidins	Cyanidin	11.07	2	0.08	11.00	11.15	C	116
			Delphinidin	3.20	2	0.04	3.16	3.24	C	116
			Malvidin	4.02	2	1.00	3.02	5.02	C	116
			Pelargonidin	3.41	2	0.03	3.38	3.44	C	116
			Peonidin	1.81	2	0.00	1.81	1.82	C	116
			Petunidin	2.34	2	0.01	2.33	2.35	C	116

## Flavonoid References

- 1. Achilli, G., Cellerino, G. P., and Gamache, P. H.**  
Identification and determination of phenolic constituents in natural beverages and plant extracts by means of a coulometric electrode array system.  
*J. Chromatogr.*, 1993, 632(1/2), 111-117.  
Wines-white & red, Beer, Fruit juice-lemon.  
Catechin, Hesperetin, Hesperidin, Kaempferol, Myricetin, Naringenin, Naringin, Quercetin, Quercitrin, Rutin, Gallic acid, Vanillic acid, Hydroxycinnamic acids.
- 2. Adhikari, D. P., Francis, J. A., Schutzki, R. E., Chandra A., and Nair, M.**  
Quantification and characterization of cyclooxygenase and lipid peroxidation inhibitory anthocyanins in fruits of Amelanchier.  
*Phytochem. Anal.*, 2005, 16, 175-180.  
Saskatoon Service berry.  
Cyanidin.
- 3. Aligourchi, H., Barzegar, M., and Abbasi, S.**  
Anthocyanin characterization of 15 Iranian pomegranate (*Punica granatum*) varieties and their variation after cold storage and pasteurization.  
*Eur Food Res Technol*, 2008, 227, 881-887.  
Pomegranates (15 varieties).  
Cyanidin, Delphinidin, Pelargonidin.
- 4. Amiot, M. J., Tacchini, M., Aubert, S. Y., and Oleszek, W.**  
Influence of cultivar, maturity stage and storage conditions on phenolic composition and browning of pear fruits.  
*J. Agric. Food Chem.*, 1995, 43, 1132-1137.  
Pears - 7 cultivars.  
Catechin, Epicatechin, Hydroxycinnamic acid, Total flavanols, Total flavonols.
- 5. Ancos, B. de, Gonzalez, E., and Cano, M. P.**  
Differentiation of raspberry varieties according to anthocyanin composition.  
*Z. Lebensm Unters Forsch A*, 1999, 208, 33-38.  
Raspberries (cultivars - Autumn Bliss, Heritage, Ceva, Rubi )  
Cyanidin, Pelargonidin, Malvidin.
- 6. Andlauer, W., Stumpf, C., and Fürst, P.**  
Influence of the acetification process on phenolic compounds.  
*J. Agric. Food Chem.*, 2000, 48, 3533-3536.  
Cider, Cider vinegar, White wine, White wine vinegar, Red wine, Red wine vinegar.  
Catechin, Epicatechin, Anthocyanins (as malvidin-3-glucosides), Phenolic acids, Total phenols.

7. **Andlauer, W., Stumpf, C., Hubert, M., Rings, A., and Furst, P.**  
Influence of cooking process on phenolic marker compounds of vegetables.  
*Int. J. Vitam. Nutr. Res.*, 2003, 73(2), 152-159.  
Zucchini - raw & cooked, Princess beans - raw & cooked, Carrots-raw & cooked, Potatoes-raw & cooked.  
\*Rutin, Quercitrin, Chlorogenic acid, Caffeic acid.
  
8. **Andres-Laceuva, C., Monogas, M., Khan, N., Izquierdo-Pulido, M., Urpi-Sarda, M., Permanyer, J., and Lamuela-Raventos, R. M.** Flavanol and flavonol contents of cocoa powder products: Influence of the manufacturing process.  
*J. Agric. Food Chem.*, 2008, 56, 3111-3117.  
Cocoa powder.  
Catechin, Epicatechin, Quercetin.
  
9. **Antonen, M. J. and Karjalainen, R. O.**  
High-performance liquid chromatography analysis of black currant (*Ribes nigrum* L.) fruit phenolics grown either conventionally or organically.  
*J. Agric. Food chem.*, 2006, 54, 7530-7538.  
Black currant.  
Isorhamnetin, Kaempferol, Myricetin, Quercetin, Hydroxycinnamic acid derivatives.
10. **Antonen, M. J. and Karjalainen, R. O.** Environmental and genetic variation of phenolic compounds in red raspberry.  
*J. Food Comp. Anal.*, 2005, 18, 759-769.  
Red Raspberry.  
Quercetin, Total phenolics, Total anthocyanins, Ellagic acid.
  
11. **Arabbi, P. R., Genovese, M. I., and Lajolo, F. M.**  
Flavonoids in vegetable foods commonly consumed in Brazil and estimated ingestion by the Brazilian population.  
*J. Agric. Food Chem.*, 2004, 52(5), 1124-1131.  
Lettuce (smooth, rough, red), Peppers (red, yellow, green), Onion (white, red), Chicory, Arugula, Tomato (salad var., Caqui, Cherry), Orange (Lima, Pera), Apples (Gala, Fuji, Golden Delicious).  
Quercetin, kaempferol, Luteolin, Apigenin, Cyanidin, Chalconaringenin, Sinensetin, Naringenin, Hesperetin, Catechin, Epicatechin, Phloridzin.
  
12. **Arai, Yusuke, Watanabe, S., Kimira, M., Shimoi, K., Mochizuki, R., and Kinae, N.**  
Dietary intakes of flavonols and isoflavones by Japanese women and inverse correlation between quercetin intake and plasma LDL cholesterol concentration.  
*J. Nutr.*, 2000, 130, 2243-2250.  
Snap beans, Green soybeans, Bean sprouts, Tofu (Momen type), Potato, Tomato, Green bell pepper, Eggplant, Carrot, Parsley, Japanese raddish, Cabbage, Broccoli, Molokheka (Nalta juice), Spinach, Lettuce, Onion, Lotus root, Cucumber, Kiwi fruit, Watermelon, Orange, Peach, Apple, Persimmon, Grape, Strawberry, Green tea.  
Kaempferol, Luteolin, Myricetin, Quercetin.

- 13. Areias, F. M., Valentão, P., Andrade, P. B., Ferreres, F., and Seabra, R. M.**  
Phenolic fingerprint of peppermint leaves.  
*Food Chem.*, 2001, 73, 307-311.  
Peppermint leaves.  
Eriodictoyl, Luteolin, Apigenin, Rosmarinic acid, Pebrellin, Gardenin B, 5,6-OH-7,8,3'4'-OMe-flavone.
- 14. Arts, I. C. W., van de Putte, B., and Hollman, P. C. H.**  
Catechin content of foods commonly consumed in the Netherlands. 1. Fruits, vegetables, staple foods and processed foods.  
*J. Agric. Food Chem.*, 2000, 48, 1746-1751.  
Apple with skin, Apple without skin, Applesauce, Apricot, Avocado, Blackberry, Blueberry, Broad beans (raw, prepared, canned), Cherry, sweet (raw, canned), Cranberry, Currant (black, white, red), Gooseberry, Grape (black, white), Kidney-bean (canned), Kiwi fruit, Mango, Marrowfat peas( canned), Nectarine, Peach (raw, canned), Pear with skin, Pear without skin, Plum, Raspberry, Rhubarb (raw, prepared), Strawberry, Chocolate (black), Chocolate milk, Chocolate candy bar, Currant jam, Apricot jam, Cherry jam, Forest fruit jam, Strawberry jam, Raisins.  
Catechin, Epicatechin, Catechins, Total.
- 15. Arts, I. C. W., van de Putte, B., and Hollman, P. C. H.**  
Catechin content of foods commonly consumed in the Netherlands. 2. Tea, wine, fruit juices, and chocolate milk.  
*J. Agric. Food Chem.*, 2000, 48, 1752-1757.  
Black tea infusions, Red wines, White wines, Apple juice, Black grape juice, White grape juice, Iced tea, Lager beer (Heineken), Chocolate milk (semiskimmed), Coffee.  
Catechin, Epicatechin, Catechins, Total.
- 16. Ayerza, R. and Coates, W. (A0918)**  
Some quality components of four chia (*Salvia hispanica* L.) genotypes under tropical coastal desert ecosystem conditions.  
*Asian J. Plant Sci.*, 2009, 8, 301-307.  
Chia genotypes.  
Kaempferol, Quercetin, Chlorogenic acid, Caffeic acid, Total phenols.
- 17. Bahroun, T., Luximon-Ramma, A., Crozier, A., and Arouma, O.**  
Total phenol, flavonoid, proanthocyanidin and vitamin C levels and antioxidant activities of Mauritian vegetables.  
*J. Sci. Food Agric.*, 2004, 84, 1553-1561.  
Chinese cabbage, onion, Mugwort, Broccoli, Chilli pepper, Lettuce, White cabbage, Cauliflower, Tomato, Carrot.  
Quercetin, Kaempferol, Apigenin, Luteolin, Total Phenols, Total flavonoids, vitamin C, TEAC, FRAP.
- 18. Baron, R., Mayen, M., Merida, J., and Medina, M.**  
Changes in phenolic compounds and browning during biological aging of sherry-



- type wine.  
*J. Agric. Food Chem.*, 1997, 45(5), 1682-1685.  
 Dry pale sherry white wine (in 5 different stages of aging).  
 Catechin, Epicatehin, Procyanidins B1-B4, Phenolic acids (Gallic, Protocatechuic, Vanillic, Syringic, Caffeic, *p*-Coumaric, Ferulic, Tyrosol, *trans*-Cafataric, *cis*-Coutaric, *trans*-Coutaric, Feftaric).
- 19. Belajová, E. and Suhaj, M.**  
 Determination of phenolic constituents in *citrus* juices: Method of high performance liquid chromatography.  
*Food Chemistry*, 2004, 86, 339-343.  
 Orange juice (fresh squeezed, commercial), Grapefruit juice (fresh squeezed, commercial), Lemon juice (fresh squeezed).  
 Naringin, Hesperidin, Neohesperidin, Quercetin.
- 20. Berhow, M. A.**  
 Effects of early growth regulator treatment on flavonoid levels in grapefruit.  
*Plant Growth Regulation*, 2000, 30, 225-232.  
 Grapefruit.  
 Naringenin.
- 21. Berhow, M., Tisserat, B., Kanes, K., and Vandercook, C.**  
 Survey of phenolic compounds produced in citrus.  
*Technical Bulletin Number 1856, ARS, USDA, December 1998.*
- 22. Bete's-Saura, C., Andre's-Lacueva, C., and Lamuela-Ravento's, R. M.**  
 Phenolics in white free run juices and wines from Penede's by high performance liquid chromatography: Changes during vinification.  
*J. Agric. Food Chem.*, 1996, 44, 3040-3046.  
 White free run grape juice, Wine.  
 Catechin, Epicatechin, Quercetin, Phenolics, Hydrocinnamics, Benzoic acids.
- 23. Bermudez-Soto, M. J., and Tomás-Barberan, F. A.**  
 Evaluation of commercial red fruit juice concentrates as ingredients for antioxidant functional juices.  
*Eur. Food Res Technol.*, 2004, 219, 133-141.  
 Juice concentrates of Chokeberry, Elderberry, Blackcurrant, Strawberry, red Grape, Redcurrant, Cherry, Plum, Raspberry.  
 Cyanidin, Delphinidin, Neochlorogenic acid, Quercetin, Myricetin, Hydroxycinnamic acid derivatives, Flavan-3-ols, Ellagic acid derivatives, total Phenolics., ABTS, DDPH.
- 24. Bilyk, A., and Sapers, G. M.**  
 Varietal differences in the quercetin, kaempferol, and myricetin contents of highbush blueberry, cranberry, and thornless blackberry fruits.  
*J. Agric. Food Chem.*, 1986, 34, 585-588.

Highbush blueberry (Earliblue, Weymouth, Coville, Bluetta), Cranberry (Stevens, Early black, Ben Lear, Franklin, McFarlin, Howes), Thornless Blackberry (Smoothstem, Black Satin, Dirksen Thornless, Hull Thornless, Thornfre).  
Quercetin, Kaempferol.

**25. Bilyk, A., and Sapers, G. M.**

Distribution of quercetin and kaempferol in lettuce, kale, chive, garlic chive, leek, horseradish, red radish, and red cabbage tissues.

*J. Agric. Food Chem.*, 1985, 33, 226-228.

Lettuce (Augusta, Buttercrunch, Minneto, Summer Bibb, Tom Tumb, Barcarolle, Burpee Bibb, Fordhook, Paris White), Chive, Garlic chive, Leek, Kale (Dwarf Siberian, Vates BlueCurled Dwar), Red cabbage, Horse radish, Red radish.

Quercetin Kaempferol.

**26. Bilyk, A., Cooper, P. L., and Sapers, G. M.**

Varietal differences in distribution of quercetin and kaempferol in onion (*Allium cepa* L.) Tissue.

*J. Agric. Food Chem.*, 1984, 32, 274-276.

Onions (Carmen hybrid, Sweet Spanish Utah, Early Yellow Globe, Yellow Globe Hybrid, Sweet Spanish Hybrid, Red Hamburger, Walla Walla, Evergreen Long White Bunching).

Quercetin, Kaempferol.

**27. Bolling, B. W., Dolinkowski, G., Blumberg, J. B., and Chen, C.-Y.**

Polyphenol content and antioxidant activity of California almonds depend on cultivar and harvest year.

*Food Chemistry*, 2010, 122, 819-825.

California almonds – 7 varieties.

Catechin, Epicatechin, Isohamnetin, Kaempferol, Narinenin.

**28. Bonvehi, J. S. and Coll, F.**

Evaluation of bitterness and astringency of polyphenolic compounds in cocoa powder.

*Food Chemistry*, 1997, 60(3), 365-370.

Cocoa powder.

Epicatechin.

**29. Bonvehí, J. S., Torrentó, M. S., and Lorente, E. C.**

Evaluation of polyphenolic and flavonoid compounds in honeybee-collected pollen produced in Spain.

*J. Agric. Food Chem.*, 2001, 49, 1848-1853.

Honeybee-collected pollen.

Quercetin, Myricetin, Kaempferol, Isorhamnetin, 3,4-dihydroxybenzoic acid, Vanillic acid, Syringic acid, *p*-Coumaric acid, *o*-Coumaric acid.

**30. Breitfellner, F., Solar, S., and Sontag, G.**

Radiation induced chemical changes of phenolic compounds in strawberries.

*Radiat. Phys. Chem.*, 2003, 67, 497-499.

Strawberries (whole, full red).  
(+)-Catechin, (-)-Epicatechin, Quercetin-3-glucoside, Kaempferol-3-glucoside.

- 31. Bronner, W. E., and Beecher, G. R.**  
Method of determining the content of catechins in tea infusions by high-performance liquid chromatography.  
*J. Chromatogr. A*, 1998, 805, 137-142.  
Black tea, Green tea, Jasmine tea.  
Epicatechin, Epicatechin-gallate, Epigallocatechin, Epigallocatechin-gallate.
- 32. Bronner, W. E., and Beecher, G. R.**  
Extraction and measurement of prominent flavonoids in orange and grapefruit juice concentrates.  
*J. Chromatogr. A*, 1995, 705, 247-256.  
Orange juice concentrate, Grapefruit concentrate.  
Hesperidin, Naringin, Narirutin.
- 33. Buendía, B., Gil, M. I., Tudela, J. A., Gady, A. L., Medina, J. J., Soria, C., López, J. M., and Tomas-Barberán, F. A.**  
HPLC-MS analysis of proanthocyanidin oligomers and other phenolics in 15 strawberry cultivars.  
*J. Agric. Food Chem.*, 2010, 58, 3916-3926.  
Straw berries (15 cultivars).  
Cyanidin, Pelargonidin, Total anthocyanins, Individual and total ellagitannins, Individual and total ellagic acid conjugates, Kaempferol, Quercetin, Individual and total phenolic acids, Proanthocyanidins.
- 34. Burda, S., Oleszek, W., and Lee, C. Y.**  
Phenolic compounds and their changes in apples during maturation and cold storage.  
*J. Agric. Food Chem.*, 1990, 38, 945-948.  
Apples (Golden Delicious, Empire, Rhode Island Greening).  
Epicatechin, Quercetin glucosides, Procyanidin B2, Chlorogenic acid.
- 35. Careri, M., Elviri, L. Mangia, A., and Musci, M.**  
Spectrophotometric and coulometric detection in the high-performance liquid chromatography of flavonoids and optimization of sample treatment for the determination of quercetin in orange juice.  
*J. Chromatogr. A*, 2000, 881, 449-460.  
Orange juice.  
Ericitrin, Narirutin, Naringin, Hesperidin, Quercetin.
- 36. Carmona, M., Sánchez, A. M., Ferreres, F., Zalacain, A., Tomas-Barberán, F. A., and Alonso, G. L.**  
Identification of the flavonoid fraction in saffron spice by LC/DAD/MS/MS: Comparative study of samples from different geographical origins.  
*Food Chemistry*, 2007, 100, 445-450.

Saffron.  
Kaempferol derivatives.

- 37. Chamkha, M., Cathala, B., Cheynier, V., and Douillard, R.**  
Phenolic composition of champagnes from chardonnay and pinot noir vintages.  
*J. Agric. Food Chem.*, 2003, 51, 3179-3184.  
Champagnes (Chardonay and Pinot noir).  
Catechin, Epicatechin, Quercetin, Gallic acid, Protocatechuic acid, Caffeic acid, Coumaric acid, Caffeic acid, Vanillin, *p*-Coumaric acid, Ferulic acid, trans-resveratrol, Total hydroxycinnamics, Total flavonoids, Total benzoicacids, Other phenolics, Tyrosol.
- 38. Chang, Q., and Wong, Y-S.**  
Identification of flavonoids in Hakmeitau beans (*Vigna sinensis*) by high-performance liquid chromatography-electron-spray mass spectrometry (LC-ESI/MS).  
*J. Agric. Food Chem.*, 2004, 52, 6694-6699.  
Hakmeitau (black seed cultivar of cow pea).  
Cyanidin, Delphinidin, Malvidin, Peonidin, Petunidin, Quercetin, Kaempferol, Myricetin.
- 39. Chaovanalikit, A., and Wrolstad, R. E.**  
Anthocyanin and polyphenolic composition of fresh and processed cherries.  
*J. Food Sci.*, 2004, 69(1), 73-83.  
Sweet Cherries (Bing-fresh, frozen, canned; Royal Ann, Rainier), Sour Cherries (Montmorency).  
Cyanidin, Pelargonidin, Peonidin, Petunidin.
- 40. Charron, C. S., Clevidence, B. A., Britz, S. J., and Novotny, J. A.**  
Effect of dose size on bioavailability of acylated and nonacylated anthocyanins from red cabbage (*Brassica oleracea* L. var. Capitata).  
*J. Agric. Food Chem.*, 2007, 55, 5354-5362.  
Red cabbage.  
Cyanidin.
- 41. Chen, H., Zuo, Y., and Deng, Y.**  
Separation and determination of flavonoids and other phenolic compounds in cranberry juice by high-performance liquid chromatography.  
*J. Chromatogr. A*, 2001, 913, 387-395.  
Cranberry juice.  
Catechin, Myricetin, Quercetin, Chlorogenic acid, *p*-Coumaric acid, Benzoic acid., *p*-Anisic acid.
- 42. Cho, M. J., Howard, L. R., Prior, R. L., and Clark, J. R.**  
Flavonol glycosides and antioxidant capacity of various blackberry and blueberry genotypes determined by high-performance liquid chromatography/mass spectrometry.  
*J. Sci. Food Agric.*, 2005, 85, 2149-2158.  
Blackberries, blueberries.

Myricetin, Quercetin, Total flavonols, Total phenolics, ORAC, PCL (photochemiluminescence assay).

- 43. Chu, Y-H., Chang, C-L., and Hsu, H-F.**  
Flavonoid content of several vegetables and their antioxidant activity.  
*J. Sci. Food Agric.*, 2000, 80, 561-566.  
Perilla, sponge gourd, Water spinach, Sweet potato leaves (green), Sweet potato leaves (purple), Leaf lettuce, Chinese kale, Red malabar nightshade, Cucumber, Purple cabbage, Crown daisy, Spinach, Chinese cabbage, White cabbage, Gynura, Onion (interior), Onion (outer leaves), Potato.  
Quercetin, Kaempferol, Myricetin, Apigenin, Luteolin.
- 44. Chun, O. K., Smith, N., Sakagawa, A., and Lee, C. Y.**  
Antioxidant properties of raw and processed cabbages.  
*Int. J. Food Sci. Nutr.*, 2004, 55, 191-199.  
Cabbage – Green, Napa, Red, Savoy, Sauerkraut (bagged, canned, glass jar), pickled red.  
Cyanidin, Kaempferol, Myricetin, Quercetin, Apigenin, Luteolin, Ascorbic acid, Total phenolics, Total flavonoids, VCEAC (vitamin C equivalent antioxidant capacity).
- 45. Chun, O. K., Kim, D-O., Moon, H. Y., Kang, H. G., and Lee, C. Y.**  
Contribution of individual polyphenolics to total antioxidant capacity of plums.  
*J. Agric. Food Chem.*, 2003, 51, 7240-7245.  
Plums (Beltsville Elite, Cacaks Best, Castlton, Early Magic, Empress, Longjhon, Mirabellier, Ny101, N6, N9, Stanley).  
Caffeoylquinic acid, Cyanidin, Peonidin, Quercetin.
- 46. Cortacero-RamPrez, S., Segura-Carretero, A., Cruces-Blanco, C., Romer-Romero, M. L., and Fernandez-Gutiérrez, A.**  
Simultaneous determination of multiple constituents in real beer samples of different origins by capillary zone electrophoresis.  
*Anal. Bioanal. Chem.*, 2004, 380, 831-837.  
Beers.  
Rutin, Epicatechin, Catechin.
- 47. Crozier, A., Jensen, E., Lean, M. E. J., and McDonald, M. S.**  
Quantitative analysis of flavonoids by reversed-phase high-performance liquid chromatography.  
*J. Chromatogr. A*, 1997, 761, 315-321.  
Onion, Celery.  
Quercetin, Luteolin, Apigenin.
- 48. Crozier, A., Lean, M. E. J., McDonald, M. S., and Black, C.**  
Quantitative analysis of the flavonoid content of commercial tomatoes, onions, lettuce, and celery.  
*J. Agric. Food Chem.*, 1997, 45, 590-595.  
Tomatoes (Spanish varieties, Scottish, Dutch beef, Spanish cherry, English cherry), Onions

(red, white), Lettuce (Round, Green salad, Lollo Biondo), Celery (green and white), Tomatoes (Scottish) - cooked, Onions (White) - cooked.  
Quercetin, Luteolin, Apigenin.

49. **Dani, C., Vanderlinde, O. R., Bonatto, D., Salvador, M., and Henriques, J. A. P.**  
Phenolic content and antioxidant activities of white and purple juices manufactures with organically – or conventionally-produced grapes.  
*Food Chem. Toxicol.*, 2007, 45, 2574-2580.  
Grapes (Bordo, Niagara) juices.  
Cyanidin, Delphinidin, Malvidin, Peonidin, Catechin, Epicatechin, Procyanidins.
50. **da Silva, F. L., Escribano-Bailón, M. T., Pérez-Alonso, J. J., Ricas-Gonzalo, J. C., and Santos-Buelga, C.**  
Anthocyanin pigments in strawberry.  
*LWT*, 2007, 40, 374-382.  
Strawberry.  
Cyanidin, Pelargonidin.
51. **de Brito, E. S., de Araújo, M. C. P., Alves, R. E., Carkeet, C., Clevidence, B. A., and Novotny, J. A.**  
Anthocyanins present in selected tropical fruits: Acerola, Jambolão, Jussara, and Guajiru.  
*J. Agric. Food Chem.*, 2007, 55, 9389-9394.  
Acerola, Jambolão, Jussara, Guajiru.  
Cyanidin, Delphinidin, Malvidin, Pelargonidin, Peonidin, Petunidin, Total anthocyanins.
52. **de Brito, E. S., de Araújo, M. C. P., Lin, L-Z., and Harnly, J.**  
Determination of the flavonoid component of cashew apple (*Anacardium occidentale*) by LC-DAD-ESI/MS.  
*Food Chemistry*, 2007, 105, 1112-1118.  
Cashew apple.  
Kaempferol, Myricetin, Quercetin.
53. **de Freitas, V.A.P., Glories, Y., and Monique, A.**  
Developmental changes of procyanidins in grapes of red *Vitis vinifera* varieties and their composition in respective wines.  
*Am. J. Enol. Vitic.*, 2000, 51(4), 397-403.  
Wine-Merlot and Cabernet Sauvignon.  
(+)-Catechin, (-)-Epicatechin, (-)-Epicatechin gallate, Procyanidins dimers: B1-B8, Trimer C1, Total dimers + C1, Total dimers + catechins.
53. **de Pascual-Teresa, S., Santos-Buelga, C., & Rivas-Gonzalo, J.C.**  
Quantitative analysis of flavan-3-ols in Spanish foodstuffs and beverages.  
*J. Agric. Food Chem.*, 2000, 48, 5331-5337.  
Apple (Golden), Apple (Granny Smith), Apple Renette, Apple (Red Delicious), Apricot, Avocado, Banana, Blackberry, Blueberry, Cherry, Chestnut, Custard apple, Early fig, Grape (red), Grape (white), Kiwi, Medlar, Peach, Pear (Blanquilla), Pear (Conferencia),

Persimmon, Pineapple, Plum, Pomegranate, Quince, Raspberry, Redcurrent, Strawberry, Strawberry tree fruit, Aubergine, Broad bean, Carrot, Courgette, Lettuce, Onion, Pea, Pepper (red), Pepper (green), Tomato, Chickpea, French bean, Lentil, Pinto bean, White bean, Cider, Coffee, Soluble cacao, Tea (black), Tea (green), Wine (red), Wine (rose), Wine (white), Beer, Bee pollen, Chocolate, Wheat flour.  
Gallic acid, Catechin, Epigallocatechin, Epicatechin, Epigallocatechin gallate, Epicatechin-3O-gallate, Procyanidins B1-B5, B7, C1.

- 55. del Caro, A., Piga, A., Vacca, V., and Agabbio, M.**  
Changes of flavonoids, vitamin C, and antioxidant capacity in minimally processed citrus segments and juices during storage.  
*Food Chemistry*, 2004, 84, 99-105.  
Oranges (Shamouti and Salustiana– segments and juice), Mandarin (Palazelli -segments), Red blush grapefruit juice, Minneola tangelo.  
Narirutin, Naringin, Hesperidin, Didymin. Neohesperidin, Poncirin, vitamin C.
- 56. del Mar Verde Mñndez, C., Foster, M.P., Rodríguez-Delgado, M.Á., Rodríguez-Rodríguez, E.M., and Romero, C.D.**  
Content of free phenolic compounds in bananas from Tenerife (Canary Islands) and Ecuador.  
*Eur. Food Res. Technol*, 2003, 21, 287-290.  
Bananas. (greenhouse, organic, outdoor).  
Catechin, Gallic acid.
- 57. Dhuique-Mayer, C., Caris-Veyrat, C., Ollitrault, P., Curk, F., and Amiot, M-J.**  
Varietal and interspecific influence on micronutrient contents in citrus from the Mediterranean area.  
*J. Agric. Food Chem.*, 2005, 53, 2140-2145.  
Oranges – Salustiana, Hamlin, Maltaise, Shamouti, Sanguinelli, Valencia, Pera, Cara-cara, Mandarin, Clementine.  
Hesperetin, Naringenin, carotenoids.
- 58. Dietrych-Szostak, D., and Oleszek, W.**  
Effect of processing on the flavonoid content in buckwheat (*Fagopyrum esculentum* Möench) grain.  
*J. Agric. Food Chem.*, 1999, 47, 4384-4387.  
Buckwheat.  
Rutin, Apigenin.
- 59. Dinelli, G., Bonetti, A., Minelli, M., Marotti, I., Catizone, P., and Mazzanti, A.**  
Content of flavonoids in Italian bean (*Phaseolus vulgaris* L.) ecotypes.  
*Food Chemistry*, 2006, 99, 105-114.  
Italian bean ecotypes –Sarconi, Lamon, Zolfino del Pratomagno.  
Kaempferol and conjugates.
- 60. Ding, Z., Kuhr, S., and Engelhardt, U. H.**

Influence of catechins and theaflavins on the astringent taste of black tea brews.

*Z Lebensm Unters Forsch*, 1992, 195, 108-111.

Black tea.

Catechin, Epicatechin, Epicatechin-gallate, Epigallocatechin, Epigallocatechin-gallate, Theogallin, Gallic acid, Caffeine.

**61. Dougherty, M. H., and Fisher, J. F.**

Quality of commercial, canned, single-strength grapefruit juice produced in Florida during the 1975-76 and 1976-77 citrus season.

*Proc. Fla. State Hort. Soc.*, 1977, 90, 168-170.

Grapefruit juice, canned, single strength.

Naringin, Limonin.

**62. Dragovic-Uzelac, V., Delonga, K., Levaj, B., Djakovic, S., and Pospisil, J.**

Phenolic profiles of raw apricots, pumpkins, and their purees in the evaluation of apricot nectar and jam authenticity.

*J. Agric. Food Chem.*, 2005, 53, 4836-4842.

Apricot, Apricot jam, Pumpkin.

Catechin, Epicatechin, Kaempferol, Quercetin, Chlorogenic acid, Caffeic acid, p-Coumaric acid, Syringic acid, Ferulic acid.

**63. Dragovic-Uzelac, V., Pospisil, J., Levaj, B., and Delonga, K.**

The study of phenolic profiles of raw apricots and apples and their purees by HPLC for the evaluation of apricot nectars and jams authenticity.

*Food Chemistry*, 2005, 91, 373-383.

Apricots, Apples and their purees.

Catechin, Epicatechin, Kaempferol, Quercetin, Chlorogenic acid, Caffeic acid, p-Coumaric acid, Ferulic acid, Phloretin.

**64. Dragovic-Uzelac, V., Levaj, B., Mrkic, V., Bursac, D., Boras, M.**

The content of polyphenols and carotenoids in three apricot cultivars depending on stage of maturity and geographical region.

*Food Chemistry*, 2007, 102, 966-975.

Apricots (cv.s Keckemetska ruza, Madjarska najbolja, Velika rana).

Catechin, Epicatechin, Kaempferol, Quercetin, Chlorogenic acid, Caffeic acid, p-Coumaric acid, Ferulic acid, Procyandin B1, B2, B3, Carotenoids.

**65. Dueñas, M., Pérez-Alonso, J. J., Santos-Buelga, C., and Escribano-Bailón, T.**

Anthocyanin composition in fig (*Ficus carica* L.).

*J. Food Comp. Anal.*, 2008, 21, 107-115.

Fig.

Cyanidin, Pelargonidin, Peonidin.

**66. Dugo, P., Favoino, O., Presti, M.L., Luppino, R., Dogo, G., and Mondello, L.**

Determination of anthocyanins and related components in red wines by micro- and capillary HPLC.

*J. Sep. Sci.*, 2004, 27, 1458-1466.



Red wine (Cabernet Sauvignon).  
Delphinidin, Cyanidin, Petunidin, Peonidin, Malvidin.

67. **Dugo, G., Saitta, M., Gufrida, F., Vilasi, F., and La Torre, G. L.**  
Determination of resveratrol and other phenolic compounds in experimental wines from grapes subjected to different pesticide treatments.  
*Ital. J. Food Sci., 2004, 16, 305-321.*  
White wines (from Campania and Sicily), Red wines (Tuscany).  
Rutin, Kaempferol, Myricetin, Quercetin, Isorhamnetin and Rhamnetin.
68. **DuPont, M.S., Mondin, Z., Williamson, G., & Price, K.R.**  
Effect of variety, processing, and storage on the flavonoid glycoside content and composition of lettuce and endive.  
*J. Agric. Food Chem., 2000, 48(9), 3957-3964.*  
Lettuce (Varieties: iceberg, green batavia, cos remus, green salad bowl, green oak leaf, red oak leaf, lollo biondo, lollo rosso), Endive (Varieties: fine frisee, escarole, coarse frisee).  
Quercetin glucosides, Luteolin 7-O-glucuronide, Cyanidin glucosides, Kaempferol glucosides, Totals.
69. **Dykes, I., Seitz, L. M., Rooney, W. L., and Rooney, L. W.**  
Flavonoid composition of red sorghum genotypes.  
*Food Chemistry, 2009, 116, 313-317.*  
Red Sorghum.  
Apigenin, Luteolin, Apigeninidin, Luteolinidin, Eridictyol, Naringenin.
70. **Escribano-Bailón, M. T., Alcalde-Eon, C., Muñoz, O., Rivas-Gonzalo, J., and Santos-Buelga, C.**  
Anthocyanins in berries of maqui (*Aristotelia chilensis* (Mol.) Stuntz).  
*Phytochem. Anal., 2006, 17, 8-14.*  
Maqui berries.  
Cyanidin, Delphinidin.
71. **Espinosa-Alonso, L. G., Lygin, A., Widholm, J.M., Valverde, M. E., and Paredes-Lopez, O.**  
Polyphenols in wild and weedy Mexican common beans (*Phaseolus vulgaris* L.).  
*J. Agric. Food Chem., 2006, 54, 4436-4444.*  
Jampas, Pinto Kaempferol, Quercetin, Daidzein, Coumestrol, Phenolic acids.
72. **Ewald, C., Fjellkner-Modig, S., Johansson, K., Sjöholm, I., and Åkesson, B.**  
Effect of processing on major flavonoids in processed onions, green beans, and peas.  
*Food Chem., 1999, 64, 231-235.*  
Onion - raw, cooked, Green beans - raw, cooked, Peas - raw, cooked.  
Quercetin, Kaempferol.
73. **Fanasca, S., Roupheal, Y., Venneria, E., Azzini, E., Duazzo, A., and Maiani, G.**  
Antioxidant properties of raw and cooked spears of green asparagus cultivars.

- Int. J. Food Sci. Technol.*, 2009, 44, 1017-1023.  
Asparagus, green, raw, cooked.  
Quercetin, Ferulic acid, Total phenols, Carotenoids.
- 74. Fan-Chiang H-J., and Wrolstad, R. E.**  
Anthocyanin pigment composition of blackberries.  
*Journal of Food Science*, 2005, 70 (3), C198-C202.  
Blackberries and blackberry juice.  
Cyanidin.
- 75. Fang, F., Li, J-M., Zhang, P., Tang, K., Wang, W., Pan, Q-H., and Huang, W-D.**  
Effects of grape variety, harvest date, fermentation vessel and wine ageing on flavonoid concentration in red wines.  
*Food Res. Int.*, 2008, 41, 53-60.  
Wines – Chardonnay, Cabernet sauvignon, Cabernet Franc, Merlot, Marselan, Petit Verdot, Beimei, Beichun, Beihong.  
Galangin, Isorhamnetin, Kaempferol, Luteolin, Myricetin, Quercetin, Luteolin, Morin.
- 76. Fang, F., Li, J-M., Pan, Q-H., and Huang, W-D.**  
Determination of red wine flavonoids by HPLC and effect of aging.  
*Food Chemistry*, 2007, 101, 428-433.  
Red wine.  
Galangin, Isorhamnetin, Kaempferol, Luteolin, Myricetin, Quercetin, Luteolin, Morin.
- 77. Fang, Z., Zhang, M., and Wang, L.**  
HPLC-DAD-ESIMS analysis of phenolic compounds in bayberries (*Myrica rubra* Sieb. Et Zucc.)  
*Food Chemistry*, 2007, 100, 845-852.  
Bayberries.  
Kaempferol, Myricetin, Quercetin, Gallic acid, Protocatechuic acid, Total phenolics.
- 78. Faudale, M., Viladomat, F., Bastida, J., Poli, F., and Codina, C.**  
Antioxidant activity and phenolic composition of wild, edible, and medicinal fennel from different Mediterranean countries.  
*J. Agric. Food Chem.*, 2008, 56, 1912-1920.  
Fennel.  
Eriodictyol, Quercetin, Caffeoylquinic acid.
- 79. Ferracane, R., Pelligrini, N., Visconti, A., Graziani, G., Chiavaro, E., Miglio, and Fogliano, V.**  
Effects of different cooking methods on antioxidant profile, antioxidant capacity, and physical characteristics of artichoke.  
*J. Agric. Food Chem.*, 2008, 56, 8601-8608.  
Artichokes – raw, boiled, steamed, fried.  
Apigenin, Caffeoylquinic acid, carotenoids, TEAC, FRAP, TRAP.

- 80. Ferreres, F., Gil, M. I., and Tomás-Barberán, F. A.**  
 Anthocyanins and flavonoids from shredded red onion and changes during storage in perforated films.  
*Food Res. Int.*, 1996, 29, 389-395.  
 Onion, red-shredded.  
 Cyanidin glucosides, Quercetin glucosides.
- 81. Franke, A.A., Custer, L.J., Arakaki, C., and Murphy, S.P.**  
 Vitamin C and flavonoid levels of fruits and vegetables consumed in Hawaii.  
*J. Food Comp. Anal.*, 2004, 17, 1-35.  
 (Vegetables) Beans-cooked (Snap, Yardlong), Broccoli, Cabbage-raw & cooked (bok choi/green, pak choy, red, won bok), Choi sum, Eggplant-cooked (long), Lettuce, Onion (green, red, yellow, local 'Maui'), Peas-cooked from frozen (green), Potato leaves (Sweet), Potato (Sweet, Orange), Potato-cooked (Sweet, Purple), Spinach, Taro leaves-raw & cooked, Tomato (boiled, canned), Watercress; (Fruits) Apple-with and without skin (Fuji, Red Delicious), Blueberries-raw & frozen, Cranberry juice cocktail, Cranberry sauce (jellied), Cranberry (dried, sweetened), Grapefruit (Ruby Red, White), Grape jelly, Grape juice (unsweetened), Grapes-raw (red, seedless), Mango (Hayden, local), Oranges (Local Ka'u, Navel), Papaya, Pineapple, Plum (black, red), Pomelo, Raspberries-frozen, Strawberries-raw & frozen, Tangerines; (Dried Fruits) Prunes (dried, pitted), Raisins; (Juices & Jams) Grape jam, Grape juice, Guava jam.  
 Myricetin, Quercetin, Kaempferol, Luteolin, Apigenin, Narirutin, Naringin, Hesperidin, Neohesperidin, Naringenin, Hesperetin, Delphinidin, Cyanidin, Pelargonidin.
- 82. Frankel, E. N., Waterhouse, A. I., and Teissedre, P. L.**  
 Principal phenolic phytochemicals in selected California wines and their antioxidant activity in inhibiting oxidation of human low-density lipoproteins.  
*J. Agric. Food Chem.*, 1995, 43, 890-894.  
 Red and White wines - California.  
 Catechin, Epicatechin, Cyanidin, Malvinidin, Rutin, Quercetin, Myricetin. Gallic acid, Caffeic acid, Resveratrol.
- 83. Fuentes-Alventosa, J. M., Rodríguez, G., Cermeño, P., Jiménez, A., Guilén, R., Fernández-Bolaños, J., and Rodríguez-Arcos, R.**  
 Identification of flavonoid diglycosides in several genotypes of asparagus from Huétor-Tájar population variety.  
*J. Agric. Food Chem.*, 2007, 55, 10028-10035.  
 Asparagus – wild triguero.  
 Isorhamnetin, Kaempferol, Quercetin.
- 84. Fuleki, T. and Ricardo da Silva, J.M.**  
 Catechin and procyanidin composition of seeds from grape cultivars grown in Ontario.  
*J. Agric. Food Chem.*, 1997, 45, 1156-1160.  
 Grapes red and white (vinifera, Hybrid, labrusca).  
 Catechin, Epicatechin, Procyanidins (B1, B2, B3, B4, C1, T2).

- 85. Gamache, P., Ryan, E., and Acworth, I. N.**  
Analysis of phenolic and flavonoid compounds in juice beverages using high-performance liquid chromatography with coulometric array detection.  
*J. Chromatogr.*, 1993, 635, 143-150.  
Orange juice (Blend, Navel, Hamlin, Valencia)  
Hesperidin, Narirutin, Naringin, ascorbate, Cysteine, Methionine, Tryptophan, Tyrosine.
- 86. Gambelli, L., and Santorini, G.P.**  
Polyphenols content in some Italian red wines of different geographical origins.  
*J. Food Comp. Anal.*, 2004, 17, 613-618.  
Red wines: Puglia region (Montepulciano/Troia, Troia, Primitivo/Tarantino), Molise region (Montepulciano/Aglianico, aglianico), Cabernet sauvignon (Friuli, Chile, California).  
Malvidin, Peonidin, Petunidin, Cyanidin, Delphinidin, Quercetin, Apigenin, Myricetin, Resveratrol.
- 87. Gao, L., and Mazza, G.**  
Characterization, quantitation, and distribution of anthocyanins and colorless phenolics in sweet cherries.  
*J. Agric. Food Chem.*, 1995, 43, 343-346.  
Cherries - sweet, 7 cultivars.  
Cyanidin, Peonidin, Pelargonidin, Chlorogenic acid, p-Coumarylquinic acid.
- 88. Gao, L., and Mazza, G.**  
Quantitation and distribution of simple and acylated anthocyanins and other phenolics in blueberries.  
*J. Food Sci.*, 1994, 59, 1057-1059.  
Blueberries -10 lowbush and 2 highbush varieties.  
Cyanidin, Delphinidin, Malvidin, Peonidin, Petunidin, Chlorogenic acid.
- 88. Garcia-Vigera, C., Zafrilla, P., and Tomas-Barberán, F.A.**  
The use of acetone as an extraction solvent for anthocyanins from strawberry fruit.  
*Phytochem. Anal.*, 1998, 9, 274-277.  
Strawberries (Camarosa – fresh, frozen; Chandler, Oso Grnade, and Tudla – frozen).  
Cyanidin, Pelargonidin.
- 90. Gennaro, L., Leonardi, C., Esposito, F., Salucci, M., Maiani, G., Quaglia, G., and Fogliano, V.**  
Flavonoid and carbohydrate contents in tropea red onions: Effects of homelike peeling and storage.  
*J. Agric. Food Chem.*, 2002, 50, 1904-1910.  
Tropea red onion.  
Delphinidin 3-glucosylglucoside, Cyanidin conjugates, Quercetin 4'-glucoside, Fructose, Glucose, Sucrose.
- 91. Ghiselli, A., Nardini, M., Baldi, A., and Scaccini, C.**  
Antioxidant activity of different phenolic fractions separated from an Italian red wine.

- J. Agric. Food Chem.*, 1998, 46(2), 361-367.  
Italian red wine.  
Catechin, Epicatechin, Free anthocyanins (Delphinidin, Cyanidin, Petunidin, & Malvidin glucosides), Flavonols (Quercetin, Myricetin, & Kaempferol glucosides), Procyanidins B1, B2, B3, B6, Hydroxycinnamoyltartaric acids, Phenolic acids.
- 92. Gil, M. I., Ferreres, F., Ortiz, A., Subra, E., and Tomas-Barberan, F. A.**  
Plant phenolic metabolites and floral origin of Rosemary honey.  
*J. Agric. Food Chem.*, 1995, 43, 2833-2838.  
Rosemary honey.  
Quercetin, Kaempferol, Isorhamnetin, Luteolin, Apigenin.
- 93. Giuffrida, D., Salvo, F., Ziino, M., Toscano, G., and Dugo, G.**  
Initial investigation on some chemical constituents of capers (*Capparis Spinosa L.*) from the island of Salina.  
*Ital. J. Food Sci.*, 2002, 14(1), 25-33.  
Capers-raw & pickled.  
Rutin, Kaempferol-3-rutinoside, Kaempferol-3-glucoside, Quercetin, Kaempferol, Total phenolics, Fatty acids, proximates.
- 94. Gliszczyńska-Świgłó, A., Kalużewicz, A., Lemańska, K., Knaflewski, M., and Tyrakowska, B.**  
The effect of solar radiation on the flavonol content in broccoli inflorescence.  
*Food Chemistry*, 2007, 100, 241-245.  
Broccoli – Maraton, Lord, Fiesta.  
Kaempferol, Quercetin
- 95. Goldberg, D.M., Karumanchiri, A., Tsang, E., and Soleas, G.J.**  
Catechin and epicatechin concentrations of red wines: regional and cultivar-related differences.  
*Am. J. Enol. Vitic.*, 1998, 49(1), 23-34.  
Red wines (from Australia, Bordeaux, Burgundy, California, Beaujolais, Canada, Central Europe, Italy, Midi & Provence, Pacific Northwest, Iberian Peninsula, South Africa, Rhone Valley, & South America).  
Catechin, Epicatechin, Total catechins.
- 96. Goldberg, D.M., Tsang, E., Karumanchiri, A., Diamandis, E.P., Doleas, G., and Ng, E.**  
Method to assay the concentrations of phenolic constituents of biological interest in wines.  
*Anal. Chem.*, 1996, 68, 1688-1694.  
Red wines  
Catechin, Epicatechin, Trans-Resveratrol, Cis-resveratrol, rutin, quercetin, trans-Polydatin, Cis-Polydatin.
- 97. Gómez-Plaza, E., Gil-Muñoz, R., López-Roca, J. M., Martínez, A.**  
Color and phenolic compounds of a young red wine as discriminant variables of its status.  
*Food Res. Int.*, 1999, 32, 503-507.

Red wines.

Catechin, Epicatechin, Delphinidin, Petunidin, Peonidin, Malvidin, Caftaric acid, Coumaric acid, Procyanidins B2, B4, B5.

- 98. Gonçalves, B., Landbo, A-K., Knudsen, D., Silva, A. P., Moutinho-Pereira, J., Rosa, E., and Meyer, A.**  
Effect of ripeness and postharvest storage on the phenolic profiles of cherries (*Prunus avium* L.).  
*J. Agric. Food Chem.*, 2004, 52 523-530.  
Cherries sweet – Burlat, Saco, Summit, Van.  
Cyanidin, Pelargonidin, Peonidin, Catechin, Epicatechin, Quercetin, Chlorogenic acid, p-Coumaroylquinic acid, Hydroxycinnamic acids, Total phenolics.
- 99. Grandi, R., Trifiro, A., Gherardi, S. Calza, M., and Sacconi G.**  
Characterization of lemon juice on the basis of flavonoid content.  
*Fruit Processing*, 1994, 11, 355-359.  
Lemon juice (fresh, commercial).  
Hesperidin, Eriocitrin.
- 100. Gu, L., House, S. E., Wu, X., Ou, B., and Prior, R.**  
Procyanidin and catechin contents and antioxidant capacity of cocoa and chocolate products.  
*J. Agric. Food Chem.*, 2006, 54, 4057-4061.  
Cocoa, Chocolate products (milk, dark, baking, unsweetened, natural, Dutched).  
Catechin, Epicatechin, Procyanidins (mono, 2-3-mers, 4-6-mers, 7-10-mers, polymers), ORAC.
- 101. Guillen, D.A., Barroso, C.G., Perez-Bustamante, J.A.**  
Automation of sample preparation as a preliminary stage in the high-performance liquid chromatographic determination of polyphenolic compounds in sherry wines.  
*J. Chromatogr. A*, 1996, 730(1/2), 39-46.  
Sherry wines (Fino, Amontillado, Oloroso).  
Catechin, Hydroxycinnamic acids, Gallic acid, Vanillic acid, Protocatechuic acid, Protocatechualdehyde, *p*-Hydroxybenzaldehyde, Syringaldehyde.
- 102. Häkkinen, S. H., Kärenlampi, S. O., Mykkänen, H. M., and Törrönen, A. R.**  
Influence of domestic processing and storage on flavonol contents in berries.  
*J. Agric. Food Chem.*, 2000, 48, 2960-2965.  
Strawberry, Raspberry - red, Currant - black, Bilberry, Lingonberry, Strawberry jam, Bilberry soup, Lingonberry - crushed, Lingonberry juice, Currant - black - juice - steam extracted, Currant - black - juice - cold-pressed with pectinase, Crowberry juice - cold-pressed with pectinase, crowberry juice - cold -pressed without pectinase.
- 103. Häkkinen, S. H., Törrönen, A. R.**  
Content of flavonols and selected phenolic acids in strawberries and *Vaccinium* species: influence of cultivar, cultivation site and technique.

*Food Res. Int.*, 2000, 33, 517-524.

Strawberry (Senga Sengana, Korona, Bounty, Polka, Polka (organic), Jonsok, Jansok (organic), Honeoy, Honeoy (organic)).

Quercetin, Kaempferol, Ellagic acid, p-Coumaric acid.

**104. Häkkinen, S. H., Kärenlampi, S. O., Heinonen, I. M., Mykkänen, H. M., and Törrönen, A. R.**

Content of flavonols quercetin, myricetin, and kaempferol in edible berries.

*J. Agric. Food Chem.*, 1999, 47, 2274-2279.

Currant - black - green - red - white, Gooseberry - yellow -red, bog whortleberry, Lingonberry, Cranberry, Bilberry, Blueberry, Strawberry, Chokeberry, Rowanberry, Sweet Rowan, Raspberry - red, Cloudberry, Arctic bramble, Crowberry, Sea buckthorn berry. Quercetin, Kaempferol, Myricetin.

**105. Harnly, J. M., Doherty, R., Beecher, G. R., Holden, J. M., Haytowitz, D. B., and Bhagwat, S., and Gebhardt S.**

Flavonoid content of U.S. fruits, vegetables, and nuts.

*J. Agric. Food Chem.*, 2006, 54, 9966-9977.

Fruits: Apples Avocados, Bananas, Blackberries, Blueberries, Cantaloupe, Cherries (sweet), cranberries, Dates, Figs (Mission), Grapefruit (white and red), Honeydew melon, Kiwi (green and gold), Nectarines, Oranges (sweet and navel), Peaches, Pears (green), Pineapple (extra sweet), Plums (regular and diamond black), Prunes, Raisins, Raspberries, Strawberries, and watermelon.

Vegetables: Broccoli. Broccoli raab, Carrots, Celery, Lettuce (Butterhead, Green leaf, Iceberg, Red leaf, Romaine), Onions (yellow, sweet), Potatoes (Red, Russet, White), Radishes, Tomatoes.

Nuts: Almonds, Cashews, Hazelnuts, Macademias, Pecans, Pine nuts, Pistachios, and walnuts.

Catechin, Gallic acid, Gallic acid gallate, Epigallocatechin gallate, Epigallocatechin gallate, Epigallocatechin gallate, Cyanidin, Delphinidin, Malvidin, Pelargonidin, Peonidin, Petunidin, Luteolin, Apigenin, Morin, Myricetin, Quercetin, Hesperetin, Naringenin, Poncirin.

**106. Harnly, J. M., Doherty, R., Beecher, G. R., Holden, J. M., Haytowitz, D. B., and Bhagwat, S.**

Determination of 20 prominent flavonoids (as aglycones) in oranges. (unpublished).

**107. Hayashi, H., Hirako, N., Ikeshiro, Y., and Yamamoto, H.**

Organ specific localization of flavonoids in *Glycyrrhiza glabra* L.

*Plant Sci.*, 1996, 116, 233-238.

*Glycyrrhiza glabra* L. (Licorice).

Isoquercitrin, liquirtigenin glycosides, Isoliquirtigenin glycosides, Pinocembrin, Licoflavonone, Formononetin.

**108. Hempel, J., and Böhm, H.**

Quality and quantity of prevailing flavonoid glycosides of yellow and green french beans

(Phaseolus vulgaris L.).  
*J. Agric. Food Chem.*, 1996, 44, 2114-2116.  
French Beans - 6 green and 6 yellow varieties.  
Quercetin, Kaempferol.

**109. Herrera, M.C., and de Castro, M.D.L.**

Ultrasound-assisted extraction for the analysis of phenolic compounds in strawberries.  
*Anal. Bioanal. Chem.*, 2004, 379(78), 1106-1112.  
Strawberriec, red.  
Catechin, Naringin, Ellagic acid, Quercetin, Kaempferol.

**110. Hertog, M. G. L., Hollman, P. C. H., and van de Putte, B.**

Content of potentially anticarcinogenic flavonoids of tea infusions, wines, and fruit juices.  
*J. Agric. Food Chem.*, 1993, 41, 1242-1246.  
Wine -red and white, Apple juice, Grape juice, Tomato juice, Grapefruit juice (fresh),  
Lemon juice (fresh), Orange juice (fresh), Orange juice (commercial composite), Beer  
(Heineken), Chocolate milk (semiskimmed), Coffee, Tea infusions (black, oolong, green).  
Queretiin Kaempferol, Myricetin, Apigenin, Luteolin.

**111. Hertog, M. G. L., Hollman, P. C. H., and Katan, M. B.**

Content of potentially anticarcinogenic flavonoids of 28 vegetables and fruits commonly  
consumed in The Netherlands.  
*J. Agric. Food Chem.*, 1992, 40, 2379-2383.  
Mushroom - raw, canned, Onion, Leek, Beet -red, Turnip grens, Kale - raw, canned,  
Saurkraut, Cabbage - white, Cauliflower, Brussels sprout, Broccoli, Swedish turnip  
(Rutabaga), Cabbage - red- raw, frozen, Cabbage - green, Endive, Chicory, Cucumber,  
Lettuce, French bean - raw, canned, Slicing bean, Pea - raw, canned, Purslane, Radish,  
Tomato, Spinach - raw, frozen, Broad bean - raw, canned, Pepper - red - sweet, Carrot -  
raw, canned, Strawberry, Apple (Granny Smith, James Grieve, golden delicious, Elstar,  
Jonagold, Cox's Orange), Applesauce, Currant - red, Apricot - raw, canned, Pear (  
Conference, Beurré Hardy, Doyenne du Comice), Cherry - sweet - raw, canned, Plum,  
Peach - raw, canned, Grape - white, black.  
Quercetin, Kaempferol, Luteolin Myricetin, Apigenin.

**112. Hertog, M. G. L., Hollman, P. C. H., and Venema, D. P.**

Optimization of a quantitative HPLC determination of potentially anticarcinogenic  
flavonoids in vegetables and fruits.  
*J. Agric. Food Chem.*, 1992, 40, 1591-1598.  
Lettuce, Leek, Onion, Cranberry, Endive, Celery.  
Quercetin, Kaempferol, Myricetin, Apigenin, Luteolin.

**113. Holtekjølen, A. K., Kinitz, C., and Knutsen, S. H.**

Flavanol and bound phenolic acid contents in different barley varieties.  
*J. Agric. Food Chem.*, 2006, 54, 2253-2260.  
Barley – 16 varieties.  
Catechin, Procyanidins, Phenolic acids (p-Coumaric acid, Ferulic acid).



- 114. Horbowicz, M. and Babik, I.**  
Sulforaphane and flavonoid contents in chosen broccoli cultivars.  
*Veg.crops Res. Bull.*, 2005, 62, 127-138.  
Broccoli – 8 cultivars.  
Kaempferol, Quercetin, Total phenols, Sulforaphanes.
- 115. Hosseinian, F. S. and Beta, T.**  
Saskatoon and wild blueberries have higher anthocyanin contents than other Manitoba berries.  
*J. Agric. Food Chem.*, 2007, 55, 10832-10838.  
Saskatoon berries, Wild Blueberries, Raspberries, Strawberries, Chokeberries, Seabuckthorn berries.  
Cyanidin, Delphinidin, Malvidin, Peonidin, Pelargonidin, Petunidin.
- 116. Hosseinian, F. S., Li, W. and Beta, T.**  
Measurement of anthocyanins and other phytochemicals in purple wheat.  
*Food Chemistry*, 2008, 109, 916-924.  
Purple wheat.  
Cyanidin, Delphinidin, Malvidin, Peonidin, Pelargonidin, Petunidin, Melatonin, Secoicolariciresinol.
- 117. Howard, L. R., Talcott, S. T., Brenes, C. H., and Villalon, B.**  
Changes in phytochemical and antioxidant activity of selected pepper cultivars (*Capsicum* species) as influenced by maturity.  
*J. Agric. Food Chem.*, 2000, 48, 1713-1720.  
Peppers: bell (Yellow Bell), cascabella (PETO cascabella), long yellow (Inferno), cayenne (Mesilla), Tabasco (Tabasco), habanero (Francisca, Red Sanvina).  
Quercetin, Luteolin.
- 118. Huang, Z., Wang, B., Eaves, D. H., Shikany, J. M., and Pace, R. D.**  
Phenolic compound profile of selected vegetables frequently consumed by African Americans in the southeast United States.  
*Food Chemistry*, 2007, 103, 1395-1402.  
Collard greens, Mustard greens, Kale, Okra, Sweet potato greens, Purple hull peas, green onion, Butter beans, Butter peas, Rutabagas, Eggplant, Purslane.  
Isorhamnetin, Kaempferol, Quercetin.
- 119. Huber, L. S., Hoffman-Ribani, R., and Rodriguez-Amaya, D. B.**  
Quantitative variation in Brazilian vegetable sources of flavonols and flavones.  
*Food Chemistry*, 2009, 113, 1278-1282.  
Smooth lettuce, Curly lettuce, Kale, New Zealand spinach, Rucula, White onion, Red onion, Parsley, Dehydrated onion, Dehydrated parsley.  
Kaempferol, Quercetin, Apigenin.
- 120. Inocencio, C., Rivera, D., Alcaraz, F., and Tomás-Barberán, F. A.**

Flavonoid content of commercial capers (*Capparis spinosa*, *C. sicula* and *C. orientalis*) produced in Mediterranean countries.

*Eur. Food Res. Technol.*, 2000, 212, 70-74.

Capers (*C. Sicula* and *C. orientalis*).

Quercetin, Kaempferol.

**121. Innocenti, M., Michelozzi, M., Giaccherini, C., Ieri, F., Vincieri, F. F., and Mulinacci, N.**

Flavonoids and bioflavonoids in Tuscan berries of *Juniperus communis* L.: detection and quantitation by HPLC/DAD/ESI/MS.

*J. Agric. Food Chem.*, 2007, 55, 6596-6602.

Juniper berries.

Quercetin, Apigenin, Luteolin.

**122. Innocenti, M., Gallori, S., Giaccherini, C., Ieri, F., Vincieri, F. F., and Mulinacci, N.**

Evaluation of the phenolic content in the aerial parts of different varieties of *Cichorium intybus* L.

*J. Agric. Food Chem.*, 2005, 53, 6497-6502.

Chicory leaves – Catalogna, Belgian endive, Radicchio rosso di Cjioggia, Radicchio di Treviso.

Cyanidin, Delphinidin, Quercetin, Luteolin, Caffeoyl tartaric acid, Chlorogenic acid, Chicoric acid.

**123. Iurlina, M. O., Saiz, A. I., Fritz, R., and Manrique, G. D.**

Major flavonoids of Argentinian honeys. Optimization of the extraction method and analysis of their content in relationship to the geographical source of honeys.

*Food Chemistry*, 2009, 115, 1141-1149.

Argentinian honeys – monoclonal and mixed.

Myricetin, Quercetin, Luteolin.

**124. Iversen, C.K.**

Black currant nectar: Effect of processing and storage on anthocyanin and ascorbic acid content.

*J. Food Sci.*, 1999, 64(1), 37-41.

Black currant (berries & nectar).

Delphinidin glucosides, Cyanidin glucosides.

**125. Jakobek L., Šeruga, M., Medvidović-Kosanović, M., and Novak, I.**

Anthocyanin content and antioxidant activity of various red fruit juices.

*Deutsche Lebensmittel-Rundschau*, 2007, 103, 58-64.

Juices – Black currant, Raspberry, Blackberry, Sour cherry, Sweet cherry, Strawberry, Chokeberry, Elderberry.

Cyanidin, Delphinidin, Peonidin, Pelargonidin, Total anthocyanins, Total polyphenols, Total antioxidant activity (DPPH).

**126. Jakobek L., Šeruga, M., Novak, I., and Medvidović-Kosanović, M.**

Flavonols, phenolic acids and antioxidant activity of some red fruits.

*Deutsche Lebensmittel-Rundschau*, 2007, 103, 58-64.369-378.

Black currant, Red currant, Red raspberry, Blackberry, Sour cherry, Sweet cherry, Strawberry, Chokeberry, Elderberry, Blueberry.

Kaempferol, Myricetin, Quercetin, Hydroxybenzoic acids (p-Hydroxybenzoic acid, Ellagic acid), Hydroxycinnamic acid (Caffeic acid, p-Coumaric acid, Ferulic acid).

**127. Joedheim, M., Måge, F., and Anderson, Ø. M.**

Anthocyanins in berries of Ribes including gooseberry cultivars with a high content of acylated pigments.

*J. Agric. Food Chem.*, 2007, 55, 5529-5535.

Alpine currant, Golden currant, European gooseberry, (cv Martlet, Rokula, Larell, Rolanda, Rosko, Scania, John's, Glendale, Agro, Taastrup, Pax, Samsø, Lofthus, Hinnonmäki red), Jostaberry.

Cyanidin, Peonidin.

**128. Justesen, U., and Knuthsen, P.**

Composition of flavonoids in fresh herbs and calculation of flavonoid intake by use of herbs in traditional Danish dishes.

*Food Chem.*, 2001, 73, 245-250.

Basil, Chives, Coriander, Cress, Dill, Lemon balm, Lovage, Mint, Oregano, Parsley, Rosemary, Sage, Tarragon, Thyme, Watercress.

Quercetin, Kaempferol, Apigenin, Luteolin, Isorhamnetin, Hesperetin.

**129. Justesen, U., Knuthsen, P., and Leth, T.**

Quantitative analysis of flavonols, flavones, and flavonones in fruits, vegetables and beverages by high-performance liquid chromatography with photo-diode array and mass spectrometric detection.

*J. Chromatogr. A*, 1998, 799, 101-110.

Apple, Apricot, Bean - green, Currant - black, Blueberry, Broccoli, Brussels sprout, Celery - leaf, Celery - stalk, Cherry, Cowberry, Cranberry, Grapefruit - pulp, Grapes - blue, Grapes - green, Kale, Leek, Lemon -pulp, Onion -red, yellow , Onion-spring, Oran), Rosebud, Salads (Cabbage lettuce, China cabbage, Oxheart cabbage, Iceberg salad, Savoy), Strawberry, Peppe- green, sweet, Pepper - sweet red, Pepper - sweet - yellow, Tea, Tomato.

Quercetin, Kaempferol, Myricetin, Hesperetin, Naringenin, Apegenin, Luteolin.

**130. Kaack, K., and Austed, T.**

Interaction of vitamin C and flavonoids in elderberry (*Sambucus nigra* L.) during juice processing.

*Plant Foods Hum. Nutr.*, 1998, 52, 187-198.

Elderberry - 13 cultivars.

Cyanidin glucosides, Quercetin.

**131. Kahkonen, M.P., Heinamaki, J., Ollilainen, V., and Heinonen, M.**

Berry anthocyanins: Isolation, identification, and antioxidant activities.

*J. Sci. Food Agric.*, 2003, 83, 1403-1411.

Blackcurrant, Bilberry, Cowberry.

Delphinidin conjugates, Cyanidin conjugates, Peonidin conjugates, Petunidin conjugates, Malvidin conjugates, Total anthocyanins.

**132. Karadeniz, F., Durst, R. W., and Wrolstad, R. E.**

Polyphenolic composition of raisins.

*J. Agric. Food Chem.*, 2000, 48, 5343-5350.

Raisins – sun-dried, dipped, golden; grapes.

Kaempferol, Quercetin, Oxidized cinnamics, Caftaric acid, Coumaric acid, Protocatechuic acid.

**133. Kelebek, H., Canbas, A., and Selli, S.**

Determination of phenolic composition and antioxidant capacity of blood orange juices obtained from cvs. Moro and Sanguinello (*Citrus sinensis* (L.) Osbeck) grown in Turkey.

*Food Chemistry*, 2008, 107, 1710-1716.

Blood oranges – Moro, Sanguinello.

Hesperetin, Neohesperidin, Didymin, Naringenin, Cyanidin, Delphinidin, Peonidin, Hydroxybenzoic acids (Gallic, Protocatechuic), Hydroxycinnamic acids (Caffeic, Chlorogenic, p-Coumaric, Ferulic, Sinapic).

**134. Kenjerić, Mandić, M. L., Primorac, L., Čačić, F.**

Flavonoid pattern of sage (*Salvia officinalis* L.) unifloral honey.

*Food Chemistry*, 2008, 110, 187-192.

Sage honey.

Isorhamnetin, Kaempferol, Myricetin, Quercetin, Apigenin, Luteolin.

**135. Kevers, C., Falkowski, M., Tabart, J., Defraigne, J-O., Dommès, J., and Pincemail, J.**

Evolution of antioxidant capacity during storage of selected fruits and vegetables.

*J. Agric. Food Chem.*, 2007, 55, 8596-8603.

Grapes (black, green), Banana, Lemon, Strawberry, Plum, Apple, Orange, Cherry, Apricot, Kiwifruit, Melon, Pear, Nectarine, Pepper (red, yellow, green), spinach, Broccoli, Garlic, Leek, Celery, Onion, Asparagus, Tomato, French bean, Lettuce, Cucumber, Carrot.

Kaempferol, Myricetin, Quercetin, Total flavonoids, Total anthocyanins, Total phenolics, DPPH, ORAC.

**136. Khokhar, S. and Magnusdottir, S.G.M.**

Total phenol, catechin, and caffeine contents of teas commonly consumed in the United Kingdom.

*J. Agric. Food Chem.*, 2002, 50, 565-570.

Black Tea (12 brands), Green Tea (6 types), & Fruit Tea (strawberry, lemon, cherry, forest fruit, blackcurrant, & orange).

Epigallocatechin, Catechin, (-)-Epicatechin, Epigallocatechin-3-gallate, Epicatechin-3-gallate, Total catechins, Total phenols, Caffeine.

**137. Khokhar, S., Venema, D., Hollman, P.C.H., Dekker, M., and Jongen, W.**

A RP-HPLC method for the determination of tea catechins.

*Cancer Letters*, 1997, 114, 171-172.

Black tea (Ceylon, Yule, & PG-Tips), Green tea (China, Japan), and Oolong tea (China).  
(-)-Epigallocatechin, (-)-Epicatechin, (-)-Epigallocatechingallate, (-)-Epicatechingallate,  
Total catechins.

**138. Kim, D-O., Heo, H. J., Kim, Y. J., Yang, H. S., and Lee, C. Y.**

Sweet and sour cherry phenolics and their protective effects on neuronal cells.

*J. Agric. Food Chem.*, 2005, 53, 9921-9927.

Cherries – sweet (Hartland, Hedelfingen, Regina) and sour (Danube, Balaton, Schattenmorelle, Sumadinka).

Cyanidin, Peonidin, Isorhamnetin, Kaempferol, Quercetin, Total phenolics, Total anthocyanins, Neochlorogenic acid, p-Coumaric acid, Chlorogenic acid.

**139. Kirakosyan, A., Seymour, E. M., Urcuyo Llanes, D. E., Kaufman, P. B., and Bolling, S. F.**

Chemical profile and antioxidant capacities of tart cherry products.

*Food Chemistry*, 2009, 115, 20-25.

Cyanidin, Pelargonidin, Peonidin, Isorhamnetin, Kaempferol, Quercetin, Melatonin, Total anthocyanins, Total phenolics.

**140. Kosar, M., Kafkas, E., Paydas, S., and Base, H.C.**

Phenolic composition of strawberry genotype at different maturation stages.

*J. Agric. Food Chem.*, 2004, 52, 1586-1589.

Strawberries (Camarosa, Dorit, Chandler, Osmanali).

Cyanidin, Pelargonidin, P-OH-benzoic acid, P-coumaric acid, Ellagic acid, Kaempferol, quercetin, Myricetin.

**141. Kreft, I., Fabjan, N., and Yasumoto, K.**

Rutin content in buckwheat (*Fagopyrum esculentum* Moench) food materials and products.

*Food Chemistry*, 2006, 98, 508-512.

Buckwheat.

Quercetin.

**142. Kreft, S., Knapp, M., and Kreft, I.**

Extraction of rutin from buckwheat (*Fagopyrum esculentum* Moench) seeds and determination by capillary electrophoresis.

*J. Agric. Food Chem.*, 1999, 47, 4649-4652.

Buckwheat.

Rutin.

**143. Kuhr, S., and Engelhardt, U. H.**

Determination of flavonols, theogallin, gallic acid and caffeine in tea using HPLC.

*Z Lebensm Unters Forsch*, 1991, 192, 526-529.

Black teas, Green teas, Oolong teas.

Catechin, Epicatechin, Epicatechin-gallate, Epigallocatechin, Epigallocatechin-gallate, Theogallin, Gallic acid, Caffeine.

**144. Kuti, J.O.**

Antioxidant compounds from four *Opuntia* cactus pear fruit varieties.

*Food Chemistry*, 2004, 85, 527-533.

Cactus Pear, *Opuntia* species (*O. ficus-indica*, *O. lindheimeri*, *O. streptocantha*, *O. strict* v. *stricta*).

Kaempferol, Quercetin, Isorhamnetin., Total flavonoids, Total carotenoids, ORAC.

**145. Kuti, J.O., Konuru, H.B.**

Antioxidant capacity and phenolic content in leaf extracts of tree spinach (*Cnidoscolus* spp.).

*J. Agric. Food Chem.*, 2004, 52, 117-121.

Tree Spinach (*Cnidoscolus aconitifolius*, *C. chayamansa*).

Kaempferol, Quercetin, Total phenolics, ORAC.

**146. Lako, J., Trenerry, V. C., Wahlqvist, M., Wattanapenpaiboon, N., Sotheeswaran, S., Premier, R.**

Phytochemical flavonols, carotenoids and the antioxidant properties of a wide selection of Fijian fruit, vegetables and other readily available foods.

*Food Chemistry*, 2007, 101, 1727-1741.

Green leafy vegetables, steamed - Sweet potato (var. orange, Honaira, Tis3030, Papua); Drumstick, Taro, Bele (bush cabbage), Amaranth, Water spinach, Pako fern, Watercress, Pak choi, Savoy cabbage, Black mustard; Lettuce, raw.

Fruits – Papaya, Brazilian pawpaw, Cherry, Mango, Tangerine, Pineapple, Coconut, Malacca apple, Watermelon, Banana.

Root vegetables boiled- Sweet potato (var. orange, Vulatolu, Honaira, Tis3030, Papua), Water(Winged) yam (red, white), Yam (red, white), Taro, Arrowhead (elephant's ear), Yucca (yellow, white), Breadfruit, Banana.

Coconut juice, Seaweed, Turmeric, Ginger, Scallion, Coconut flesh, Wild (shampoo) ginger.

Isorhamnetin, Kaempferol, Myricetin, Quercetin, Carotenoids ( $\alpha$ -,  $\beta$ -carotene, Lycopene).

**147. Lamuela-Raventós, R. M., Andrés-Lacueva, Permanyer, J., and Izquierdo-Pulido, M.**

More antioxidants in cocoa.

*J. Nutr.*, 2001, 131, 834.

Cocoa.

Quercetin.

**148. Lattanzio, V., and van Sumere, C.F.**

Changes in phenolic compounds during the development and cold storage of artichoke (*Cynara scolymus* L.) heads.

*Food Chemistry*, 1987, 24, 37-50.

Artichoke (cv. Catanese).

Apigenin, Luteolin, Vannilic acid, syringic acid, *p*-Coumaric acid, Caffeic acid, ferulic acid.

- 149. Latti, A. K., Rihinen, K. R., and Kainulainen, P. S.**  
Analysis of anthocyanin variation in wild populations of bilberry (*Vaccinium myrtillus* L.) in Finland.  
*J. Agric. Food Chem.*, 2008, 56, 190-196.  
Bilberries.  
Cyanidin, Delphinidin, Malvidin, Peonidin, Petunidin.
- 150. Le, K., Chiu, F., and Ng, K.**  
Identification and quantification of antioxidants in *Fructus lycii*.  
*Food Chemistry*, 2007, 105, 353-363.  
Goji berry (Wolfberry).  
Kaempferol. Myricetin, Quercetin.
- 151. Lee, J., and Finn, C. E.**  
Anthocyanins and other polyphenolics in American elderberry (*Sambucus Canadensis*) and European elderberry (*S. nigra*) cultivars.  
*J. Sci. Food Agric.*, 2007, 87, 2665-2675.  
Elderberries – American and European.  
Cyanidin, Delphinidin, Petunidin, Total anthocyanins, total phenolics.
- 152. Lee, K.W., Kim, Y.J., Kim, D-O., Lee, H.J., and Lee, C.Y.**  
Major phenolics in apple and their contribution to the total antioxidant capacity.  
*J. Agric. Food Chem.*, 2003, 51, 6516-6520.  
Apples (Golden Delicious, Cortland, Monroe, Rhode Island Greening, Empire, NY674).  
Epicatechin, Quercetin, vitamin C, Chlorogenic acid, Phloretin, Procyanidin B2, VCEAC (vitamin C equivalent antioxidant capacity).
- 153. Lee, J., Durst, R.W., and Wrolstad, R.E.**  
Impact of juice processing on blueberry anthocyanins and polyphenolics: comparison of two pretreatments.  
*J. Food Sci.*, 2002, 67(5), 1660-1667.  
Blueberries (highbush, *Vaccinium corymbosum* L. cv. Rubel).  
Delphinidin-glycosides, Cyanidin-glycosides, Petunidin-glycosides, Peonidin-glycosides, Malvinidin-glycosides.
- 154. Lee, B-L., and Ong, C-N.**  
Comparative analysis of tea catechins and theaflavins by high-performance liquid chromatography and capillary electrophoresis.  
*J. Chromatogr. A.*, 2000, 881, 439-447.  
Tea - dry leaves (Japanese green, Long-jing green, Jasmine green, Chrysanthemum - dried flower, Pu-erh black, Iron Buddha - Oolong, Oolong, Ceylon black).  
Epicatechin, Epicatechin-gallate, Epigallocatechin. Epigallocatechin gallate, Theaflavin.

- 155. Lee, Y., Howard, L. R., and Villalón, B.**  
 Flavonoids and antioxidant activity of fresh pepper (*Capsicum annum*) cultivars.  
*J. Food Sci.*, 1995, 60, 473-476.  
 Pepper - Jalapeno (Veracruz, Mitla, Tam mild, Jaloro, Sweet Jalapeno), Pepper - yellow - wax (Hungarian yellow, Long hot yellow, Gold spike -hybrid), Pepper - Chile (New Mexico-6, Green chile), Pepper - Ancho, Pepper - Serrano Hidalgo.  
 Quercetin, Luteolin.
- 156. Lichtenthaler, R., Rodrigues, R. B., Maia, J. G. S., Papagiannopoulos, M., Fabricius, H., and Marx, F.**  
 Total oxygen scavenging capacities of *Euterpe oleracea* Mart. (Açaí) fruits.  
*Int. J. Food Sci. Nutr.*, 2005, 56, 53-64.  
 Açaí berries.  
 Cyanidin, Total Oxygen Scavenging Assay (TOSC).
- 157. Lin, L-Z., Lu, S., and Harnly, J. M.**  
 Detection and quantification of glycosylated flavonoid malonates in celery, Chinese celery, and celery seed by LCDAD-ESI/MS.  
*J. Agric. Food Chem.*, 2007, 55, 1321-1326.  
 Celery, Chinese celery, Celery seed.  
 Apigenin, Luteolin, Chrysoeriol.
- 158. Lin, L-Z., Mukhopadhyay, S., Robbins, R. J., and Harnly, J. M.**  
 Identification and quantification of flavonoids of Mexican oregano (*Lippia graveolens*) by LC-DAD-ESI/MS analysis.  
*J. Food Comp. Anal.*, 2007, 20, 361-369.  
 Mexican oregano.  
 Apigenin, Luteolin, Scutallarein, Quercetin, Galangin, Eriodictyol, Naringenin, Taxifolin, Sakuranetin, Pinocembrin.
- 159. Lin J-K., Lin, C-L., Liang, Y-C., Lin-Shiau, S-Y., and Juan, I-M.**  
 Survey of catechins, gallic acid, and methylxanthines in green, oolong, pu-erh, and black teas.  
*J. Agric. Food Chem.*, 1998, 46, 3635-3642.  
 Black tea, Green Tea, Oolong tea, Pu-erh tea.  
 Catechin, Epicatechin, Epicatechin-gallate, Epigallocatechin, Epigallocatechin-gallate, Gallocatechin-gallate, Gallic acid, Theophylline, Theobromine.
- 160. Lombard, K., Peffley, E., Geoffriau, E., Thompson, L., and Herring, A.**  
 Quercetin in onion (*Allium cepa* L.) after heat-treatment simulating home preparation.  
*J. Food Comp. Anal.*, 2005, 18, 571-581.  
 Onions yellow (Tamara, Predator, Rio Rita, RNX 10968), Red variety.  
 Quercetin, Total flavonoids.
- 161. Lombardi-Boccia, G., Lucarini, M., Lanzi, S., Agizzi, A., and Cappelloni, M.**  
 Nutrients and antioxidant molecules in yellow plums (*Prunus domestica* L.) from conventional and organic productions: a comparative study.



*J. Agric. Food Chem.*, 2004, 52, 90-94.

Plums, yellow.

Quercetin, Kaempferol, Myricetin, Total Polyphenols, Phenolic acids, Proximates.

**162. Lopez, M., Martinez, F., Del Valle, C., Orte, C., and Miro, M.**

Analysis of phenolic constituents of biological interest in red wines by high-performance liquid chromatography.

*J. Chromat. A.*, 2001, 922, 359-363.

Red wine.

Rutin, Quercetin, Total phenols, Gallic acid, *trans*-Resveratrol.

**163. Lugasi, A. and Hovari, J.**

Flavonoid aglycons in foods of plant origin II. Fresh and dried fruits.

*Acta Alimentaria*, 2002, 31(1), 63-71.

Plum (Redskin & Besztercei), Peach, Apricot, Greengage (white skin, red skin), Walnut, Sweet cherry, Sour cherry, Blackberry, Raspberry, Strawberry, Blackcurrant, Redcurrant, Gooseberry (green, red), Mulberry, Grape (Cardinal, Chasselas, Othello), Apple (Gala, Golden, Jonathan), Pomegranate, Pear, Quince-apple, Watermelon, Muskmelon, Pumpkin, Lemon, Grapefruit, Tangerine, Orange, Kiwi, Banana.

Quercetin, Luteolin, Myricetin, Total flavonoids.

**164. Lugasi, A., and Hovari, J.**

Flavonoid aglycons in foods of plant origin I. Vegetables.

*Acta Alimentaria*, 2000, 29, 345-352.

Lettuce (generic, crisped, ice), Spinach, Parsley leaves, Celery leaves, Dill, Radish (purple, black), Horse radish, Red Beet, Carrot, Parsnip, Celery root, Swedish turnip, Cauliflower, Broccoli, Kohlrabi, Brussels sprouts, Kale, Chinese cabbage, White cabbage, Red cabbage, Onions (old, young, red), Leek, Sweet pepper, Californian pepper, tomato, Cucumber.

Quercetin, Kaempferol, Myricetin, Luteolin, Apigenin.

**165. Luo, X.-D., Basile, M.J., and Kennelly, E.J.**

Polyphenolic antioxidants from the fruits of *Chrysophyllum cainito* L. (Star Apple).

*J. Agric. Food Chem.*, 2002, 50(6), 1379-1382.

Star apple.

(+)-Catechin, (-)-Epicatechin, (+)-Gallocatechin, (-)-Epigallocatechin, Quercetin, Quercitrin, Isoquercitrin, Myricitrin, Gallic acid.

**166. Määttä, K. R., Kamal-Eldin, A., and Torronen, A.R.**

Identification and classification of phenolic compounds in berries of *Fragaria* and *Rubus* species (family Rosaceae).

*J. Agric. Food Chem.*, 2004, 52, 6178-6187.

Strawberries (Jonsok), Raspberries (Muskoka, yellow cultivated, red wild), Arctic bramble (Mespi, Pima), Cloudberries.

Catechin, Epicatechin, Isorhamnetin, Kaempferol, Quercetin, Cyanidin, Pelargonidin, p-Coumaric acid, Caffeic acid, Gallic acid, Ellagic acid, Proanthocyanidins.

- 167. Määttä, K.R., Kamal-Eldin, A., and Torronen, A.R.**  
High-Performance liquid chromatography (HPLC) analysis of phenolic compounds in berries with diode array and electrospray ionization mass spectrometric (MS) detection: *Ribes* species.  
*J. Agric. Food Chem.*, 2003, 51, 6736-6744.  
Currants (Black, Green, Red and White).  
Myricetin, Quercetin, Kaempferol, Delphinidin, Cyanidin, Caffeoylglucose, Caffeic acid, p-coumaric acid, Ferulic acid.
- 168. Makris, D.P. and Rossiter, J.T.**  
Domestic processing of onion bulbs (*Allium cepa*) and asparagus spears (*Asparagus officinalis*): Effect on flavonol content and antioxidant status.  
*J. Agric. Food Chem.*, 2001, 49(7), 3216-3222.  
Onion bulbs, raw and boiled, Asparagus, raw and boiled.  
Quercetin, Rutin.
- 169. Marin, F.R., Martinez, M., Uribealago, T., Castillo, S., and Frutos, M.J.**  
Changes in nutraceutical composition of lemon juices according to different industrial extraction systems.  
*Food Chemistry*, 2002, 78(3), 319-324.  
Lemon juice (Fino & Verna varieties).  
Eriocitrin, Hesperidin, Luteolin-7-O-rutinoside, Diosmin, Flavonoids, Ascorbic acid.
- 170. Marini, D., and Balestrieri, F.**  
Multivariate analysis of flavanone glycosides in citrus juices.  
*Ital. J. Food sci.*, 1995, 3, 255-264.  
Orange juice.  
Narirutin, Neohesperidin, hesperidin, Neohesperidin.
- 171. Marotti, M. and Piccaglia, R.**  
Characterization of flavonoids in different cultivars of onion (*Allium cepa* L.).  
*J. Food Sci.*, 2002, 67(3), 1229-1232.  
Onion (12 cultivars).  
Quercetin glycosides, Isorhamnetin, Isorhamnetin monoglycoside, Rutin, Total flavonoids.
- 172. Martínez-Sánchez, A., Gil-Izquierdo, A., Gil, M. I., and Ferreres, F.**  
A comparative study of flavonoid compounds, vitamin C, and antioxidant properties of baby leaf Brassicaceae species.  
*J. Agric. Food Chem.*, 2008, 56, 2330-2340.  
Watercress, Mizuna, Wild rocket, Salad rocket.  
Isorhamnetin, Kaempferol, Quercetin.

- 173. Mattila, P., Astola, J., and Kumpulainen, J.**  
Determination of flavonoids in plant material by HPLC with diode-array and electro-array detection.  
*J. Agric. Food Chem.*, 2000, 48, 5834-5841.  
Lingonberry, Cranberry, Red onion, Yellow onion, Broccoli, Green tea, Black tea, red wine, Apple, Lemon, Orange, Parsley.  
Quercetin, Myricetin, Kaempferol, Isorhamnetin, Eriodictyol, Catechin, Epicatechin, Epicatechin gallate, Epigallocatechin gallate, Naringenin, Hesperetin, Luteolin, Apigenin.
- 174. McMurrrough, I. and Madigan, D.**  
Semipreparative chromatographic procedure for the isolation of dimeric and trimeric proanthocyanidins from barley.  
*J. Agric. Food Chem.*, 1996, 44(7), 1731-1735.  
Beer.  
(+)-Catechin, (-)-Epicatechin, Total monomers, Procyanidins B3 & T4, Prodelphinidins B3, T1-T3, Total dimers and trimers, Total flavonols.
- 175. Mertz, C., Cheynier, V., Günata, Z., and Brat, P.**  
Analysis of phenolic compounds in two blackberry species (*Rubus glaucus* and *Rubus adenotrichus*) by high-performance liquid chromatography with diode array detection and electrospray ion trap mass spectrometry.  
*J. Agric. Food Chem.*, 2007, 55, 8616-8624.  
Blackberries – *Rubus glaucus* and *adenotrichus*.  
Epicatechin, Kaempferol, Quercetin, Cyanidin, Gallic acid, Hydroxycinnamic acids, Ellagic acids, Ellagitannins, Lambertanin, Sanguin.
- 176. Mikkonen, T., Määttä, K.R., Hukkanen, A. T., Kokko, H. I., Törrönen, T., Kärenlampi, S. O., and Karjalainen, R. O.**  
Flavonol content varies among black currant cultivars.  
*J. Agric. Food Chem.*, 2001, 49, 3274-3277.  
Black currants – 10 cultivars.  
Kaempferol, Myricetin, Quercetin.
- 177. Milbury, P. E., Chen, C-Y., Dolnikowski, G. G. and Blumberg, J. B.**  
Determination of flavonoids and phenolics and their distribution in almonds.  
*J. Agric. Food Chem.*, 2006, 54, 5027-5033.  
Almonds (varieties: Carmel, Butte, Padre, Fritz, Mission, Monterey, Nonpareil, and Price).  
Catechin, Epicatechin, Quercetin-gl. And aglycone, Naringenin-gl and aglycone, Rutin, Kaempferol-gl and aglycone, Isorhamnetin-gl. And aglycone, Eriodictyol, Protocatechuic acid, *p*-hydroxy-benzoic acid, and Vanillic acid.
- 178. Montefiori, M., McGhie, T. K., Costa, G., and Ferguson, A. R.**  
Pigments in the fruit of red-fleshed kiwifruit (*Actinidia chinensis* and *Actinidia deliciosa*).  
*J. Agric. Food Chem.*, 2005, 53, 9526-9530.  
Kiwifruit – Red-fleshed.  
Cyanidin, Total anthocyanins, Carotenoids, Chlorophylls.

- 179. Mouly, P. P., Gaydou, E. M., Faure, R., and Estienne, J. M.**  
Blood orange juice authentication using cinnamic acid derivatives. Variety differentiations associated with flavanone glycoside content.  
*J. Agric. Food Chem.*, 1997, 45, 373-377.  
Blood orange juice (Washington sanguine, Malta, Sanguineli, Moro).  
Narirutin, Hesperidin, Didymin, Cinnamic acid.
- 180. Mouly, P. P., Arzouyan, C. R., Gaydou, E. M., and Estienne, J. M.**  
Differentiation of citrus juices by factorial discriminant analysis using liquid chromatography of flavanone glycosides.  
*J. Agric. Food Chem.*, 1994, 42, 70-79.  
Lemon juice, Lime juice, Grapefruit juice (white, pink, red, green), Orange juice (Valencia, Navel, Blood, Thompson, Malta).  
Eriocitrin, Neohesperidin, Narirutin, Naringin, Hesperidin, Neohesperidin).
- 181. Mouly, P., Gaydou, E. M., and Estienne, J.**  
Column liquid chromatographic determination of flavanone glycosides in Citrus.  
*J. Chromatogr.*, 1993, 634, 129-134.  
Grapefruit juice, Sour orange juice.  
Eriocitrin, Neohesperidin, Narirutin, Hesperidin, Naringin, Neohesperidin.
- 182. Mullen, W., Marks, S., and Crozier, A.**  
Evaluation of phenolic compounds in commercial fruit juices and fruit drinks.  
*J. Agric. Food Chem.*, 2007, 55, 3148-3157.  
Ocean Spray Classic Cranberry Drink, Welch's Purple Grape juice, Tesco Pure Pressed Red Grape Juice, Pomgreat Pomegranate Drink, Tesco Pure Apple Juice (clear), Copella Apple Drink (cloudy), Tesco Pure Grapefruit Juice, Tesco Value Pure Orange Juice (concentrate), Tropicana Pure Premium Smooth Orange Juice (squeezed), Tropicana Pure Premium Tropical Fruit Juice, Tesco Pure Pressed White Grape Juice, Tesco Pure Pineapple Juice, Del Monte Premium Tomato Juice.  
Epicatechin, Cyanidin, Delphinidin, Malvidin, Peonidin, Petunidin, Procyanidins, Myricetin, Quercetin, Eriodictyol, Hesperetin, Naringenin, Isosakuranetin, Apigenin, Caffeoylquinic acid, Caffeic acid, Caffeic acid, Coumaric acid, Ferulic acid, Phloretin, Chrysoeriol.
- 183. Mullen, W., Stewart, A.J., Lean, M.E.J., Gardner, P., Duthie, G.G., and Crozier, A.**  
Effect of freezing and storage on the phenolics, ellagitannins, flavonoids, and antioxidant capacity of red raspberries.  
*J. Agric. Food Chem.*, 2002, 50, 5197-5201.  
Raspberries.  
Quercetin, Kaempferol, Cyanidin, Pelargonidin, *p*-Coumaric acid, Total Phenolics, vitamin C, Ellagic acid, Antioxidant capacity (Freymy's salt reduction by Electron Spin Resonance Spectroscopy).
- 184. Netzel, M., Netzel, G., Tian, Q., Schwartz, S., and Konzak, I.**

Sources of antioxidant activity in Australian native fruits. Identification and quantification of anthocyanins.

*J. Agric. Food Chem.*, 2006, 54, 9820-9826.

Muntries, Tasmanian peppers, Molucca raspberries, Davidson's plums, Cedar Bay cherries, Burdekin plums, Blueberries.

Cyanidin, Delphinidin, Malvidin, Pelargonidin, Pronidin, Petunidin, Total phenolics, Antioxidant assays – RSA (Radical Scavenging Assay), FRAP.

**185. Nicolle, C., Carnat, A., Fraisse, D., Lamison, J-L., Rock, E., Michel, H., Amouroux, P., and Remesy, C.**

Characterization and variation of antioxidant micronutrients in lettuce (*Lactuca sativa folium*).

*J. Sci. Food Agric.*, 2004, 84, 2061-2069.

Lettuce: butter, Batavia, oak leaf (green and red).

Quercetin.

**186. Nogata, Y., Ohta, H., Yoza, K-I., Berhow, M., and Hasegawa, S.**

High-performance liquid chromatographic determination of naturally occurring flavonoids in citrus with a photodiode-array detector.

*J. Chromatogr. A*, 1994, 667, 59-66.

Pummelo juice, Mandarin juice.

Eriocitrin, Neoeriocitrin, Narirutin, Naringin, rutin, Hesperidin, Neojesperidin, Isorhoifolin, rhoifolin, diosmin, Neodiosmin, Poncirin, Luteolin, Kaempferol, apigenin, Diosmetin, Sinensetin, Acacetin, Tangeretin.

**187. Nuutila, A.M., Kammiovirta, K., and Oksman-Caldentey, K.-M.**

Comparison of methods for the hydrolysis of flavonoids and phenolic acids from onion and spinach for HPLC analysis.

*Food Chem.*, 2002, 76(4), 519-525.

Red onion, Spring onion (red)-bulb, Spinach.

Quercetin, Kaempferol.

**188. Nyman, N. A. and Kumpulainen, J. T.**

Determination of anthocyanins in berries and red wine by high-performance liquid chromatography.

*J. Agric. Food Chem.*, 2001, 49, 4183-4187.

Strawberries, Black currants, Bilberries, Red wine.

Cyanidin, Delphinidin, Malvidin, Pelargonidin, Peonidin, Petunidin.

**189. Ollanketo, M., and Riekkola, M-L.**

Column-switching technique for selective determination of flavonoids in Finnish berry wines by high-performance liquid chromatography with diode array detection.

*J. Liq. Chrom. & Rel. Technol.*, 2000, 23, 1339-1351.

Wines - Black currant, Blueberry, Crowberry.

Rutin, Isoquercitrin, Myricetin, Quercetin, Kaempferol.

- 190. Olsen, H., Aaby, K., and Borge, G. I.**  
Characterization and quantification of flavonoids and hydroxycinnamic acids in curly kale (*Brassica oleracea* L. convar. *Acephala* var. *sabellica*) by HPLC-DAD-ESI-MS.  
*J. Agric. Food Chem.*, 2009, 57, 2816-2825.  
Curly kale.  
Kaempferol, Quercetin, Hydroxycinnamic acids, Total flavonols, Total phenolics.
- 191. Ooghe, W. C., and Detavernier, C. M.**  
Detection of the addition of citrus *reticulata* and hybrids to citrus *sinensis* by flavonoids.  
*J. Agric. Food Chem.*, 1997, 45, 1633-1637.  
Orange juice, Tangerine juice, Temple juice, Mandarin juice, Murcott juice, Cravo juice (hybrid), Kinno juice (hybrid).  
Narirutin, Hesperidin, Didymin.
- 192. Oomah, D. B., and Mazza, G.**  
Flavonoids and antioxidative activities in buckwheat.  
*J. Agric. Food Chem.*, 1996, 44, 1746-1750.  
Buckwheat.  
Rutin.
- 193. Oszmianski, J., and Lee, C. Y.**  
Isolation and HPLC determination of phenolic compounds in red grapes.  
*Am. J. Enol. Vitic.*, 1990, 41, 204-206.  
Grapes - red (Concord, Chaunac).  
Epicatechin, Rutin, Quercetin glucosides, Procyanidin B3, Caffeoyl tartaric acid, Coumaroyl tartaric acid.
- 194. Ozga, J. A., Saeed, A., Wismer, W., and Reinecke, D. M.**  
Characterization of cyaniding- and quercetin-derived flavonoids and other phenols in mature Saskatoon fruits (*Amelanchier alnifolia* Nutt.).  
*J. Agric. Food Chem.*, 2007, 55, 10414-10424.  
Saskatoon berries.  
Cyanidin, Quercetin, Hydroxycinnamic acids.
- 195. Palimino, O., Gómez\_Serranillos, M. P., Carretero, S. E., and Villar, A.**  
Study of polyphenols in grape berries by reversed-phase high-performance liquid chromatography.  
*J. Chromatogr. A*, 2000, 870, 449-451.  
Grape.  
Rutin, Quercitrin, Quercetin, Resveratrol.
- 196. Pallau, K., Rivas-Gonzalo, J. C., del Castillo, M. D., Cano, M. P., and de Pascual-Tertesa, S.**  
Characterization of the antioxidant composition of strawberry tree (*Arbutus unedo* L.) fruits.  
*J. Food Comp. Anal.*, 2008, 21, 273-281.

Strawberry tree fruits.

Cyanidin, Delphinidin, Myricetin, Quercetin, Proanthocyanidins, Ellagic acid, Carotenoids.

- 197. Papagiannopoulos, M., Wollseifen, H.R., Mellenthin, A., Haber, B., and Galensa, R.**  
Identification and quantification of polyphenols in carob fruits (*Ceratonia siliqua* L.) and derived products by HPLC-UV-ESI/MS<sup>n</sup>.  
*J. Agric. Food Chem.*, 2004, 52, 3784-3791.  
Carob fiber, Carob Flour, Kibbles syrup.  
Myricetin, Quercetin, Kaempferol, Total Phenolics, Condensed Tannins, Hydrolyzable Tannins, DPPH, Trolox.
- 198. Patil, B. S., Pike, L. M., and Hamilton, B. K.**  
Changes in quercetin concentration in onion (*Allium cepa* L.) owing to location, growth stage and soil type.  
*New Phytol.*, 1995, 130, 340-355.  
Onion - yellow.  
Quercetin.
- 199. Patil, B. S., Pike, L. M., and Yoo, K. S.**  
Variation in the quercetin content in different colored onions (*Allium cepa* L.).  
*J. Amer. Soc. Hort. Sci.*, 1995, 120, 909-913.  
Onion- red (6 cultivars), pink (3 cultivars), yellow (45 cultivars), Vidalia (10 cultivars), white (11 cultivars).  
Quercetin.
- 200. Pérez-Gregorio, R. M., García-Falón, M. S., Simal-Gándara, J., Rodrigues, A. S., and Almeida, D. P. F.**  
Identification and quantification of flavonoids in traditional cultivars of red and white onions at harvest.  
*J. Food Comp. Anal.*, 2010, 23, 592-598.  
White and red onions.  
Isorhamnetin, Quercetin.
- 201. Pellegrini, N., Chiavaro, E., Gardana, C., Mazzeo, T., Contino, D., Gallo, M., Riso, P., Fogliano, V., and Porrini, M.**  
Effect of different cooking methods on color, phytochemical concentration, and antioxidant capacity of raw and frozen Brassica vegetables.  
*J. Agric. Food Chem.*, 2010, 58, 4310-4321.  
Broccoli, Brussels sprouts, Cauliflower – fresh and frozen, raw, boiled, microwaved, basket steamed, oven steamed.  
Kaempferol, Quercetin, Carotenoids, Glucosinolates, Phenolic acids, Total phenols, Chlorophylls.
- 202. Pinto, M. D. S., Lajolo, F. M., and Genovese, M. I.**  
Bioactive compounds and antioxidant capacity of strawberry jam.  
*Plant Foods Hum Nutr*, 2007, 62, 127-131.

Strawberry jam.

Kaempferol, Quercetin, Pelargonidin, Total phenolics, Ellagic acid, Antioxidant capacity ( $\beta$ -carotene bleaching method).

**203. Pinto, M. D. S., Lajolo, F. M., and Genovese, M. I.**

Bioactive compounds and quantification of total ellagic acid in strawberries (*Fragaria x ananasa* Duch.).

*Food Chemistry*, 2008, 107, 1629-1635.

Strawberries – 7 cultivars.

Catechin, Epicatechin, Cyanidin, Pelargonidin, Kaempferol, Quercetin, Total phenolics, Ellagic acid.

**204. Pour Nikfardjam, M. S., Márk, L., Avar, P., Figler, M., and Ohmacht, R.**

Polyphenols, anthocyanins, and trans-resveratrol in red wines from the Hungarian villainy region.

*Food Chemistry*, 2006, 98, 453-462.

Red wines – Cabernet franc, Cabernet sauvignon, Cabernet, sau/fr, Cuvee, Kadarka, Kékfrankos, Merlot, Oportó, Pinot noir, Portugieser, Royal cuvee, Rubin cuvee, Shiraz, Zweigelt.

Catechin, Epicatechin, Delphinidin, Malvidin, Peonidin, petunidin.

**205. Price, K. R., Prosser, T., Richetin, A. M. F., and Rhodes, M. J. C.**

A comparison of the flavonol content and composition of dessert, cooking and cider-making apples; distribution within the fruit and effect of juicing.

*Food Chem.*, 1999, 66, 489-494.

Apples with skin. Eating apples - Egremont, Cox's Orange, Granny Smith, Jonagored; Cooking apples - Bramley; Cider apples - Dabinett, Michelin, Yarlington.

Quercetin.

**206. Price, K. R., Casuscelli, F., Colquhoun, I. J., and Rhodes, M. J. C.**

Composition and content of flavonol glycosides in broccoli florets (*Brassica oleracea*) and their fate during cooking.

*J. Sci. Food Agric.*, 1998, 77, 468-472.

Broccoli - raw, cooked.

Quercetin, Kaempferol, Isoquercitrin.

**207. Price, K. R., Colquhoun, I. J., Barnes, K. A., and Rhodes, M. J. C.**

Composition and content of flavonol glycosides in green beans and their fate during processing.

*J. Agric. Food Chem.*, 1998, 46, 4898-4903.

Green beans - raw, canned.

Quercetin, Kaempferol.

**208. Price, K. R., Rhodes, M. J. C., and Barnes, K. A.**

Flavonol glycoside content and composition of tea infusions made from commercially available teas and tea products.



*J. Agric. Food Chem.*, 1998, 46, 2517-2522.  
Black teas, Tea products.  
Quercetin glycosides, Kaempferol glycosides.

- 209. Price, K. R., and Rhodes, M. J. C.**  
Analysis of the major flavonol glycosides present in four varieties of onion (*Allium cepa*) and changes in composition resulting from autolysis.  
*J. Sci. Food Agric.*, 1997, 74, 331-339.  
Onion - Red Barron - red, Rijnsburger - brown, Rose - pink, Albion - white.  
Quercetin.
- 210. Price, K. R., Bacon, J. R., and Rhodes, M. J. C.**  
Effect of storage and domestic processing on the content and composition of flavonol glucosides in onion (*Allium cepa*).  
*J. Agric. Food Chem.*, 1997, 45, 938-942.  
Onion - brown, red.  
Quercetin.
- 211. Price, W. E. And Spitzer, J. C.**  
Variations in the amount of individual flavanols in a range of green teas.  
*Food Chem.*, 1993, 47, 271-276.  
Green teas.  
Epicatechin, Epigallocatecin, Epigallocatechin gallate, Epicatechin gallate.
- 212. Proteggente, A.R., Saija, A., De Pasquale, A., and Rice-Evans, C.A.**  
The compositional characterisation and antioxidant activity of fresh juices from Sicilian sweet orange (*Citrus sinensis* L. Osbeck) varieties.  
*Free Radical Research*, 2003, 37(6), 681-687.  
Orange juice (Varieties: Navel, Valencia, Ovale, Sanguinello, Moro, Tarocco).  
Narirutin, Hesperidin, Cyanidin glucosides, Anthocyanin congenates, Didymin,  
Hydrocinnamic acids (Chlorogenic acid, *p*-Coumaric acid, Ferulic + Sinapic acid),  
Ascorbic acid.
- 213. Pupin A. M., Dennis, M. J., and Toledo, M. C. F.**  
Flavanone glycosides in Brazilian orange juice.  
*Food Chem.*, 1998, 61, 275-280.  
Orange juice (Brazilian).  
Narirutin, Hesperidin.
- 214. Puupponen-Pimia, R., H€ekkinen, S.T., Aarni, M., Suortti, T., Lampi, A-M., Eurola, M., Piironen, V., Nuutila, A M., and Oksman-Caldentey, K-M.**  
Blanching and long-term freezing affect various bioactive compounds of vegetables in different ways.  
*J. Sci. Food Agric.*, 2003, 83, 1389-1402.  
Peas fresh, processed), Carrots, Cauliflower, Cabbage, Spinach, Potatoes, Swede.

Dietary fiber components, minerals, Folic acid, Vitamin C,  $\forall$ -Carotene,  $\exists$ -Carotene, Total phenolics, Sterols, Quercetin, Kaempferol.

- 215. Pyo, Y-H., Lee, T-C., Logendra, L., and Rosen, R.T.**  
Antioxidant activity and phenolic compounds of Swiss chard (*Beta vulgaris* subspecies *cycla*) extracts.  
*Food Chemistry*, 2004, 85, 19-26.  
Swiss chard (red tissue, white tissue).  
Catechin, Myricetin, Quercetin, Kaempferol, Gallic acid, *p*-benzoic acid, Protocatechuic acid, syringic acid, Vannilic acid, chlorogenic acid, Caffeic acid, *p*-Coumaric acid, ferulic acid, DPPH.
- 216. Quettier-Elou, C., Gressier, B., Vasseur, J., Dine, T., Brunet, C., Luyckx, M., Cazin M., Cazin, J-C., Bailleul, F., and Trotin, F.**  
Phenolic compounds and antioxidant activities of buckwheat (*Fagopyrum esculentum* Moench) hulls and flour.  
*J. Ethnopharmacol.*, 2000, 72, 35-42.  
Buckwheat - hull, flour.  
Epicatechin, Rutin, Hyperoside, Procyanidin B2.
- 217. Raffo, A., Leonardi, C., Fogliano, V., Ambrosino, P., Salucci, M., Gennaro, L., Buglianesi, R., Giuffrida, F., and Quaglia, G.**  
Nutritional value of cherry tomatoes (*Lycopersicon esculentum* Cv. Naomi F1) harvested at different ripening stages.  
*J. Agric. Food Chem.*, 2002, 50(22), 6550-6556.  
Cherry tomato (cv Naomi).  
Rutin, Quercetin, Naringenin, Chlorogenic acid, Caffeic acid, *p*-Coumaric acid, Ferulic acid, Carotenoids, Ascorbic acid (reduced & total), Alpha-tocopherol.
- 218. Rechner, A.R., Wagner, E., Van Buren, L., Van de Put, F., Wiseman, S., and Rice-Evans, C.A.**  
Black tea represents a major source of dietary phenolics among regular tea drinkers.  
*Free Radic. Res.*, 2002, 36(10), 1127-1135.  
Black tea (7 brands).  
Epicatechin, Epigallocatechin, Epigallocatechin gallate, Epicatechin gallate, Theaflavins (1-4), Quercetin glucosides, Kaempferol glucosides, Thearubigins (total), Total flavonols, Total polyphenols, Hydroxycinnamic acids, Gallic acid.
- 219. Řehová, L., Škeřiková, V., and Jandera, P.**  
Optimisation of gradient HPLC analysis of phenolic compounds and flavonoids in beer using a CoulArray detector.  
*J. Sep. Sci.*, 2004, 27, 1345-1359.  
Czech Beer (Platan 11, light lager), German beer (Lowenbrau premium).  
Catechin, Epicatechin, Rutin.
- 220. Reto, M., Figueira, M. E., Filipe, H. M., and Almeida, C. M. M.**

Chemical composition of green tea (*Camellia sinensis*) infusions commercialized in Portugal.

*Plant Foods Hum Nutr*, 2007, 62, 139-144.

Green tea.

Catechin, Epicatechin, Epicatechin gallate, Epigallocatechin, Epigallocatechin gallate, Caffeine.

**221. Revilla, E., Ryan, J-M., and Martin-Ortega, G.**

Comparison of several procedures used for the extraction of anthocyanins from red grapes.

*J. Agric. Food Chem.*, 1998, 46(11), 4592-4597.

Red grapes (Cabernet Sauvignon).

Delphinidin, Cyanidin, Petunidin, Peonidin, Malvidin.

**222. Revilla, E.**

Analysis of flavonol aglycones in wine extracts by high performance liquid chromatography.

*Chromatographia*, 1986, 22, 1-6.

Wine - red, white, Sherry.

Quercetin, Kaempferol, Myricetin, Isorhamnetin.

**223. Ribani, H. F., Huber, L. S., and Ridriguez-Amaya, D. B.**

Flavonols in fresh and processed Brazilian fruits.

*J. Food Comp. Anal.*, 2009, 22, 263-268.

Acerola – raw, concentrated juice, frozen pulp, Apple, Cashew-apple – raw, ready-to-drink juice, concentrated juice, frozen pulp, Fig, Guava, Jaboticaba, Orange, Pitanga – raw, concentrated juice, frozen pulp, Strawberries.

Kaempferol, Myricetin, Quercetin.

**224. Rodriguez-Delgado, M.-A., Gonzalez-Hernandez, G., Conde-Gonzalez, J.-E., and Perez-Trujillo, J.-P.**

Principal component analysis of the polyphenol content in young red wines.

*Food Chem.*, 2002, 78(4), 523-532.

Red wine.

Catechin, Epicatechin, Quercetin, Quercitrin, Myricetin, Kaempferol, Hydroxybenzoic acids, Hydroxycinnamic acids (Caffeic acid, *p*-coumaric acid, ferulic acid), Phenolic aldehydes.

**225. Rodríguez-Delgado, M. A., Malovaná, S., Pérez, J. P., and Borges, T.**

Separation of phenolic compounds by high-performance liquid chromatography with absorbance and fluorimetric detection.

*J. Chromatogr. A*, 2001, 912, 249-257.

Red wine, White wine.

Catechin, Epicatechin, Myricetin, Quercetin, Kaempferol, Gallic acid, Protocatechuic acid, Vanillic acid, Caffeic acid, Syringic acid, *p*-Coumaric acid, Ferulic acid, *trans*-Resveratrol.

**226. Rodríguez-Delgado, M. A., Pérez, M. L., Corbella, R., González, G., García**

**Montelongo, F. J.**

Optimization of the separation of phenolic compounds by micellar electokinetic capillary chromatography.

*J. Chromatogr. A*, 2000, 871, 427-438.

Wines - Spanish.

Catechin, epicatechin, Quercetin, rutin, Myricetin, Kaempferol, Ferulic acid, p-Coumaric acid, Vannilic acid.

- 227. Romani, A., Vignolini, P., Galardi, C., Mulinacci, N., Benedettelli, s., and Heimler, D.**  
Germplasm characterization of Zolfino Landraces (*Phaseolus vulgaris* L.) by flavonoid content.

*J. Agric. Food Chem.*, 2004, 52, 3838-3842.

Zolfino Landraces (Tuscan legume).

Quercetin, kaempferol, Daidzein, Genistein, delphinidin, Petunidin, Malvidin.

- 228. Rusak, G., Komes, D., Likić, S., Horžić, D., and Kovač, M.**

Phenolic content and antioxidative capacity of green and white tea extracts depending on extraction conditions and the solvent used.

*Food Chemistry*, 2008, 110, 852-858.

Green tea (bag, loose), White tea (bag, loose).

Epicatechin gallate, Epigallocatechin, Gallocatechin gallate, Epigallocatechin gallate, Antioxidant capacity (FRAP, ABTS).

- 229. Rouseff, R. L.**

Liquid chromatographic determination of naringin and neohesperidin as a detector of grapefruit juice in orange juice.

*J. Assoc. Off. Anal. Chem.*, 1988, 71, 798-802.

Orange juice, Grapefruit juice.

Naringin, Neohesperidin.

- 230. Rouseff, R. L., Barros, S. M., Dougherty, M. H., and Martin, S. F.**

A survey of quality factors found in florida canned single-strength grapefruit juice from the 1977-78, 1978-79, and 1979-80 seasons.

*Proc. Fla. State Hort. Soc.*, 1980, 93, 286-289.

Grapefruit juice (canned).

Naringin, Limonin.

- 231. Sakakibara, H., Honda, Y., Nakagawa, S., Ashida, H., and Kanazawa, K.**

Simultaneous determination of all polyphenols in vegetables, fruits, and teas.

*J. Agric. Food Chem.*, 2003, 51 (3), 571-581.

Taro, Cabbage, Celery, Coriander, radish leaves, Turnip leaves, Broccoli, Cacao, Tomato, Black soybean, Carob, Peas (garden), Kumquat, Orange, Sweet cherries, Green tea (dry), Oolong tea (dry), Black tea (dry).

Quercetin, Kaempferol, Isorhamnetin, Apigenin, Luteolin, Catechin, Epicatechin, Theaflavin, Theaflavin gallates.

- 232. Sampson, L., Rimm, E., Hollman, P.C.H., de Vries, J.H.M., and Katan, M.B.**  
 Flavonol and flavone intakes in US health professionals.  
*J. Am. Diet. Assoc.*, 2002, 102(10), 1414-1420.  
 Apples (Delicious, Granny Smith, Macintosh), Avocado, Cantaloupe, Watermelon, Alfalfa sprouts, Onions-Spanish (white, yellow), Pepper (green), Apple Juice (Motts, Storebrand, Veryfine), Tea (Lipton, Salada, Tetley), Red wine (Cabernet Sauvignon, Merlot, Syrah).  
 Quercetin, Myricetin, Kaempferol.
- 233. San, B. and Yildirim, A. N.**  
 Phenolic, alpha-tocopherol, beta-carotene and fatty acid composition of four promising jujube (*Zizipus jujube* Miller) selections.  
*J. Food Comp. Anal.*, 2010, 23, 706-710.  
 Jujube (Ber).  
 Catechin, Epicatechin, Quercetin, Caffeic acid, Chlorogenic acid, Ferulic acid, Beta-carotene, p-Hydroxybenzoic acid.
- 234. Sanchez-Moreno, C., Plaza, L., de Ancos, B., and Cano, M.P.**  
 Quantitative bioactive compounds assessment and their relative contribution to the antioxidant capacity of commercial orange juices.  
*J. Sci. Food Agric.*, 2003, 83(5), 430-439.  
 Orange juice.  
 Naringenin, Hesperetin, Total flavanones, Carotenoids, Vitamin A, Vitamin C.
- 235. Sanchez-Moreno, C., Plaza, L., de Ancos, B., and Cano, M.P.**  
 Effect of high-pressure processing on health-promoting attributes of freshly squeezed orange juice (*Citrus sinensis* L.) during chilled storage.  
*Eur. Food Res. Technol.*, 2003, 216, 18-22.  
 Orange juice (freshly squeezed, variety Valencia late).  
 Naringenin, Hesperetin.
- 236. Sanchez-Moreno, C., Cao, G., Ou, B., and Prior, R.L.**  
 Anthocyanin and proanthocyanin content in selected white and red wines. Oxygen radical absorbance capacity comparison with nontraditional wines obtained from highbush blueberry.  
*J. Agric. Food Chem.*, 2003, 51, 4889-4886.  
 Red wines.  
 delphinidin, Cyanidin, Petunidin, Peonidin, Malvidin, Catechin, Proanthocyanidin dimmers, trimers, tetramers, Total Phenolics, ORAC.
- 237. Schauss, A. G., Wu, X., Prior, R. L., Ou, B., Patel, D., Huang, D., and Kababick, J. P.**  
 Phytochemical and nutrient composition of the freeze-dried Amazonian palm berry, *Euterpe oleracea* Mart. (Acai).  
*J. Agric. Food Chem.*, 2006, 54, 8598-8603.  
 Acai berry powder.  
 Cyanidin, Peonidin.

- 238. Schieber, A., Keller, P., Carle, R.**  
Determination of phenolic acids and flavonoids of apple and pear by high-performance liquid chromatography.  
*J. Chromatogr. A*, 2001, 910, 265-273.  
Apple juice, Pear, (apple pomace - not entered).  
Catechin, Epicatechin, Quercetin, Procyanidin B1, Procyanidin B2, Coumaroyl glucose, Chlorogenic acid, Caffeic acid, Phloretin, Phloridzin, 5-hydroxymethyl furfural.
- 239. Schutz, K., Kammerer, D., Carle, R., and Schieber, A.**  
Identification and quantification of caffeoylquinic acids and flavonoids from artichoke (*Cynara scolymus* L.) heads, juice and pomace by HPLC-DAD-ESI/MS<sup>n</sup>.  
*J. Agric. Food Chem.*, 2004, 52, 4090-4096.  
Artichoke heads, juice and pomace.  
Luteolin, Apigenin, Naringenin, Caffeoylquinic acids.
- 240. Sellappan, S., Akoh, C.C., and Krewer, G.**  
Phenolic compounds and antioxidant capacity of Georgia-grown blueberries and blackberries.  
*J. Agric. Food Chem.*, 2002, 50(8), 2432-2438.  
Blueberries (Rabbiteye & Southern highbush), Blackberries.  
Catechin, Epicatechin, Myricetin, Quercetin, Kaempferol, Gallic acid, *p*-Hydroxy benzoic acid, Caffeic acid, *p*-Coumaric acid, Ferulic acid, Ellagic acid, Total anthocyanins, Total polyphenolics.
- 241. Sellappan, s. and Akoh, C.**  
Flavonoids and antioxidant capacity of Georgia-grown *Vidalia* onions.  
*J. Agric. Food Chem.*, 2002, 50, 5338-5342.  
*Vidalia* onions.  
Kaempferol, quercetin, Myricetin, Total Polyphenols, TEAC.
- 242. Shao, W. Powell, C., and Clifford, M. N.**  
The analysis by HPLC of green, black and pu'er teas produced in Yunnan.  
*J. Sci. Food Agric.*, 1995, 69, 535-540.  
Black tea, Green tea, Pu'er tea.  
Catechin, Epicatechin, Epicatechin-gallate, Epigallocatechin, Epigallocatechin-gallate, Theogallin, Gallic acid, Theaflavic acid, Epitheaflavic acid, Epitheaflavic acid-3'-gallate, Theaflavin, Theaflavin-3-gallate, Theaflavin-3'-gallate, Theaflavin-3-3'-gallate, Thearubigins.
- 243. Shishikura, Y. and Khokar, S.**  
Factors affecting the levels of catechins and caffeine in tea beverage: estimated daily intakes and antioxidant activity.  
*J. Sci. Food Agric.*, 2005, 85, 2125-2133.  
Green tea – leaves, powdered, bag.  
Catechin, Epicatechin, Epicatechin gallate, Epigallocatechin, Epigallocatechin gallate, Caffeine, Total phenols, Antioxidant activity (FRAP).

- 244. Simonetti, P., Piétta, P., and Testolin, G.**  
Polyphenol content and total antioxidant potential of selected Italian wines.  
*J. Agric. Food Chem.*, 1997, 45, 1152-1155.  
Wines - red, white.  
Quercetin, Kaempferol, Myricetin, Isorhamnetin, Rutin.
- 245. Šimunić, V., KOVAČ, s., gAŠO-sOKAČ, d., Pfannhauser, W., and Murkovic, M.**  
Determination of anthocyanins in four Croatian cultivars of sour cherries (*Prunus cerasus*).  
*Eur Food Res Technol*, 2005, 220, 575-578.  
Sour cherries.  
Cyanidin.
- 246. Skegret, M. Kotnik, P., Hadolin, M., Hraš, A.R., Simonic, M., and Knez, Z.**  
Phenols, proanthocyanidins, flavones, and flavonols in some plant materials and their antioxidant activities.  
*Food Chemistry*, 2005, 89, 191-198.  
Laurel, Oregano, Olive tree, Hypericum, Hawthorn.  
Quercetin, Luteolin, Apigenin, Kaempferol, Myricetin.
- 247. Slimestad, R., Vangdal, E., and Brede, C.**  
Analysis of phenolic compounds in six Norwegian plum cultivars (*Prunus domestica* L.).  
*J. Agric. Food Chem.*, 2009, 57, 11370-11375.  
Plums- 6 cultivars.  
Cyanidin, Peonidin, Quercetin, Caffeoylquinic acid.
- 248. Slimestad, R., Toskangerpoll, K., Nateland, H.S., Johannessen, T., and Giske, N.H.**  
Flavonoids from black chokeberries, *Aronia melanocarpa*.  
*J. Food Comp. Anal.*, 2005, 18, 61-68.  
Black Chokeberries.  
Eriodictyol, Neochlorogenic acid, Chlorogenic acid, Quercetin, Cyanidin.
- 249. Spanos, G.A. and Wrolstad, R.E.**  
Influence of processing and storage on the phenolic composition of Thompson seedless grape juice.  
*J. Agric. Food Chem.*, 1990(a), 38(7), 1565-1571.  
Grape juice (from Thompson seedless grapes).  
Catechin, Epicatechin, Procyanidins B1-B4, Trimer + Tetramer, Total procyanidins, Total unknowns.
- 250. Spanos, G.A., Wrolstad, R.E., and Heatherbell, D.A.**  
Influence of processing and storage on the phenolic composition of apple juice.  
*J. Agric. Food Chem.*, 1990(b), 38(7), 1572-1579.  
Apple juice (from Granny Smith, Red delicious, McIntosh, & Spartan variety).  
Catechin, Epicatechin, Quercetin glycosides & totals, Procyanidins B1-B4, Total procyanidins, Phloretin glycosides & totals, Cinnamics.

- 251. Steadman, K. J., Burgoon, M.S., Lewis, B.A., Edwardson, S., and Obendorf, R.L.**  
Minerals, phytic acid, tannin and rutin in buckwheat seed milling fractions.  
*J. Sci. Food Agric.*, 2001, 81, 1094-1100.  
Buckwheat groats, Buckwheat flour.  
Rutin, Quercetin.
- 252. Steinhaus, B., and Engelhardt, U. H.**  
Theaflavins in black tea.  
*Z Lebensm Unters Forsch*, 1989, 188, 509-511.  
Black tea.  
Total theaflavins, Theaflavin, Theaflavin-e gallate, Theaflavin-3'-gallate, Theaflavin-3-3'-gallate.
- 253. Stewart, A. J., Bozonnet, S., Mullen, W., Jenkins, G., Lean, M. E. J., and Crozier, A.**  
Occurrence of flavonols in tomatoes and tomato-based products.  
*J. Agric. Food Chem.*, 2000, 48, 2663-2669.  
Tomatoes - Spanish, Israeli, South African, English, Scottish -Beefsteak, Cherry, Yellow.  
Quercetin, Kaempferol.
- 254. Suárez, B., Picinelli, A., Mangas, J. J.**  
Solid-phase extraction and high-performance liquid chromatographic determination of polyphenols in apple musts and ciders.  
*J. Chromatogr. A*, 1996, 727, 203-209.  
Apple - must, cider.  
Epicatechin, Quercetin, Caffeic acid, p-Coumaric acid.
- 255. Tarola, A. M., Milano, F., and Giannetti, V.**  
Simultaneous determination of phenolic compounds in red wines by HPLC.  
*Analytical Letters*, 2007, 40, 2433-2445.  
Red wines – Primitivo Puglia, Castel de Polis, Solopaca, Montepulciano, Barbera, Ciro, Merlot, Colferraio, Rosso del Salento, Primitivo di Manduria.  
Catechin, Epicatechin, Quercetin, Gallic acid, Caffeic acid, Chlorogenic acid, Resveratrol.
- 256. Teissedre, P-L., and Landrault, N.**  
Wine phenolics: contribution to dietary intake and bioavailability.  
*Food Res. Int.*, 2000, 33, 461-467.  
Wines - red, white.  
Catechin, Epicatechin, Malvidin, Procyanidin B1, B2, B3, B4, Caffeic acid p-Coumaric acid, gallic acid.
- 257. Tomas-Barberan, F.A., Gil, M.I., Cremin, P., Waterhouse, A.L., Hess-Pierce, B., and Kader, A.A.**  
HPLC-DAD-ESIMS analysis of phenolic compounds in nectarines, peaches, and plums.  
*J. Agric. Food Chem.*, 2001, 49, 4748-4760.  
Nectarines (white & yellow flesh), Peaches (white & yellow flesh), Plums (red & yellow).



Catechin, Epicatechin, Quercetin glycosides, Cyanidin glycosides, Hydrocinnamic acid derivatives, Procyanidins (B1 & others for nectarines and peaches; B1, B2, B4, A-type dimers, & others for plums), Totals.

- 258. Tomás-Lorente, F., García-Viguera, C., Ferreres, F., and Tomás-Barberán, F.**  
Phenolic compounds analysis in the determination of fruit jam genuineness.  
*J. Agric. Food Chem.*, 1992, 40, 1800-1804.  
Jams - Apricot, Peach, Plum, Strawberry, Sour Orange.  
Quercetin, Kaempferol, Rutin, Naringin, Neohesperidin.
- 259. Toyoda, M., Tanaka, K., Hoshino, K., Akiyama, H., Tanimura, A., and Saito, Y.**  
Profiles of potentially antiallergic flavonoids in 27 kinds of health tea and green tea infusions.  
*J. Agric. Food Chem.*, 1997, 45, 2561-2564.  
Green teas, Health teas.  
Quercetin, Myricetin, Kaempferol, Apigenin, Luteolin, Scutellarein.
- 260. Trichopoulou, A., Vasilopoulou, E., Hollman, P., Chamalides, Ch., Foufa, E., Kaloudis, Tr., Kromhout, D., Miskaki, Ph., Petrochilou, I., Poulima, E., Stafilakis, K., and Theophilou, D.**  
Nutritional composition and flavonoid content of edible wild greens and green pies: a potential rich source of antioxidant nutrients in the Mediterranean diet.  
*Food Chem.*, 2000, 70, 319-323.  
Fennel, Chive, Annual saw-thistle, Hartwort, Corn poppy, Dock - broad leaf, Queen Anne's lace, Cretan green pie.  
Quercetin, Kaempferol Myricetin, Isorhamnetin, Luteolin, Apigenin.
- 261. Tsanova-Savova, S., and Ribarova, F.**  
Free and conjugated myricetin, quercetin, and kaempferol in Bulgarian red wines.  
*J. Food Comp. Anal.*, 2002, 15, 639-645.  
Red wines (Bulgarian).  
Myricetin, Quercetin, Kaempferol.
- 262. Tsanova-Savova, S., Ribarova, F., and Gerova, M.**  
(+)-Catechin and (-)-Epicatechin in Bulgarian fruits.  
*J. Food Comp. Anal.*, 2005, 18, 691-698.  
Apple, Pear, Peach, Apricot, Plum, Cherry, sweet, Cherry, sour, Raspberry, Blackberry, Strawberry, Blueberry, Grape, black, Grape, white, Melon, Fig.  
Catechin, Epicatechin.
- 263. Tsao, R., Yang, R., Young, J.C., and Zhu, H. T**  
Polyphenolic profiles in eight apple cultivars using high-performance liquid chromatography (HPLC).  
*J. Agric. Food Chem.*, 2003, 51, 6347-6353.  
Apples (Empire, McIntosh, Cortland, Red Delicious, Northern Spy, Golden Delicious, Ida Red).

Catechin, Epicatechin, Procyanidin B2, Cyanidin, Quercetin, Phloretin, Phloridzin, Total polyphenolics.

- 264. Tsushida T., and Suzuki, M.**  
Content of flavonol glucosides and some properties of enzymes metabolizing the glucosides in onion.  
*J. Jap. Soc. Food Sci. Technol.*, 1996, 43, 642-649.  
Onion - yellow (7 cultivars), red (1 cultivar), white (3 cultivars).  
Quercetin, Isorhamnetin.
- 265. Unilever Bestfoods, North America.**  
Summary Flavonoid Content of Teas in the U.S. Market.  
Unpublished Data, 2002.
- 266. Usenik, V., Štampar, F., and Veberič, R.**  
Anthocyanins and fruit color in plums (*Prunus domestica* L.) during ripening.  
*Food Chemistry*, 2009, 114, 529-534.  
Plums – 4 varieties.  
Cyanidin, Peonidin.
- 267. Usenik, V., Fabčič, J., and Štampar, F.**  
Sugars, organic acids, phenolic composition and antioxidant activity of sweet cherry (*Prunus avium* L.).  
*Food Chemistry*, 2008, 107, 185-192.  
Sweet cherries.  
Epicatechin, Quercetin, Chlorogenic acid, p-Coumaroylquinic acid, Total phenols, Antioxidant activity (Antioxidant Equivalent of Ascorbic Acid, AEAC).
- 268. Valles, B.S., Santamaria Victorero, J., Mangas Alonso, J.J., and Blanco Gomis, D.**  
High-performance liquid chromatography of the neutral phenolic compounds of low molecular weight in apple juice.  
*J. Agric. Food Chem.*, 1994, 42, 2732-2736.  
Apple juice (N Senora, San Pedro, & San Juan varieties).  
Catechin, Epicatechin, Rutin, Quercetin, Isoquercetin + Hyperin, Procyanidins B1, B2, C1 + tetramer, Unknown procyanidin, Phloretin xyloglucoside, Unknown flavonol, Avicularin, Phloridzin.
- 269. Valavanidis, A., Vlachogianni, T., Psomas, A., Zovoili, A., and Siatis, V.**  
Polyphenolic profile and antioxidant activity of five apple cultivars grown under organic and conventional agricultural practices.  
*Int. J. Food Sci. Technol.*, 2009, 44, 1167-1175.  
Apples – Red Delicious Starking, Golden Delicious, Granny Smith, Royal Gala, Jona Gold.  
Catechin, Epicatechin, Procyanidins, Cyanidin, Quercetin, Chlorogenic acid.
- 270. Vanamala, J., Reddivari, L., Yoo, K. S., Pike, L. M., and Patil, B. S.**

Variation in the content of bioactive flavonoids in different brands of orange and grapefruit juices.

*J. Food Comp. Anal.*, 2006, 19, 157-166.

Orange juice, Grapefruit juice – different brands.

Hesperitin, Naringenin, Didymin, Poncirin, Quercetin.

**271. Vandercook, C. E., and Tisserat, B.**

Flavonoid changes in developing lemons grown in vivo and in vitro.

*Phytochemistry*, 1989, 28, 799-803.

Lemon.

Hesperidin, Rutin, Diosmin.

**272. van der Sluis, A.A., Dekker, M., de Jager, A., and Jongen, W.M.F.**

Activity and concentration of polyphenolic antioxidants in apple: Effect of cultivar, harvest year, and storage conditions.

*J. Agric. Food Chem.*, 2001, 49(8), 3606-3613.

Apples-w/o skin & whole (Jonagold)

Quercetin glycosides, Epicatechin, Phloridzin, Chlorogenic acid.

**273. Veberic, R., Jakopic, J., Stampar, F., and Schmitzer, V.**

European elderberry (*Sambucus nigra* L.) rich in sugars, organic acids, anthocyanins and selected polyphenols.

*Food Chemistry*, 2009, 114, 511-515.

European elderberries.

Cyanidin, Quercetin.

**274. Veberic, R., Colaric, M., and Stampar, F.**

Phenolic acids and flavonoids of fig fruit (*Ficus carica* L.) in the northern Mediterranean region.

*Food Chemistry*, 2008, 106, 153-157.

Fig – 3 cultivars.

Catechin, Epicatechin, Quercetin, Gallic acid, Chlorogenic acid, Syringic acid.

**275. Velioglu, Y. S., Ekici, L., and Poyrazoglu, E. S.**

Phenolic composition of European cranberrybush (*Viburnum opulus* L.) berries and astringency removal of its commercial juice.

*Int. J. Food Sci. Technol.*, 2006, 41, 1011-1015.

European cranberrybush berries.

Catechin, Epicatechin, Procyanidin, Cyanidin, Quercetin, Chlorogenic acid,

Hydroxybenzoic acid, Total phenolics.

**276. Vrhovsek, U., Rigo, A., Tonon, D., and Mattivi, F.**

Quantitation of polyphenols in different apple varieties.

*J. Agric. Food Chem.*, 2004, 52, 6532-6538.

Apples – Renetta, Red Delicious, Granny Smith, Morgenduft, Golden Delicious, Royal Gala, Braeburn, Fuji.

Catechin, Epicatechin, Procyanidins, Cyanidin, Quercetin, Total polyphenols, Hydroxycinnamates (5'-caffeoyl, p\_Coumaroylquinic, p-Coumaric acids), Dihydrochalcones (Phloridzin, Phloretin).

- 277. Vuorinen, H., Määttä, Törrönen, R.**  
Content of the flavonols Myricetin, Quercetin, and Kaempferol in Finnish berry wines.  
*J. Agric. Food Chem.*, 2000, 48, 2675-2680.  
Berry wines Red - Black currant, Red currant, Strawberry, Raspberry, black currant-strawberry, raspberry, black currant-crowberry, Black currant-crowberry-rose hip, Crowberry, Bog whortleberry- strawberry-black currant-crowberry, Berry wines White - White currant, Gooseberry.  
Quercetin, Kaempferol, Myricetin.
- 278. Not used**
- 279. Wang, C. Y., Wang, S. Y., and Chen, C.**  
Increasing antioxidant activity and reducing decay of blueberries by essential oils.  
*J. Agric. Food Chem.*, 2008, 56, 3587-3592.  
Blueberries.  
Kaempferol, Myricetin, Quercetin, Cyanidin, Delphinidin, Malvidin, Petunidin, Chlorogenic acid, Resveratrol.
- 280. Wang, S. Y., Chen, C., Sciarappa, W., Wang, C. Y., and Camp, M.**  
Fruit quality, antioxidant capacity, and flavonoid content of organically grown and conventionally grown blueberries.  
*J. Agric. Food Chem.*, 2008, 56, 5788-5794.  
Blueberries.  
Myricetin, Quercetin, Cyanidin, Delphinidin, Malvidin, Petunidin, Chlorogenic acid, Resveratrol, Total phenolics, ORAC.
- 281. Wang, M., Simon, J.E., Aviles, I.F., He, K., Zheng, Q-Y., Tadmor, Y.**  
Analysis of antioxidative phenolic compounds in artichoke (*Cynara scolymus* L.).  
*J. Agric. Food Chem.*, 2003, 51, 601-608.  
Artichoke heads (Imperial Star, Green Globe, Violet).  
Apigenin, Luteolin, Naringenin, 1-caffeoylquinic acid, chlorogenic acid, Cynaroside, Cynarin.
- 282. Wang, S.Y., and Lin, H-S.**  
Compost as a soil supplement increases the level of antioxidant compounds and oxygen radical absorbance capacity in strawberries.  
*J. Agric. Food Chem.*, 2003, 51, 6844-6850.  
Strawberries (Allstar, Honeoye).  
Kaempferol, Elagic acid, p-Coumaroyl glucose, Dihydroflavonol, Cyanidin, Pelargonidin, ORAC.
- 283. Wang, S.Y., Zheng, W., and Galleta, G.**

Cultural system affects fruit quality and antioxidant capacity in strawberries.  
*J. Agric. Food Chem.*, 2002, 50, 6534-6542.  
Strawberries (Allstar, Earliglow, Delmarvel, Latestar, Lester, Mohawk, Northeaster, Redchief, B28, B35, B244-89, MEUS 8, MEUS 9, US 292).  
Quercetin, Kaempferol, Ellagic acid, *p*-Coumaroyl glucose, Cyanidin, Pelargonidin, Fructose, Glucose, Sucrose, Malic acid, Citric acid, Ascorbic acid, Soluble solids, ORAC.

**284. Wang, H. F., Helliwell, K.**

Determination of flavonols in green and black tea leaves and green tea infusions by high-performance liquid chromatography.  
*Food Res. Int.*, 2001, 34, 223-227.  
Green tea leaves, Black tea leaves, Green tea infusions.  
Quercetin, Kaempferol, Myricetin

**285. Wang, H., Nair, M. G., Iezzoni, A. F., Strasburg, G. M., Booren, A. M., and Gray, I.**

Quantification and characterization of anthocyanins in Balaton tart cherries.  
*J. Agric. Food Chem.*, 1997, 45, 2556-2560.  
Cherries - Balaton, Montmorency.  
Cyanidin.

**286. Will, F., Hilsendegen, P., Bonerz, D., Patz, C-D., and Dietrich, H.**

Analytical composition of fruit juices from different sour cherry cultivars.  
*J. Appl. Bot. Food Qual.*, 2005, 79, 12-16.  
Sour cherry juices – 5 cultivars.  
Catechin, epicatechin, Quercetin, Cyanidin, Peonidin, 3-, 5-Coumaroylquinic acid, Chlorogenic acid.

**287. Wu, X., Beecher, G. R., Holden, J. M., Haytowitz, D. B., Gebhardt, S. E., and Prior, R. L.**

Concentrations of anthocyanins in common foods in the United States and estimation of normal consumption.  
*J. Agric. Food Chem.*, 2006, 54, 4069-4075.  
Fruits: Apples (Fuji, Gala, Red delicious), Blackberry, Marion blackberry, Blueberry (cultivated, wild), Cherry (sweet), Chokeberry, cranberry, Currant (black, red), Elderberry, Gooseberry, Grape (red, Concord), Nectarine, Peach, Plum (black), Raspberry (black, red), Strawberry. Vegetables: Black bean, Eggplant, Red cabbage, Red leaf lettuce, Red onion, Red radish, Small red beans. Nuts: Pistachio.

**288. Wu, X., Gu, L., Prior, R. L., and McKay, S.**

Characterization of anthocyanins and proanthocyanidins in some cultivars of *Ribes*, *Aronis*, and *Sambucus* and their antioxidant capacity.  
*J. Agric. Food Chem.*, 2004, 52, 7846-7856.  
Black Currants (cv. Ben Alder, Ben Navis, Ben, Lomond, Ben Tirran, Titania, Ukraine), Gooseberries (cv. Winham, Lancashire, Dan's Mistake, Careless), Chokeberries, Elderberries, Red Currants.  
Cyanidin, Delphinidin, Pelargonidin, Peonidin, Petunidin, Total Phenolics, ORAC.

- 289. Yamada, K., Naemura, A., Sawashita, N., Noguchi, Y., and Yamamoto, J.**  
 An onion variety has natural antithrombotic effect as assessed by thrombosis/thrombolysis models in rodents.  
*Thrombosis Res.*, 2004, 114, 213-220.  
 Onion yellow (Kitamiko27, Toyohira, Kitawasa3, Tsukisappu, Superkitamomiji, CS3-12, Rantaro, 2935A, K83211), Onion red (Tsukiko22).  
 Quercetin, Platelet reactivity, Coagulation, Thrombolytic activity.
- 290. Yang, B., Halttunen, T., Raimo, O., Price, K., and Kallio, H.**  
 Flavonol glycosides in wild and cultivated berries of three major subspecies of *Hippophaë rhamnoides* and changes during harvesting period.  
*Food Chemistry*, 2009, 115, 657-664.  
 Sea buckthorn berries, wild.  
 Isorhamnetin, Quercetin.
- 291. Yao, L., Jiang, Y., Singanusong, R., D'Arcy, B., Datta, N., Caffin, N., and Raymont, K.**  
 Flavonoids in Australian *Melaleuca*, *Guia*, *Lophostemon*, *Banksia* and *Helianthus* honeys and their potential for floral authentication.  
*Food Res. Int.*, 2004, 37, 166-174.  
 Honeys (Australia).  
 Myricetin, Quercetin, Luteolin, Kaempferol, Isoramnetin, Tricetin, Pinocembrin, Chrysin, Pinobanksin, Genkwanin.
- 292. Yao, L., Jiang, Y., D'Arcy, B., Singanusong, R., Datta, N., Caffin, N., and Raymont, K.**  
 Quantitative high-performance liquid chromatography analyses of flavonoids in Australian *Eucalyptus* honeys.  
*J. Agric. Food Chem.*, 2004, 52, 210-214.  
 Honeys (Australian *Eucalyptus* ).  
 Myricetin, Quercetin, Luteolin, Kaempferol, Isoramnetin, Tricetin, Pinocembrin, Chrysin, Pinobanksin.
- 293. Yilmaz, Y., and Toledo, R.T.**  
 Major flavonoids in grape seeds and skins: Antioxidant capacity of catechin, epicatechin, and gallic acid.  
*J. Agric. Food Chem.*, 2004, 52, 255-260.  
 Grape seeds (Muscadine).  
 Catechin, Epicatechin, Gallic acid, ORAC.
- 294. Yoo, K.M., Lee, K.W., Park, J.B., Lee, H.J., and Hwang, I.K.**  
 Variation in major antioxidants and total antioxidant activity of yuzu (*Citrus junos Sieb ex Tanaka*) during maturation and between cultivars.  
*J. Agric. Food Chem.*, 2004, 52, 5907-5913.  
 Yuzu (Citrus fruit) cv. Wando, Goheung, Sadeung.

Hesperetin, Naringenin, Total Phenolics, Vitamin C, Total antioxidant activity.

- 295. You, Q., Wang, B., Chen, F., Huang, Z., Wang, X., and Luo, P.**  
Comparison of anthocyanins and phenolics in organically and conventionally grown blueberries, in selected cultivars.  
*Food Chemistry*, 2011, 125, 201-208.  
Blueberries – Powder blue, Climax, Tifblue.  
Cyanidin, Delphinidin, Malvidin, Peonidin, Petunidin, Quercetin, Caffeic acid, Chlorogenic acid, p-Coumaric acid, Total phenols, Total anthocyanins, ORAC.
- 296. Young, J. E., Zhao, X., Carey, E. E., Welti, R., Yang, S-S., and Wang, W.**  
Phytochemical phenolics in organically grown vegetables.  
*Mol. Nutr. Food Res.*, 2005, 49, 1136-1142.  
Lettuce - Kalura leaf, Red Sails leaf, Collard green (top bunch), Pac Choi.  
Apigenin, Luteolin, Kaempferol, Quercetin.
- 297. Yusof, S., Ghazali, H. M., and King, G. S.**  
Naringin content in local citrus fruits.  
*Food Chem.*, 1990, 37, 113-121.  
Pummelo, Rough lime.  
Naringin.
- 298. Zafrilla, P., Ferreres, F., and Tomas-Barberan, F.A.**  
Effect of processing and storage on the antioxidant ellagic acid derivatives and flavonoids of red raspberry (*Rubus idaeus*) jams.  
*J. Agric. Food Chem.*, 2001, 49(8), 3651-3655.  
Raspberries raw and Jam.  
Quercetin, Kaempferol, Ellagic acid.
- 299. Zheng, W. and Wang, S.Y.**  
Oxygen radical absorbing capacity of phenolics in blueberries, cranberries, chokeberries, and lingonberries.  
*J. Agric. Food Chem.*, 2003, 51, 502-509.  
Blueberries, Cranberries, Chokeberries, Lingonberries.  
Kaempferol, Myricetin, Quercetin, Cyanidin, Malvinidin, Peonidin, Petunidin, Chlorogenic acid, Vanillic acid, Caffeic acid, p-Coumaric acid, Total phenols, Total anthocyanins, ORAC
- 300. Zheng, W. and Wang, S.Y.**  
Antioxidant activity and phenolic compounds in selected herbs.  
*J. Agric. Food Chem.*, 2001, 49(11), 5165-5170.  
Garden Sage, Marjoram-hard, sweet, Mexican Oregano, Garden Thyme, Rosemary.  
\*Luteolin, Apigenin, Naringin (naringenin-5-rhamnosidoglucoside), Rutin, Quercetin-3-O-rhamnosyl-(1-2)-rhamnosyl-(1-6)-glucoside, Kaempferol-3-O-rhamnosyl-(1-2)-rhamnosyl-(1-6)-glucoside, Vanillic acid, Caffeic acid, Rosmarinic acid, Hispidulin, Cirsimaritin, Carnosic acid, Rosmanol, Total phenolics .