

2015 Hard Winter Wheat Regional Performance Nursery Quality Report



Hard Winter Wheat Quality Laboratory

Dr. Richard Y. Chen and Dr. Bradford W. Seabourn

**USDA-ARS-CGAHR
1515 College Avenue
Manhattan, KS**

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Hard Winter Wheat Quality Laboratory

About the 2015 Crop ...

Locations from the [NRPN](#), and [SRPN](#) were subdivided into **intra-regional production zones**. The intra-regional production zones represent broad production regions in which several locations have been composited by similar historical yield trends. Full quality testing is performed on these samples, and the data are listed beginning with the name of the nursery followed by a zone identifier (eg. "NRPN-NCP breadmaking properties," the NCP indicating North Central Plains Zone).

The [NRPN](#), and [SRPN](#) regional nursery locations with number of samples submitted in the parenthesis were subdivided and variety-composited according to the following zones:

[Northern Regional Performance Nursery \(NRPN\)](#)

North Central Plains (NCP)

North Platte, NE (41)
St. Paul, MN (41)
Crookston, MN (41)
Brookings, SD (41)
Winner, SD (41)

Northern Plains (NP)

Casselton, ND (41)
Minot, ND (41)
Bozeman, MT (41)
Moccasin, MT (41)
Williston, ND (41)

Northern High Plains (NHP)

Wichita, KS (41)

Southern Regional Performance Nursery (SRPN)

North Central Plains (NCP)

Manhattan, KS (42)
Brookings, SD (42)
Winner, SD (42)

Northern High Plains (NHP)

Colby, KS (42)
Julesburg, CO (42)
North Platte, NE (42)
Burlington, CO (42)
Ft. Collins, CO (42)

South Central Plains (SCP)

Goodwell-irr, OK (42)
Hutchison, KS (42)
Lahoma, OK (42)
Wichita, KS (42)
Granite, OK (42)
Stillwater, OK (42)

Southern High Plains (SHP)

Bushland-dry, TX (0)
Clovis-dry, NM (0)
Clovis-irr, NM (0)
Garden City, KS (0)
Walsh/Springfield, CO (0)

HWWQL Laboratory Analyses

About the HWWQL Quality Data ...

Milling, flour chemical, physical dough, breadmaking, noodlemaking properties and flour protein analysis of 2015 Hard Winter Wheat regional performance nurseries have been evaluated and analyzed in the USDA Hard Winter Wheat Quality Laboratory. The nurseries are: **Northern Regional Performance Nursery (NRPN)**, and **Southern Regional Performance Nursery (SRPN)**. Tested samples were composites from multi-location trials. Data are reported in five tables: Wheat physical data, Milling, flour chemical, and noodle color data, Mixograph data, Flour pasting properties, and Breadmaking properties.

The following parameters are currently reported:

Physical and Hardness Data

- Test weight (TW) = lbs/bushel. (AACC Method 55-10)
- SKCS kernel moisture, size, and weight = Single Kernel Characterization System: the average of 300 kernels for kernel moisture (%), size (mm), and weight (mg) and their standard deviations.
- SKCS hardness (AACC Method 55-31) = hardness score: the average of 300 kernels for kernel hardness and its standard deviation.

Chemical Data

NIR Protein Content

NIR calibrations for protein were developed according to standard AACC methods: wheat meal (AACC Method 39-10), wheat flour (AACC Method 39-11) and whole kernel wheat (AACC Method 39-25). Laboratory values for protein content and subsequent equation development and calibration checks were determined by nitrogen combustion method (AACC Method 46-30) in all three sample types.

Wheat

- Protein (FP) = grain protein content (%) on 14% mb. (AACC Method 46-30 or 39-10)
- Flour % (FY) = flour yield (extraction) from milling (AACC Methods 26-10A, -50)

Flour

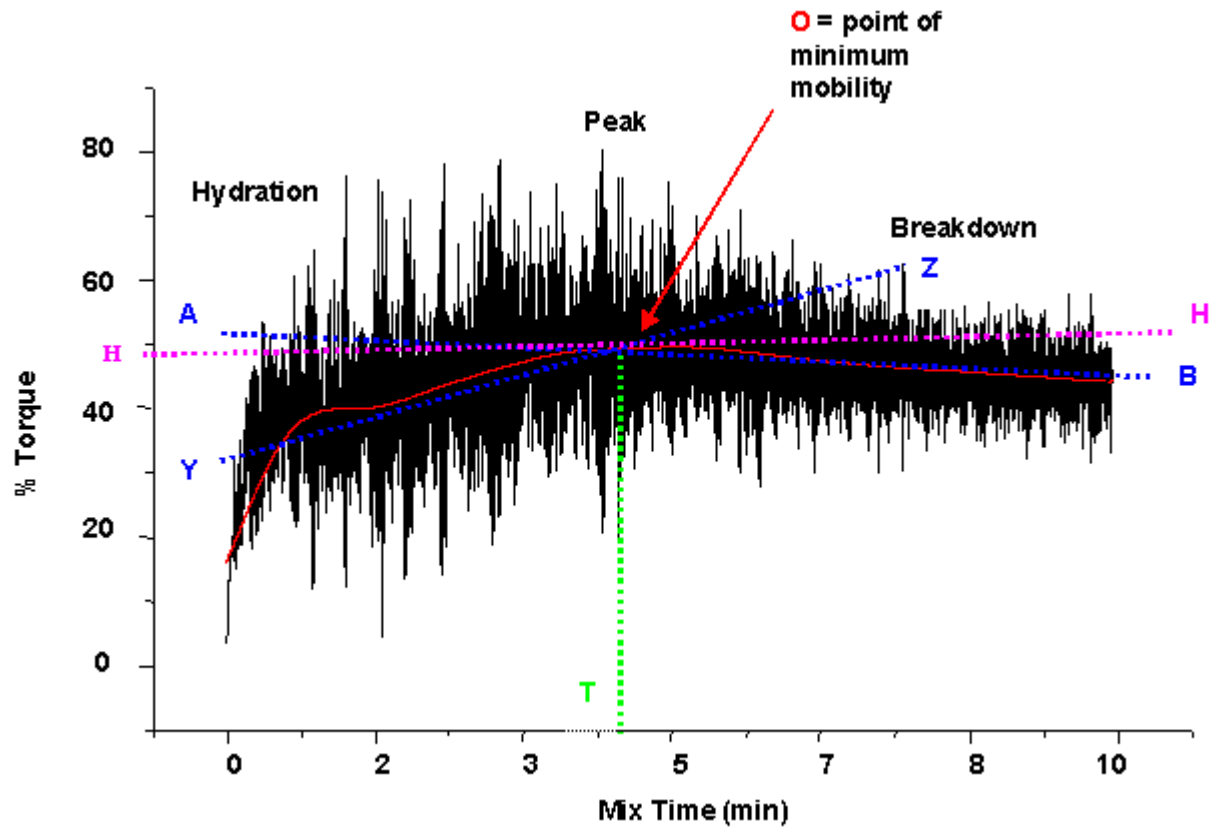
- Ash (FA) = flour ash content (%) on 14% mb. (AACC Method 08-01)
- Protein (FP) = flour protein content (%) on 14% mb. (AACC Method 46-30 or 39-11)
- Color (dry flour) = Minolta method
- PPO = polyphenol oxidase activity defined as a change of 0.001 absorbance unit (AU)/min/mL

Mixograph Data

Mixograph (AACC Method 54-40)

- Absorption = optimal water added (% of flour wt. on 14% mb).
- Mix Time = time (as-is), in minutes, to peak dough development.
- Tolerance = resistance of dough to over-mixing (0 = unsatisfactory, 4 = satisfactory, 6 = outstanding).

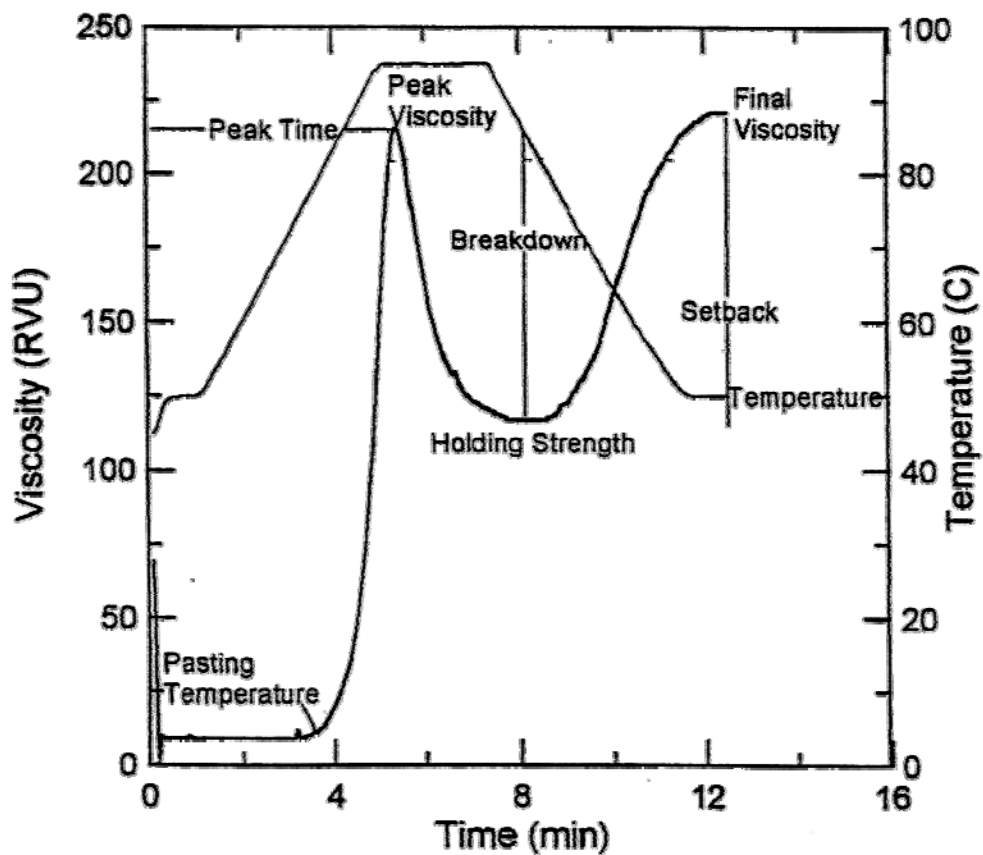
Mixogram Curve



Rapid Visco Analyser (RVA) (AACC Method 61-02)

13 min pasting profile:

- Peak viscosity = maximum viscosity developed during or soon after the heating portion of the test, in RVU.
 - Peak time = time at which the peak viscosity occurred, in minutes.
 - Pasting temperature = temperature where viscosity first increases by at least 2 RVU over a 20 sec. period, in °C.
 - Peak temperature = temperature at which the peak viscosity occurred, in °C.
 - Holding strength = minimum viscosity after the peak, normally occurring around the commencement of sample cooling, in RVU.
 - Breakdown = peak viscosity minus trough viscosity, in RVU.
 - Final viscosity = viscosity at the end of the test, in RVU.
 - Setback from Peak = final viscosity minus peak viscosity, in RVU.
 - Setback from Trough = final viscosity minus trough viscosity, in RVU.
- Pasting profile:



Breadmaking Properties (*Pup Loaf based on 100 g flour, AACC Method 10-10B*)

- Flour protein (FP) = flour protein content (14% mb) (AACC Method 46-30 or 39-11).
- Flour absorption = optimal water added (%) for breadmaking.
- Mix time = bake mix time, in min, as-is and corrected.
- Dough weight = dough weight (g) after mixing.
- Proof height = height of fermented dough (cm) after proofing.
- Crumb grain = internal loaf appearance; 0 = unsatisfactory, 4 = satisfactory 6 = outstanding).
- Loaf volume (LV) = cc (by rape seed displacement).

Noodlemaking Properties

- Alkaline noodle color by Minolta colorimeter

ACKNOWLEDGEMENTS

HWWQL personnel who contributed to the collection and analysis of the RPN samples are listed below:

Milling Lab: Laura McLaughlin, B.S. Sam Rice; Lou Heaton, Ph.D.

Bake Lab: Margo Caley, B.S.; Theresa Sutton, B.S.; Susan Xiao, M.D.; Guixiang (Lucy) Lu, M.D.; and Alicsa Mayer, M.S.

Analytical Lab: Kevin Fay, B.S.

Data evaluation & Written report: Yuanhong (Richard) Chen, Ph.D. (HWWQL Associate Director)

HWWQL: Brad Seabourn, Ph.D (HWWQL Director)

RPN Relational database: Scott Haley, Ph.D (Colorado State University)

Achieving acceptable end-use (milling and baking) quality is a fundamental objective of wheat breeding programs throughout the U.S. hard winter wheat region. Numerous statistical methods have been developed to measure quality. Several years ago, Dr. Scott Haley (Colorado State University), in conjunction with the USDA-ARS Hard Winter Wheat Quality Laboratory (HWWQL), developed a relational database for summarization and interpretation of regional performance nursery wheat end-use quality data generated annually by the HWWQL (Scott D. Haley, Rod D. May, Bradford W. Seabourn, and Okkyung K. Chung. 1999. *Relational database system for summarization and interpretation of Hard Winter Wheat regional quality data*. Crop Sci. 39:309–315). Until that time, few tools were available to assist in the decision-making process when faced with a large number of parameters from comprehensive milling and baking tests. The database system uses a graphical interface that requires input from the user. The database system provides simultaneous assessment of multiple quality traits on a standardized scale, *user-specified prioritization* of end-use quality traits for numerical and qualitative ratings of genotypes, tabulation of major quality deficiencies of genotypes, and summarization of quality ratings for a genotype across multiple nurseries.

Tables for milling and baking scores of each of Intraregional production zones in this report are direct outputs from the Relational Database program.

The data were provided by the Hard Winter Wheat Quality Laboratory (HWWQL), located at the USDA/ARS, Center for Grain and Animal Health Research (CGAHR) (Former name: Grain Marketing and Production Research Center, GMPRC), Manhattan, Kansas. Some data may not appear in all years.

**AACC methods cited are from the American Association of Cereal Chemists Approved Methods. 2000. The Association: St. Paul, MN.

Regional Performance Nursery data may be viewed and downloaded at:
<http://www.ars.usda.gov/Main/docs.htm?docid=14298&page=3>

Northern Regional Performance Nursery

2015 NRPN Intraregional Production Zone

Entry	Selection No.	Pedigree	Source
1	Kharkof	Kharkof	check
2	Overland	Overland	check
3	Wesley	Wesley	check
4	Jagalene	Jagalene	check
5	Jerry	Jerry	check
6	N11MD2166W	Mace/SD98W175-1	ARS LNK
7	N11MD2157W	Mace/SD98W175-1	ARS LNK
8	AAC Gateway	CDC Osprey/N95L1226	AAFC
9	SD08200	Wesley/KS91048-L-2-1//NE93613/Wendy	SDSU
10	SD09113	Jerry/Ning7840//KS920946-B-15-2/Wendy	SDSU
11	SD09118	Wesley/Ning7840//SD97380-2/Wendy	SDSU
12	SD09192	Harding/Trego//Trego/Wendy	SDSU
13	SD09227	SD97088/KS920709-B-5-2//Jagalene/Wendy	SDSU
14	SD10257-2	Ransom/SD96240-3-1	SDSU
15	SD10W153	Wesley/OK00611W	SDSU
16	SD110085-1	Arapahoe/W03-20//Danby	SDSU
17	SD110060-7	98X0435-15/Overland	SDSU
18	SD11023-8	Intrada/Alice//NW97S218-LT	SDSU
19	BCS-11L00002-001		BCS
20	BCS-12L00001		BCS
21	BCS-12L00003		BCS
22	BCS-12L00004		BCS
23	Nord1301	Arapahoe/Danby	NDSU
24	LCH13-054		Limagrain
25	LCI13DH-14-53W	NW03681 / SD07W084	LCS/UNL
26	LCH13DH-3-31	NE04424 / NE06545	LCS/UNL
27	LCH13DH-7-3	NE01481 / Smokyhill	LCS/UNL
28	LCH13DH-5-59	NE01481 / NE05496	LCS/UNL
29	LCI13DH-4-16W	Mace / NE06545	LCS/UNL
30	NW11511	NW97S139-1/KS02HW31//HV9W00-993W	UNL
31	NI12702W	N03Y2014/NW03681//NuHills 10005	UNL
32	NI13717	MV-Gorsium/Robidoux	UNL
33	NE12443	KS970197-8-9/Overland	UNL
34	NE12444	KS980512-11--2/SHOCKER	UNL
35	NE12488	Jagalene/NE02495	UNL
36	NE12561	NI04420/NE00403	UNL
37	NE12589	CO97547-7/OVERLAND//CAMELOT	UNL
38	NE10683	McGill/Harry//NE87612 (=NWT//WRR*5/AGT/3/NE69441)	UNL
39	MT1117	Yellowstone*3/KS96WGRC40	MT State Univ.
40	MT1138	W99-194/2*Yellowstone	MT State Univ.
41	BCS-12L00006		BCS

LIST of NRPN SAMPLE ID For MIXOGRAMS and C-CELLS

Entry	Breeder ID	HWWQL ID		
		North Central Plains	Northern High Plains	Northern Plains
1	Kharkof	15-NNC1101	15-NNH1101	15-NNP1101
2	Overland	15-NNC1102	15-NNH1102	15-NNP1102
3	Wesley	15-NNC1103	15-NNH1103	15-NNP1103
4	Jagalene	15-NNC1104	15-NNH1104	15-NNP1104
5	Jerry	15-NNC1105	15-NNH1105	15-NNP1105
6	N11MD2166W	15-NNC1106	15-NNH1106	15-NNP1106
7	N11MD2157W	15-NNC1107	15-NNH1107	15-NNP1107
8	AAC Gateway	15-NNC1108	15-NNH1108	15-NNP1108
9	SD08200	15-NNC1109	15-NNH1109	15-NNP1109
10	SD09113	15-NNC1110	15-NNH1110	15-NNP1110
11	SD09118	15-NNC1111	15-NNH1111	15-NNP1111
12	SD09192	15-NNC1112	15-NNH1112	15-NNP1112
13	SD09227	15-NNC1113	15-NNH1113	15-NNP1113
14	SD10257-2	15-NNC1114	15-NNH1114	15-NNP1114
15	SD10W153	15-NNC1115	15-NNH1115	15-NNP1115
16	SD110085-1	15-NNC1116	15-NNH1116	15-NNP1116
17	SD110060-7	15-NNC1117	15-NNH1117	15-NNP1117
18	SD11023-8	15-NNC1118	15-NNH1118	15-NNP1118
19	BCS-11L00002-001	15-NNC1119	15-NNH1119	15-NNP1119
20	BCS-12L00001	15-NNC1120	15-NNH1120	15-NNP1120
21	BCS-12L00003	15-NNC1121	15-NNH1121	15-NNP1121
22	BCS-12L00004	15-NNC1122	15-NNH1122	15-NNP1122
23	Nord1301	15-NNC1123	15-NNH1123	15-NNP1123
24	LCH13-054	15-NNC1124	15-NNH1124	15-NNP1124
25	LCI13DH-14-53W	15-NNC1125	15-NNH1125	15-NNP1125
26	LCH13DH-3-31	15-NNC1126	15-NNH1126	15-NNP1126
27	LCH13DH-7-3	15-NNC1127	15-NNH1127	15-NNP1127
28	LCH13DH-5-59	15-NNC1128	15-NNH1128	15-NNP1128
29	LCI13DH-4-16W	15-NNC1129	15-NNH1129	15-NNP1129
30	NW11511	15-NNC1130	15-NNH1130	15-NNP1130
31	NI12702W	15-NNC1131	15-NNH1131	15-NNP1131
32	NI13717	15-NNC1132	15-NNH1132	15-NNP1132
33	NE12443	15-NNC1133	15-NNH1133	15-NNP1133
34	NE12444	15-NNC1134	15-NNH1134	15-NNP1134
35	NE12488	15-NNC1135	15-NNH1135	15-NNP1135
36	NE12561	15-NNC1136	15-NNH1136	15-NNP1136
37	NE12589	15-NNC1137	15-NNH1137	15-NNP1137
38	NE10683	15-NNC1138	15-NNH1138	15-NNP1138
39	MT1117	15-NNC1139	15-NNH1139	15-NNP1139
40	MT1138	15-NNC1140	15-NNH1140	15-NNP1140
41	BCS-12L00006	15-NNC1141	15-NNH1141	15-NNP1141



Hard Winter Wheat Quality Report 2015 NRPN-NCP

1 - Test weight	10	11 - Flour protein	8
2 - SKCS kernel weight	8	12 - Bake absorption	15
3 - Kernel weight SD	8	13 - Mixograph absorption	5
4 - SKCS kernel diameter	8	14 - Bake mix time	10
5 - Kernel diameter SD	8	15 - Mixograph mix time	5
6 - SKCS hardness	10	16 - Mixograph tolerance	5
7 - Hardness SD	8	17 - Dough weight	
8 - Flour yield	30	18 - Proof height	2
9 - Flour ash	10	19 - Loaf volume	20
10 - Milling score		20 - Volume regression	5
		21 - Crumb grain	25

ID	Milling Score	Rating	%	Baking Score	Rating	%	1RS	Trait Deficiencies
Kharkof	45.0	Poor	83.7	50.2	Average	71.4		6,10,
Overland	51.4	Very Good	95.6	24.4	Very Poor	34.7		16,18,19,20,
Wesley	51.5	Very Good	95.9	58.4	Very Good	83.2		
Jagalene	43.0	Very Poor	80.0	56.1	Good	79.9		5,9,
Jerry	47.5	Average	88.5	40.7	Poor	58.0		
N11MD2166W	43.5	Very Poor	80.9	54.3	Good	77.3		4,15,
N11MD2157W	48.2	Good	89.8	55.2	Good	78.6	1AL	13,15,
AAC Gateway	49.6	Good	92.2	42.2	Poor	60.1		16,
SD08200	51.3	Very Good	95.5	64.0	Very Good	91.2		
SD09113	46.0	Poor	85.6	51.9	Average	74.0		2,16,
SD09118	48.2	Good	89.7	57.1	Good	81.3		16,
SD09192	48.1	Average	89.6	35.7	Very Poor	50.9	1AL	16,
SD09227	50.3	Good	93.7	53.6	Good	76.3		16,
SD10257-2	52.6	Very Good	97.9	24.2	Very Poor	34.4		3,5,14,15,16,19,20,
SD10W153	46.5	Poor	86.5	46.4	Poor	66.1	1AL	21,
SD110085-1	50.7	Good	94.4	44.1	Poor	62.8		4,
SD110060-7	47.2	Average	87.8	37.4	Very Poor	53.3		9,
SD11023-8	53.5	Very Good	99.6	49.9	Average	71.0	1BL	
BCS-11L00002-001	46.1	Poor	85.8	57.2	Good	81.5		18,
BCS-12L00001	42.8	Very Poor	79.8	57.7	Very Good	82.2		16,
BCS-12L00003	44.7	Very Poor	83.2	50.3	Average	71.6		
BCS-12L00004	48.6	Good	90.4	70.2	Very Good	100.0		
Nord1301	47.2	Average	87.9	63.8	Very Good	90.9		
LCH13-054	49.1	Good	91.4	36.4	Very Poor	51.8	1AL	16,
LCI13DH-14-53W	50.8	Very Good	94.6	51.3	Average	73.1	1AL	11,13,16,
LCH13DH-3-31	47.8	Average	89.0	32.2	Very Poor	45.9	1BL	3,5,12,13,16,
LCH13DH-7-3	45.7	Poor	85.0	59.5	Very Good	84.7		15,
LCH13DH-5-59	46.4	Poor	86.4	42.8	Poor	60.9		
LCI13DH-4-16W	46.1	Poor	85.9	48.6	Average	69.2		14,15,
NW11511	40.1	Very Poor	74.6	52.5	Good	74.8		1,8,

Quality scores and ratings are calculated directly from the relative trait weightings (printed at the top of the page) and are applicable only to the nursery selected.



Hard Winter Wheat Quality Report 2015 NRPN-NCP

1 - Test weight	10	11 - Flour protein	8
2 - SKCS kernel weight	8	12 - Bake absorption	15
3 - Kernel weight SD	8	13 - Mixograph absorption	5
4 - SKCS kernel diameter	8	14 - Bake mix time	10
5 - Kernel diameter SD	8	15 - Mixograph mix time	5
6 - SKCS hardness	10	16 - Mixograph tolerance	5
7 - Hardness SD	8	17 - Dough weight	
8 - Flour yield	30	18 - Proof height	2
9 - Flour ash	10	19 - Loaf volume	20
10 - Milling score		20 - Volume regression	5
		21 - Crumb grain	25

ID	Milling Score	Rating	%	Baking Score	Rating	%	1RS	Trait Deficiencies
NI12702W	42.9	Very Poor	79.8	51.6	Average	73.5		8,10,
NI13717	44.1	Very Poor	82.0	44.6	Poor	63.6	1BL	5,16,
NE12443	46.5	Average	86.6	33.4	Very Poor	47.5		16,
NE12444	47.1	Average	87.7	52.0	Average	74.1	1BL	16,
NE12488	49.4	Good	91.9	34.4	Very Poor	49.0		16,
NE12561	48.1	Average	89.5	40.4	Very Poor	57.5	1BL	3,5,16,
NE12589	53.7	Very Good	100.0	68.9	Very Good	98.2		18,
NE10683	40.8	Very Poor	76.0	47.0	Poor	67.0		1,6,11,12,13,17,
MT1117	45.3	Poor	84.4	57.5	Very Good	81.8		14,15,
MT1138	40.5	Very Poor	75.3	46.9	Poor	66.8		1,14,15,
BCS-12L00006	50.8	Very Good	94.5	53.2	Good	75.8		9,18,

2015 NRPN Intraregional Production Zone

North Central Plains

LINE	Wt/Bu (lb)	SKCS Average Kernel						Hardness			
		Moisture		Weight		Diameter		SKCS	Class	Distribution	
		(%)	(sd)	(mg)	(sd)	(mm)	(sd)				
								(sd)			
Kharkof	60.2	13.5	0.5	30.4	8.0	2.57	0.31	31 17	SOFT	59--25--11--05--05	
Overland	59.5	13.3	0.4	29.9	9.2	2.58	0.34	54 17	MIXED	12--22--29--37--03	
Wesley	57.5	13.3	0.4	32.2	9.1	2.67	0.34	50 17	MIXED	16--27--29--28--03	
Jagalene	58.4	12.9	0.4	28.4	9.7	2.59	0.38	60 19	HARD	08--15--22--55--02	
Jerry	57.9	13.1	0.5	29.6	9.1	2.51	0.35	45 19	MIXED	26--26--26--22--03	
N11MD2166W	57.7	12.8	0.5	27.2	9.0	2.42	0.32	53 18	MIXED	14--24--25--37--03	
N11MD2157W	58.6	13.0	0.5	27.0	7.8	2.53	0.33	50 17	MIXED	18--24--27--31--03	
AAC Gateway	58.8	13.1	0.5	26.8	8.4	2.47	0.31	57 17	HARD	09--15--28--48--02	
SD08200	59.7	12.5	0.5	32.6	9.1	2.70	0.35	45 17	MIXED	28--28--22--22--03	
SD09113	58.4	12.6	0.5	26.4	9.8	2.50	0.34	61 18	HARD	07--15--25--53--02	
SD09118	59.1	12.9	0.4	28.5	9.6	2.56	0.35	61 18	HARD	07--14--24--55--02	
SD09192	58.4	12.9	0.6	29.4	9.7	2.54	0.36	61 17	HARD	05--12--26--57--01	
SD09227	59.3	13.0	0.5	26.7	8.6	2.51	0.32	62 19	HARD	08--13--23--56--02	
SD10257-2	60.3	12.9	0.5	32.9	10.4	2.71	0.39	57 16	HARD	06--20--29--45--02	
SD10W153	59.1	12.8	0.5	31.3	9.9	2.67	0.37	52 17	MIXED	11--25--30--34--03	
SD110085-1	59.1	12.5	0.4	26.5	8.3	2.46	0.32	64 17	HARD	03--10--25--62--01	
SD110060-7	58.6	12.7	0.4	28.6	9.0	2.54	0.33	58 16	HARD	09--13--30--48--02	
SD11023-8	60.2	12.3	0.6	27.6	7.6	2.53	0.30	61 17	HARD	06--12--26--56--02	
BCS-11L00002-001	59.0	12.4	0.5	30.1	9.6	2.62	0.36	57 17	HARD	07--21--25--47--02	
BCS-12L00001	58.4	12.3	0.5	27.7	9.1	2.61	0.36	49 19	MIXED	20--22--30--28--03	
BCS-12L00003	57.9	12.2	0.5	27.5	8.6	2.53	0.34	48 17	MIXED	18--29--27--26--03	
BCS-12L00004	60.3	12.5	0.6	30.4	9.1	2.65	0.34	53 18	MIXED	11--27--28--34--03	
Nord1301	57.4	12.8	0.5	28.8	8.5	2.48	0.33	45 18	MIXED	25--25--29--21--03	
LCH13-054	59.5	12.5	0.5	29.4	9.5	2.58	0.35	54 18	HARD	09--22--32--37--02	
LCI13DH-14-53W	59.2	12.6	0.5	32.5	9.0	2.73	0.35	55 18	HARD	10--21--25--44--02	
LCH13DH-3-31	59.8	12.4	0.5	33.8	10.8	2.69	0.38	41 16	MIXED	31--33--22--14--03	
LCH13DH-7-3	58.8	12.6	0.4	28.5	8.9	2.55	0.32	56 17	HARD	10--17--29--44--02	
LCH13DH-5-59	58.7	12.2	0.5	26.4	8.8	2.50	0.34	62 19	HARD	07--12--24--57--02	
LCI13DH-4-16W	57.3	12.4	0.5	28.3	9.5	2.54	0.37	51 18	MIXED	17--25--25--33--03	
NW11511	56.8	12.3	0.5	28.6	8.7	2.55	0.34	49 18	MIXED	18--25--26--31--03	
NI12702W	60.8	12.1	0.6	30.7	9.6	2.66	0.35	67 18	HARD	03--08--18--71--01	
NI13717	58.8	12.3	0.6	28.3	9.2	2.61	0.38	53 17	MIXED	12--20--34--34--03	
NE12443	58.5	12.4	0.5	28.2	9.1	2.52	0.34	60 18	HARD	07--15--24--54--02	
NE12444	59.0	12.2	0.5	29.5	8.5	2.63	0.33	47 17	MIXED	21--27--28--24--03	
NE12488	58.7	12.0	0.5	30.5	9.3	2.63	0.35	54 17	HARD	09--23--33--35--02	
NE12561	60.4	12.0	0.5	30.7	10.3	2.68	0.38	54 18	MIXED	12--19--30--39--03	
NE12589	60.1	11.8	0.6	31.2	9.2	2.69	0.36	58 17	HARD	07--19--27--47--02	
NE10683	55.2	12.1	0.5	29.4	9.3	2.54	0.35	39 18	MIXED	36--33--17--14--03	
MT1117	57.3	12.2	0.5	28.9	9.6	2.53	0.35	60 17	HARD	07--14--27--52--02	
MT1138	55.5	12.3	0.6	28.0	9.2	2.52	0.36	55 19	MIXED	13--21--25--41--03	
BCS-12L00006	57.3	12.2	0.5	29.6	9.0	2.58	0.35	54 16	MIXED	11--19--29--41--03	

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LINE	Wheat		Flour			Noodle Color					
	Protein	Milling Yield	Ash	Protein	PPO	L @ 0	a @ 0	b @ 0	Delta L 24 hrs	Delta a 24 hrs	Delta b 24 hrs
	(%)	(%)	(%)	(%)							
Kharkof	14.2	65.2	0.42	12.8	0.549	78.94	-1.47	22.06	-10.64	1.62	2.98
Overland	12.1	69.0	0.42	10.9	0.506	78.31	-1.47	23.38	-8.16	1.28	1.19
Wesley	13.1	69.0	0.39	12.3	0.533	79.63	-1.44	21.93	-9.57	1.37	1.52
Jagalene	13.0	66.6	0.47	12.1	0.571	78.49	-1.43	23.82	-10.19	1.37	1.11
Jerry	12.5	68.7	0.39	11.6	0.562	79.89	-1.67	24.15	-9.93	1.64	3.28
N11MD2166W	12.6	66.2	0.40	11.5	0.540	80.57	-1.28	23.59	-9.93	1.38	1.30
N11MD2157W	12.9	67.0	0.38	11.6	0.654	80.04	-1.36	22.78	-9.00	1.31	2.83
AAC Gateway	13.1	68.6	0.44	12.7	0.609	80.06	-0.94	21.36	-9.27	1.36	1.82
SD08200	12.8	67.3	0.35	11.9	0.574	81.27	-1.73	20.86	-9.36	1.24	2.28
SD09113	12.8	67.0	0.38	11.7	0.570	79.10	-1.74	25.24	-10.25	1.71	2.31
SD09118	12.4	67.8	0.41	11.3	0.475	78.74	-1.56	24.81	-9.86	1.37	3.01
SD09192	13.0	67.9	0.43	11.8	0.550	79.15	-1.60	24.39	-9.68	1.62	1.48
SD09227	12.8	68.7	0.42	11.6	0.585	78.91	-1.52	24.34	-9.91	1.73	2.24
SD10257-2	12.4	68.5	0.41	11.3	0.508	78.67	-1.14	21.79	-9.96	1.31	3.45
SD10W153	12.1	66.3	0.40	11.1	0.642	78.28	-1.14	22.84	-9.83	1.83	2.80
SD110085-1	13.5	67.7	0.41	12.2	0.632	78.68	-0.82	20.77	-12.38	1.87	4.39
SD110060-7	12.8	67.1	0.46	11.8	0.620	79.63	-1.75	24.32	-10.15	1.64	0.79
SD11023-8	13.2	68.6	0.43	12.3	0.559	79.89	-1.49	23.08	-10.15	1.58	2.65
BCS-11L00002-001	12.1	66.1	0.42	11.3	0.234	79.92	-1.80	23.90	-7.24	1.37	3.62
BCS-12L00001	12.0	66.2	0.42	11.0	0.559	80.47	-1.58	22.00	-12.19	1.78	5.71
BCS-12L00003	12.8	66.0	0.37	11.6	0.574	79.90	-0.92	19.80	-11.43	1.43	5.84
BCS-12L00004	13.2	65.6	0.34	11.8	0.509	79.98	-1.30	21.66	-9.99	1.53	3.67
Nord1301	12.3	68.3	0.39	11.3	0.539	80.06	-1.28	22.26	-11.51	1.92	4.38
LCH13-054	13.2	67.2	0.37	11.9	0.511	79.48	-1.18	22.65	-10.06	1.61	4.09
LCI13DH-14-53W	11.9	68.1	0.44	10.8	0.536	78.67	-1.49	22.57	-11.31	1.93	2.22
LCH13DH-3-31	12.0	67.1	0.37	10.9	0.521	79.76	-1.63	23.25	-10.35	1.64	2.63
LCH13DH-7-3	12.3	65.8	0.42	11.0	0.549	79.88	-1.15	19.94	-11.41	1.39	4.70
LCH13DH-5-59	12.6	67.5	0.45	11.4	0.605	77.45	-0.92	21.97	-10.80	1.76	2.52
LCI13DH-4-16W	12.7	68.1	0.38	11.4	0.210	81.90	-1.35	20.14	-10.94	1.45	6.70
NW11511	12.3	63.9	0.39	11.0	0.569	80.00	-0.91	19.19	-11.96	2.22	3.56
NI12702W	13.2	62.5	0.45	12.3	0.522	79.20	-1.38	22.42	-12.04	1.89	3.09
NI13717	13.2	65.9	0.44	12.2	0.616	79.70	-1.72	23.61	-10.74	1.61	2.43
NE12443	12.8	67.4	0.45	11.9	0.561	78.30	-1.14	22.84	-10.28	1.64	1.11
NE12444	13.1	65.9	0.38	12.3	0.576	79.18	-1.32	23.79	-9.74	1.45	2.90
NE12488	12.6	67.7	0.41	11.6	0.553	78.72	-1.22	21.92	-11.22	1.66	3.41
NE12561	13.4	67.1	0.41	11.9	0.562	79.40	-1.43	22.32	-8.03	1.23	1.04
NE12589	12.9	69.3	0.42	11.8	0.513	79.15	-1.07	20.78	-10.32	1.49	2.99
NE10683	11.6	67.5	0.45	10.5	0.607	79.71	-1.12	19.87	-11.32	1.51	2.28
MT1117	12.8	66.7	0.42	11.8	0.554	79.74	-1.01	21.23	-11.65	1.43	4.72
MT1138	12.5	66.2	0.43	11.6	0.559	78.57	-1.10	23.18	-11.48	1.61	3.69
BCS-12L00006	11.8	70.1	0.47	10.9	0.601	80.01	-1.75	23.66	-9.03	1.47	2.37

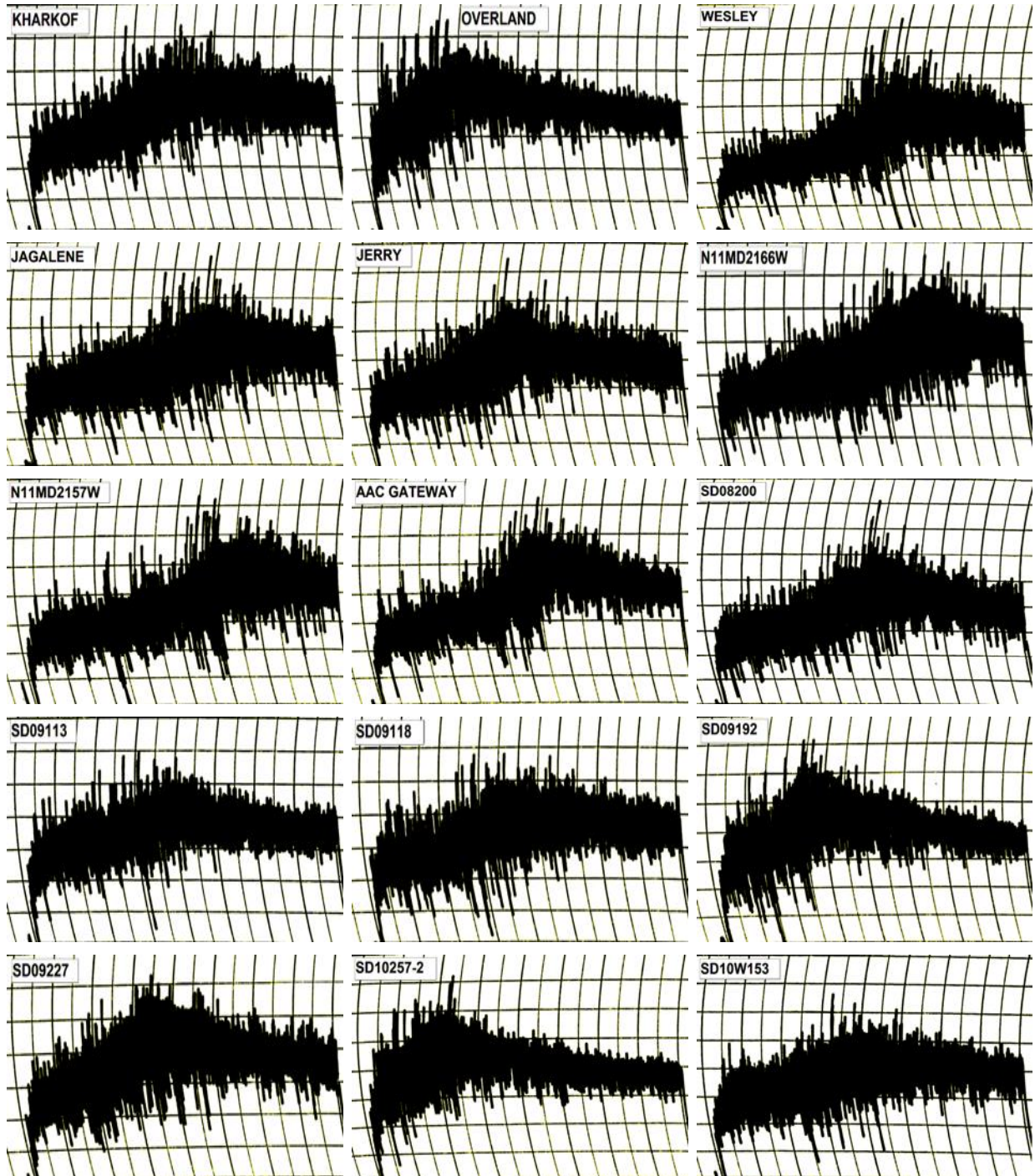
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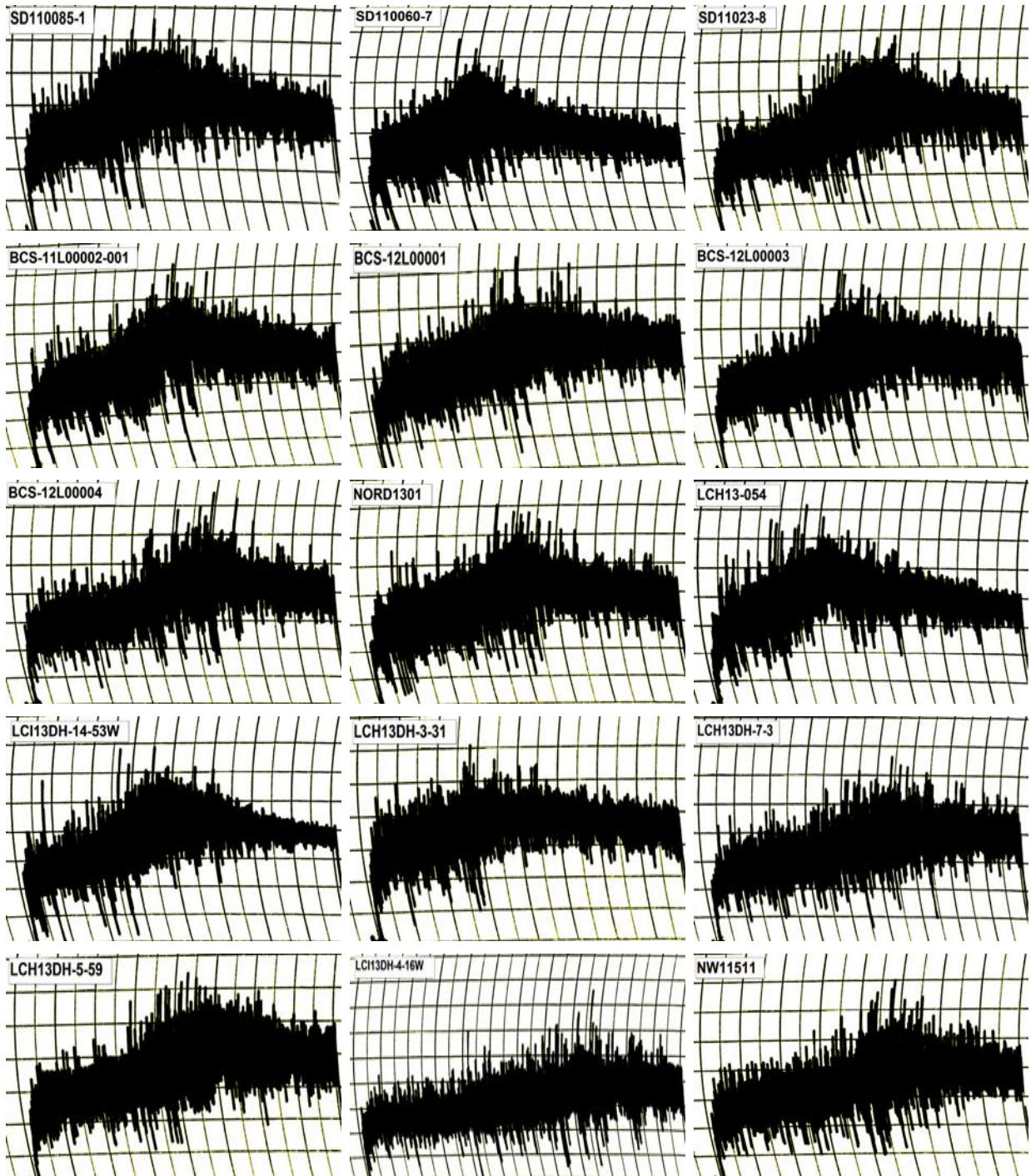
	Flour Protein	Mixograph			
		Absorption	As-Is	Corrected	Tolerance
Line	(%)	(%)	(min)	(min)	
Kharkof	12.8	63.3	4.13	4.13	4
Overland	10.9	61.2	2.63	2.29	2
Wesley	12.3	63.4	4.88	4.88	4
Jagalene	12.1	63.0	5.00	5.00	4
Jerry	11.6	62.2	3.75	3.55	4
N11MD2166W	11.5	61.1	5.75	5.40	3
N11MD2157W	11.6	60.3	5.38	5.11	4
AAC Gateway	12.7	62.1	4.38	4.38	2
SD08200	11.9	62.7	4.50	4.42	4
SD09113	11.7	61.4	3.50	3.36	2
SD09118	11.3	61.8	3.75	3.46	2
SD09192	11.8	62.5	2.75	2.67	2
SD09227	11.6	62.2	3.50	3.32	2
SD10257-2	11.3	61.9	2.13	1.96	1
SD10W153	11.1	61.5	4.00	3.58	3
SD110085-1	12.2	63.3	3.38	3.38	3
SD110060-7	11.8	62.6	3.00	2.93	3
SD11023-8	12.3	63.5	4.38	4.38	4
BCS-11L00002-001	11.3	61.7	4.13	3.77	3
BCS-12L00001	11.0	61.2	4.00	3.51	2
BCS-12L00003	11.6	62.2	3.88	3.68	4
BCS-12L00004	11.8	64.1	4.88	4.77	3
Nord1301	11.3	61.8	4.13	3.81	4
LCH13-054	11.9	62.8	3.13	3.10	2
LCI13DH-14-53W	10.8	60.0	3.63	3.12	0
LCH13DH-3-31	10.9	59.7	3.14	2.73	2
LCH13DH-7-3	11.0	61.3	5.50	4.84	4
LCH13DH-5-59	11.4	61.9	4.75	4.39	4
LCI13DH-4-16W	11.4	62.9	8.38	7.79	5
NW11511	11.0	62.8	5.00	4.41	4
NI12702W	12.3	63.5	3.25	3.25	3
NI13717	12.2	61.8	3.00	3.00	0
NE12443	11.9	62.8	2.50	2.48	1
NE12444	12.3	61.5	3.88	3.88	1
NE12488	11.6	62.2	2.50	2.37	1
NE12561	11.9	63.9	3.13	3.10	2
NE12589	11.8	64.1	4.25	4.17	4
NE10683	10.5	60.4	3.88	3.17	4
MT1117	11.8	62.7	6.38	6.24	5
MT1138	11.6	62.4	7.38	7.06	4

Line	Flour Protein (%)	Mixograph			
		Absorption (%)	As-Is (min)	Corrected (min)	Tolerance
BCS-12L00006	10.9	61.1	5.00	4.35	3

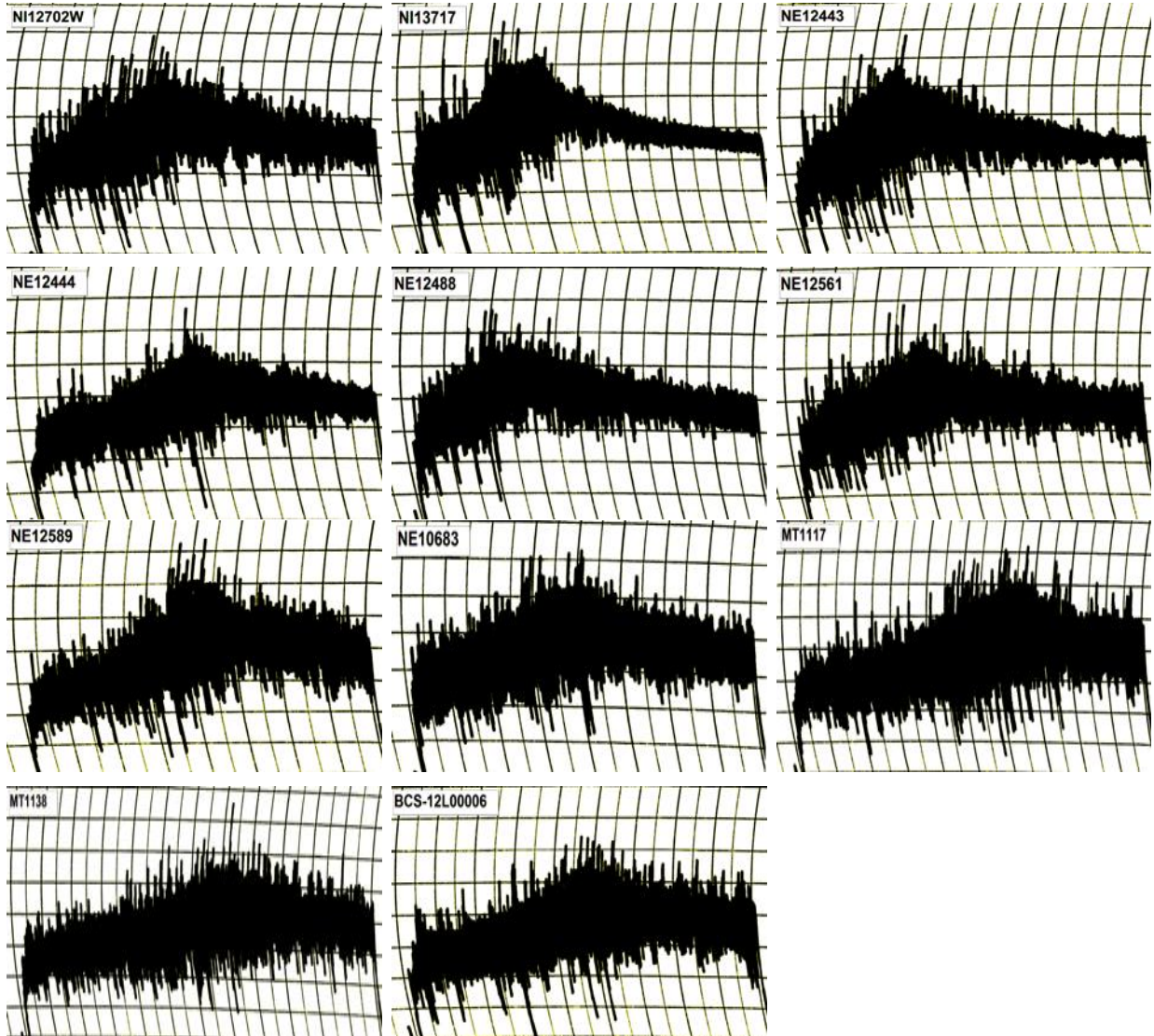
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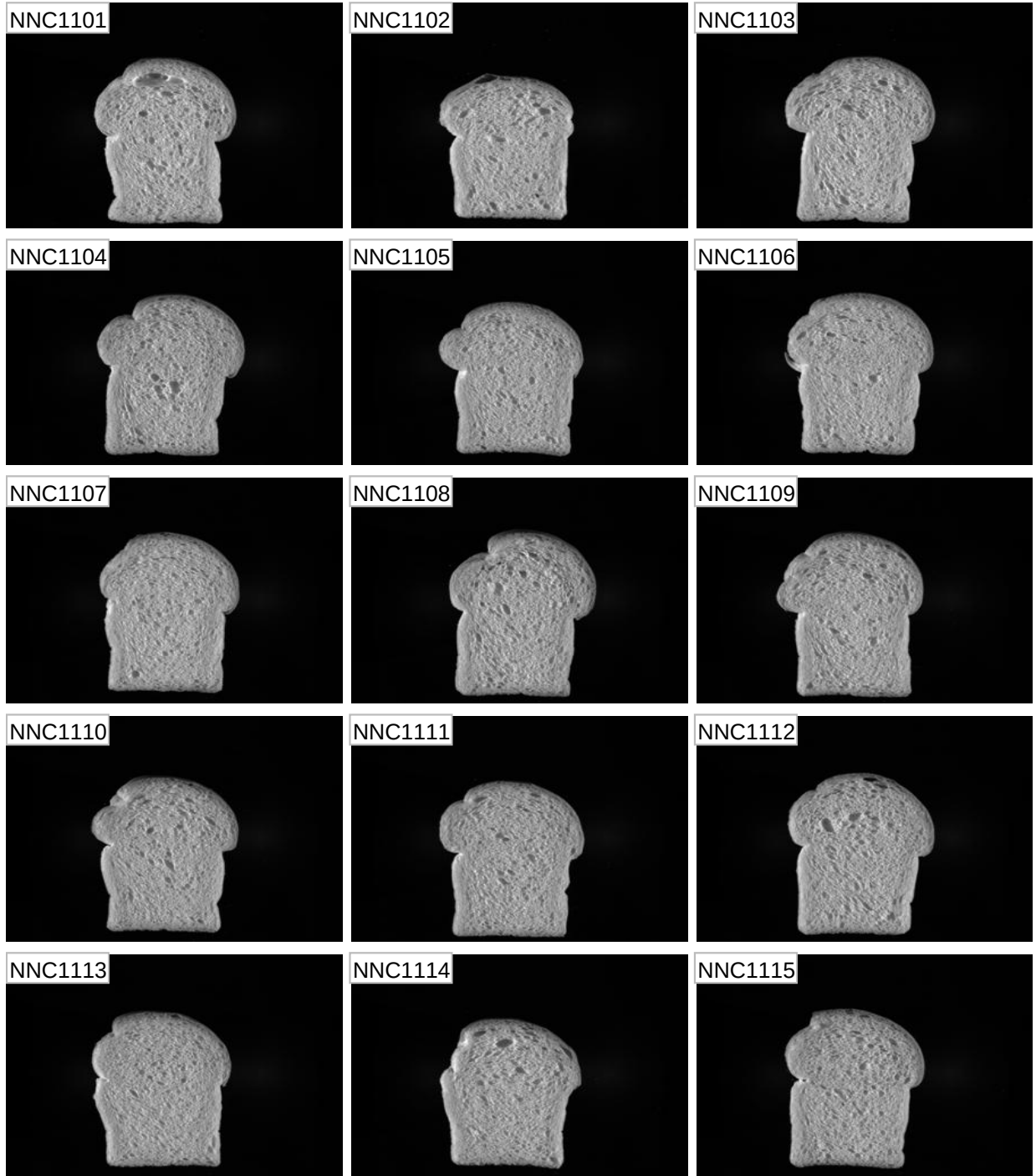
Line	RVA						
	Stirring Number (RVU)	Peak Viscosity (RVU)	Trough Viscosity (RVU)	Breakdown (RVU)	Final Viscosity (RVU)	Set back (RVU)	Peak Time (min)
Kharkof	137.50	246.25	164.92	81.33	284.33	119.42	6.27
Overland	102.58	223.17	137.42	85.75	256.75	119.33	6.07
Wesley	110.75	216.00	130.33	85.67	251.67	121.33	5.93
Jagalene	105.83	228.08	140.33	87.75	264.50	124.17	6.00
Jerry	117.25	216.42	140.50	75.92	263.25	122.75	6.07
N11MD2166W	106.25	233.58	144.08	89.50	268.00	123.92	6.07
N11MD2157W	104.33	235.17	145.83	89.33	273.00	127.17	6.07
AAC Gateway	105.25	218.33	133.08	85.25	250.08	117.00	6.00
SD08200	122.08	249.33	160.00	89.33	281.58	121.58	6.20
SD09113	104.75	242.75	152.50	90.25	276.33	123.83	6.13
SD09118	114.25	242.58	154.67	87.92	283.92	129.25	6.13
SD09192	99.42	229.17	144.50	84.67	272.58	128.08	6.07
SD09227	127.08	235.75	154.33	81.42	278.58	124.25	6.20
SD10257-2	111.75	233.83	155.67	78.17	291.42	135.75	6.13
SD10W153	111.67	247.67	147.00	100.67	249.58	102.58	6.27
SD110085-1	111.17	268.83	154.58	114.25	258.00	103.42	6.13
SD110060-7	101.92	239.75	146.17	93.58	266.67	120.50	6.07
SD11023-8	109.00	244.25	151.50	92.75	273.92	122.42	6.13
BCS-11L00002-001	99.67	246.33	142.67	103.67	258.92	116.25	6.07
BCS-12L00001	123.17	265.67	171.00	94.67	295.92	124.92	6.27
BCS-12L00003	103.92	292.92	163.83	129.08	271.50	107.67	6.20
BCS-12L00004	101.08	288.50	153.17	135.33	253.58	100.42	6.20
Nord1301	126.92	230.17	147.83	82.33	274.08	126.25	6.07
LCH13-054	138.83	260.00	178.17	81.83	292.33	114.17	6.40
LCI13DH-14-53W	110.25	244.42	129.58	114.83	231.08	101.50	6.07
LCH13DH-3-31	126.42	241.67	156.08	85.58	287.00	130.92	6.20
LCH13DH-7-3	103.08	244.33	149.00	95.33	275.75	126.75	6.13
LCH13DH-5-59	114.67	268.42	141.42	127.00	241.08	99.67	6.13
LCI13DH-4-16W	115.67	259.67	153.17	106.50	280.50	127.33	6.07
NW11511	105.50	225.08	126.33	98.75	241.67	115.33	6.00
NI12702W	112.08	265.08	154.67	110.42	249.67	95.00	6.27
NI13717	117.50	215.25	134.42	80.83	248.92	114.50	6.13
NE12443	116.08	232.25	138.33	93.92	255.33	117.00	6.07
NE12444	117.00	254.42	165.17	89.25	288.92	123.75	6.27
NE12488	102.33	263.58	147.58	116.00	249.58	102.00	6.20
NE12561	126.42	211.33	141.00	70.33	253.25	112.25	6.27
NE12589	122.42	251.33	148.58	102.75	256.83	108.25	6.20
NE10683	109.08	187.92	87.25	100.67	174.00	86.75	5.87
MT1117	117.50	249.42	147.58	101.83	265.92	118.33	6.13
MT1138	116.42	264.67	159.42	105.25	282.25	122.83	6.20
BCS-12L00006	109.25	220.50	137.17	83.33	257.67	120.50	6.07

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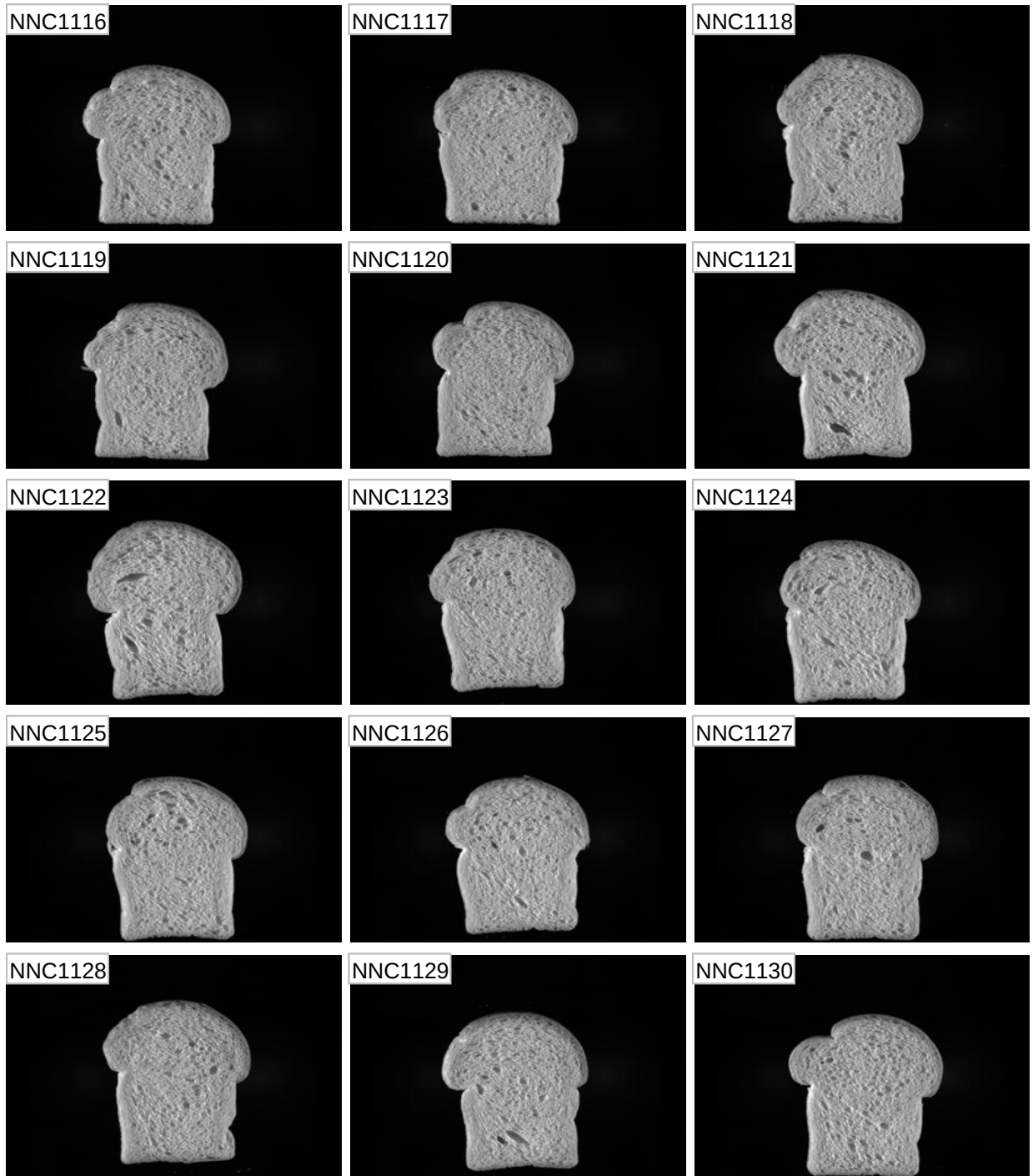
North Central Plains

Line	Flour		Mix Time		Dough					
	Protein	Water Abs.	As-is	Corrected	Weight	Proof Height	Crumb Grain	As-Rec'd.	Specific Volume	Loaf Volume Potential
	(%)	(%)	(min)	(min)	(g)	(cm)		(cc)	(cc/g)	(cc/%)
Kharkof	12.8	63.2	4.75	4.75	172.4	7.9	3.5	995	6.7	71
Overland	10.9	60.8	2.75	2.40	169.8	7.2	2.5	795	5.3	62
Wesley	12.3	62.5	6.38	6.38	171.3	7.6	4.0	1010	6.9	77
Jagalene	12.1	63.2	6.25	6.25	172.6	7.4	4.0	955	6.5	72
Jerry	11.6	62.3	5.63	5.33	171.8	7.5	3.5	885	6.0	68
N11MD2166W	11.5	62.3	6.25	5.87	171.8	7.5	5.0	910	6.1	72
N11MD2157W	11.6	61.4	6.38	6.06	169.9	7.3	5.0	925	6.3	73
AAC Gateway	12.7	63.2	5.88	5.88	172.3	7.6	3.5	965	6.6	69
SD08200	11.9	63.0	5.00	4.91	172.2	7.5	4.0	1015	6.8	81
SD09113	11.7	61.8	3.75	3.60	171.3	7.3	4.0	905	6.1	70
SD09118	11.3	61.8	5.13	4.73	170.5	7.4	4.0	930	6.3	75
SD09192	11.8	62.7	3.50	3.40	172.3	7.3	3.5	905	6.1	69
SD09227	11.6	62.3	4.00	3.79	171.8	7.4	4.0	905	6.0	70
SD10257-2	11.3	60.9	2.50	2.30	170.3	7.5	2.5	825	5.5	63
SD10W153	11.1	62.0	4.75	4.25	171.3	7.4	2.0	905	6.1	74
SD110085-1	12.2	63.5	4.25	4.25	172.9	7.3	3.5	955	6.3	71
SD110060-7	11.8	62.7	3.50	3.41	172.4	7.4	3.5	905	6.0	69
SD11023-8	12.3	63.5	5.50	5.50	173.1	7.5	4.5	1040	6.9	79
BCS-11L00002-001	11.3	61.7	4.50	4.11	170.8	7.2	4.0	940	6.3	77
BCS-12L00001	11.0	60.9	5.00	4.39	169.7	7.4	4.0	960	6.4	82
BCS-12L00003	11.6	62.0	4.75	4.51	171.8	7.5	3.5	1035	6.9	86
BCS-12L00004	11.8	64.0	5.38	5.26	173.7	7.6	5.0	1065	7.2	87
Nord1301	11.3	62.8	5.00	4.61	173.1	7.6	5.0	910	6.1	73
LCH13-054	11.9	63.0	3.50	3.47	173.9	7.5	4.5	895	5.9	67
LCI13DH-14-53W	10.8	60.8	4.25	3.65	170.1	7.3	4.0	905	6.2	77
LCH13DH-3-31	10.9	59.7	4.00	3.48	169.6	7.4	3.5	865	5.9	71
LCH13DH-7-3	11.0	61.9	5.50	4.84	171.1	7.5	5.0	940	6.4	79
LCH13DH-5-59	11.4	61.9	5.50	5.08	170.7	7.4	3.5	965	6.5	79
LCI13DH-4-16W	11.4	62.9	11.00	10.23	172.3	7.5	4.0	950	6.4	77
NW11511	11.0	63.5	5.88	5.19	173.2	7.5	3.0	960	6.4	82
NI12702W	12.3	65.9	4.50	4.50	176.3	7.9	3.5	1030	6.8	79
NI13717	12.2	62.0	3.00	3.00	171.4	7.7	3.0	935	6.2	69
NE12443	11.9	63.0	3.00	2.97	173.6	7.5	2.5	905	5.9	68
NE12444	12.3	61.9	4.00	4.00	171.7	7.7	3.0	975	6.6	72
NE12488	11.6	60.9	2.75	2.60	170.9	7.6	3.5	975	6.6	79
NE12561	11.9	62.2	3.50	3.47	171.3	7.7	3.5	975	6.6	76
NE12589	11.8	63.7	5.50	5.39	173.6	7.2	5.0	1010	6.7	80
NE10683	10.5	60.2	4.00	3.27	169.5	7.3	3.0	880	5.9	77
MT1117	11.8	62.7	7.50	7.34	172.5	7.5	5.0	990	6.6	78
MT1138	11.6	61.7	7.75	7.42	170.1	7.6	3.0	1030	7.0	84
BCS-12L00006	10.9	60.7	6.25	5.44	169.7	7.1	4.0	980	6.6	85

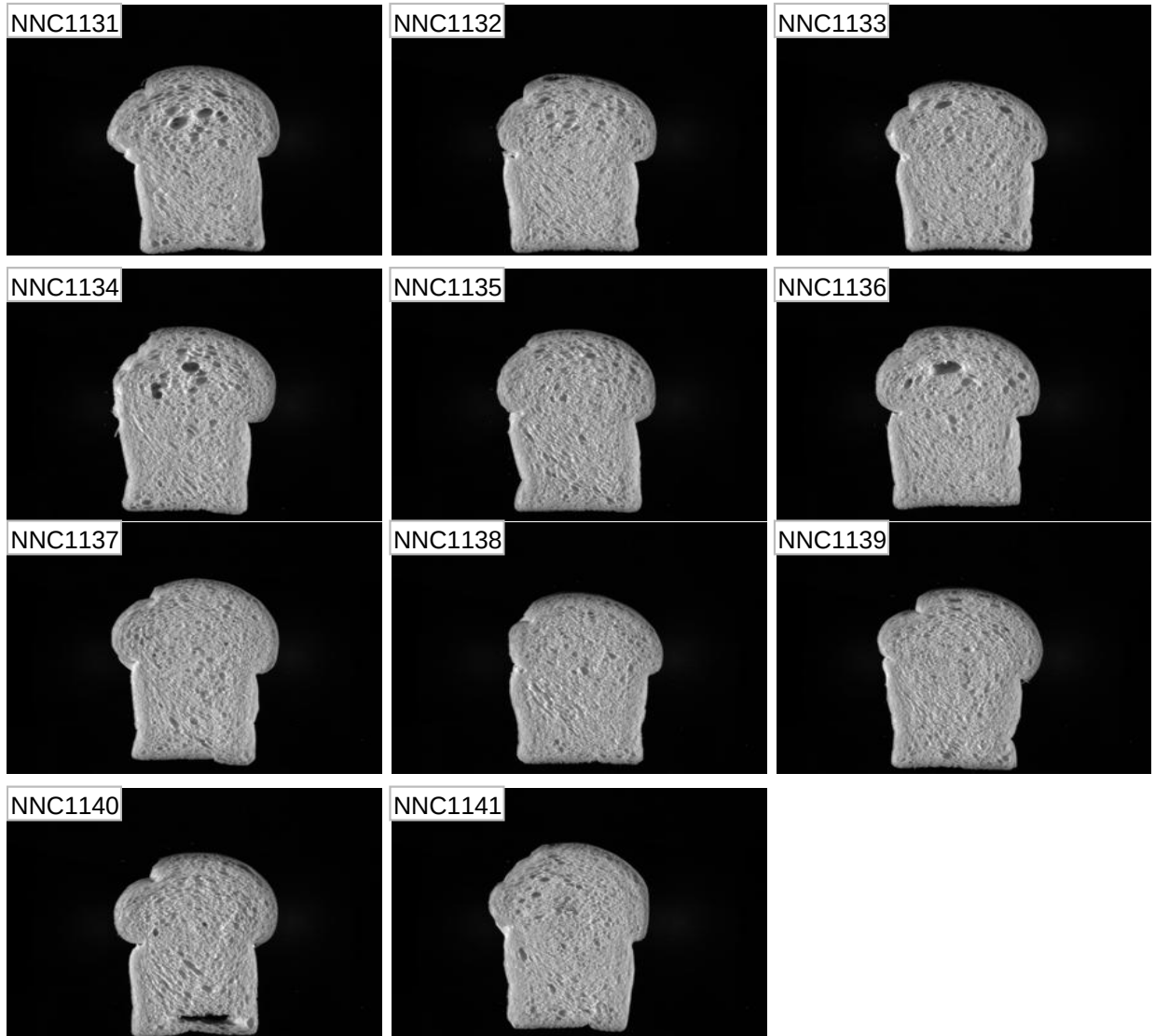
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1 - Test weight	10	11 - Flour protein	8
2 - SKCS kernel weight	8	12 - Bake absorption	15
3 - Kernel weight SD	8	13 - Mixograph absorption	5
4 - SKCS kernel diameter	8	14 - Bake mix time	10
5 - Kernel diameter SD	8	15 - Mixograph mix time	5
6 - SKCS hardness	10	16 - Mixograph tolerance	5
7 - Hardness SD	8	17 - Dough weight	
8 - Flour yield	30	18 - Proof height	2
9 - Flour ash	10	19 - Loaf volume	20
10 - Milling score		20 - Volume regression	5
		21 - Crumb grain	25

ID	Milling Score	Rating	%	Baking Score	Rating	%	1RS	Trait Deficiencies
Kharkof	40.9	Very Poor	67.7	35.9	Very Good	81.4		2,4,8,
Overland	48.7	Poor	80.7	27.4	Average	62.3		16,
Wesley	49.1	Poor	81.2	26.8	Average	60.9		21,
Jagalene	50.9	Average	84.3	32.5	Good	73.8		21,
Jerry	47.5	Very Poor	78.7	26.8	Average	60.9		1,16,21,
N11MD2166W	50.8	Poor	84.1	18.8	Very Poor	42.6		20,21,
N11MD2157W	51.5	Average	85.2	34.5	Good	78.4	1AL	15,
AAC Gateway	51.0	Average	84.4	34.1	Good	77.4		
SD08200	53.9	Very Good	89.3	25.9	Average	58.8		
SD09113	52.0	Average	86.1	16.6	Very Poor	37.7		11,12,16,18,19,21,
SD09118	49.4	Poor	81.8	26.3	Average	59.7		
SD09192	46.1	Very Poor	76.3	43.4	Very Good	98.5	1AL	16,
SD09227	52.2	Good	86.3	34.4	Good	78.0		
SD10257-2	59.1	Very Good	97.9	25.5	Poor	57.9		16,
SD10W153	51.5	Average	85.2	36.1	Very Good	81.9	1AL	3,5,21,
SD110085-1	53.6	Good	88.8	29.9	Average	67.9		16,
SD110060-7	51.3	Average	84.8	30.6	Good	69.5		16,
SD11023-8	53.9	Very Good	89.2	39.8	Very Good	90.3	1BL	
BCS-11L00002-001	50.0	Poor	82.8	34.5	Good	78.3		
BCS-12L00001	45.9	Very Poor	75.9	28.3	Average	64.4		8,21,
BCS-12L00003	46.2	Very Poor	76.5	21.8	Poor	49.5		8,21,
BCS-12L00004	54.1	Very Good	89.6	33.3	Good	75.7		21,
Nord1301	41.0	Very Poor	67.9	39.8	Very Good	90.4		1,2,4,
LCH13-054	54.2	Very Good	89.7	22.4	Poor	50.9	1AL	16,20,21,
LCI13DH-14-53W	54.4	Very Good	90.0	28.2	Average	64.1	1AL	11,12,13,18,19,
LCH13DH-3-31	49.2	Poor	81.4	23.1	Poor	52.5	1BL	16,21,
LCH13DH-7-3	52.2	Good	86.4	13.3	Very Poor	30.1		10,11,13,15,19,21,
LCH13DH-5-59	50.5	Poor	83.6	20.3	Very Poor	46.2		12,15,17,21,
LCI13DH-4-16W	54.0	Very Good	89.4	14.8	Very Poor	33.5		14,15,20,21,
NW11511	48.1	Very Poor	79.5	21.8	Poor	49.4		15,21,

Quality scores and ratings are calculated directly from the relative trait weightings (printed at the top of the page) and are applicable only to the nursery selected.



Hard Winter Wheat Quality Report 2015 NRPN-NHP

1 - Test weight	10	11 - Flour protein	8
2 - SKCS kernel weight	8	12 - Bake absorption	15
3 - Kernel weight SD	8	13 - Mixograph absorption	5
4 - SKCS kernel diameter	8	14 - Bake mix time	10
5 - Kernel diameter SD	8	15 - Mixograph mix time	5
6 - SKCS hardness	10	16 - Mixograph tolerance	5
7 - Hardness SD	8	17 - Dough weight	
8 - Flour yield	30	18 - Proof height	2
9 - Flour ash	10	19 - Loaf volume	20
10 - Milling score		20 - Volume regression	5
		21 - Crumb grain	25

ID	Milling Score	Rating	%	Baking Score	Rating	%	1RS	Trait Deficiencies
NI12702W	46.9	Very Poor	77.6	33.0	Good	74.9		8,9,10,
NI13717	52.7	Good	87.2	22.5	Poor	51.0	1BL	5,16,21,
NE12443	53.8	Good	89.1	24.5	Poor	55.6		16,18,21,
NE12444	52.8	Good	87.5	21.5	Very Poor	48.8	1BL	16,21,
NE12488	50.6	Poor	83.8	18.2	Very Poor	41.3		3,5,16,21,
NE12561	53.1	Good	87.9	22.1	Poor	50.2	1BL	21,
NE12589	50.9	Average	84.2	44.0	Very Good	100.0		
NE10683	40.5	Very Poor	67.1	17.1	Very Poor	38.8		1,3,5,6,11,12,13,16,17,21,
MT1117	51.6	Average	85.5	19.1	Very Poor	43.5		15,
MT1138	52.0	Good	86.1	40.6	Very Good	92.2		15,
BCS-12L00006	60.4	Very Good	100.0	38.3	Very Good	86.9		

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LINE	Wt/Bu (lb)	SKCS Average Kernel						Hardness			
		Moisture		Weight		Diameter		SKCS	Class	Distribution	
		(%)	(sd)	(mg)	(sd)	(mm)	(sd)				
Kharkof	59.2	12.3	0.3	26.7	7.1	2.47	0.27	40	20	MIXED	41--25--17--17--03
Overland	57.8	12.5	0.3	29.9	7.4	2.53	0.31	48	17	MIXED	16--32--32--20--03
Wesley	57.8	12.0	0.3	31.1	7.8	2.68	0.31	44	15	MIXED	24--32--26--18--03
Jagalene	61.2	12.3	0.3	31.2	8.1	2.75	0.32	66	18	HARD	04--10--21--65--01
Jerry	57.2	12.2	0.3	29.1	7.3	2.52	0.29	45	19	MIXED	28--25--25--22--03
N11MD2166W	59.2	12.2	0.3	31.0	7.3	2.62	0.32	53	17	MIXED	13--24--31--32--03
N11MD2157W	59.3	12.1	0.3	28.4	6.9	2.58	0.30	55	15	HARD	09--20--32--39--02
AAC Gateway	59.0	12.1	0.4	27.4	7.3	2.51	0.28	52	16	HARD	10--24--34--32--02
SD08200	59.5	12.0	0.3	34.0	7.3	2.80	0.31	49	16	MIXED	17--28--28--27--03
SD09113	58.8	12.2	0.2	28.9	6.6	2.68	0.31	55	16	HARD	07--20--34--39--02
SD09118	58.8	12.1	0.3	27.7	6.8	2.58	0.29	58	17	HARD	06--20--30--44--02
SD09192	57.8	12.2	0.4	28.0	8.0	2.50	0.30	59	19	HARD	06--15--28--51--02
SD09227	59.6	12.0	0.3	26.9	6.8	2.58	0.29	60	17	HARD	06--12--28--54--02
SD10257-2	61.1	12.2	0.3	35.2	8.1	2.83	0.32	56	15	HARD	04--22--32--42--01
SD10W153	59.8	12.1	0.2	32.9	8.6	2.77	0.36	53	16	MIXED	11--25--29--35--03
SD110085-1	60.6	12.1	0.3	28.2	6.6	2.58	0.30	63	16	HARD	03--08--27--62--01
SD110060-7	58.7	12.3	0.3	29.5	7.0	2.56	0.29	46	14	MIXED	17--33--32--18--03
SD11023-8	60.4	12.2	0.3	27.0	7.4	2.51	0.29	58	17	HARD	07--16--31--46--02
BCS-11L00002-001	59.1	12.4	0.3	31.9	7.7	2.73	0.31	55	15	HARD	07--21--34--38--02
BCS-12L00001	59.3	12.1	0.3	31.3	7.5	2.78	0.33	48	16	MIXED	17--31--28--24--03
BCS-12L00003	58.4	12.0	0.3	29.2	7.5	2.63	0.31	46	15	MIXED	19--36--27--18--03
BCS-12L00004	61.4	12.1	0.3	35.1	8.3	2.84	0.33	56	17	HARD	08--22--29--41--02
Nord1301	55.6	12.1	0.3	25.3	7.5	2.38	0.30	45	17	MIXED	25--30--27--18--03
LCH13-054	60.2	12.0	0.3	33.0	7.4	2.79	0.32	52	14	HARD	07--27--40--26--02
LCI13DH-14-53W	60.1	12.2	0.2	34.7	8.1	2.83	0.30	44	16	MIXED	27--35--21--17--03
LCH13DH-3-31	60.3	12.3	0.3	34.5	8.4	2.76	0.32	48	18	MIXED	20--29--25--26--03
LCH13DH-7-3	60.1	12.4	0.2	30.6	7.0	2.71	0.30	51	15	MIXED	13--26--31--30--03
LCH13DH-5-59	58.1	12.3	0.3	27.3	6.3	2.54	0.27	59	17	HARD	08--14--26--52--02
LCI13DH-4-16W	58.8	12.3	0.3	34.7	7.5	2.76	0.31	42	18	MIXED	30--27--25--18--03
NW11511	59.0	12.3	0.3	33.7	8.3	2.77	0.34	44	16	MIXED	27--32--23--18--03
NI12702W	60.8	12.2	0.3	30.9	7.5	2.67	0.29	72	19	HARD	03--06--12--79--01
NI13717	60.2	12.3	0.3	31.0	8.3	2.75	0.36	52	14	HARD	08--28--37--27--02
NE12443	59.9	12.3	0.3	31.8	7.3	2.65	0.29	49	17	MIXED	18--25--32--25--03
NE12444	60.0	12.3	0.3	31.8	7.6	2.77	0.33	49	16	MIXED	14--29--29--28--03
NE12488	60.0	12.1	0.3	34.7	9.5	2.76	0.36	45	15	MIXED	22--35--26--17--03
NE12561	60.9	12.3	0.3	31.3	8.1	2.78	0.33	55	16	HARD	08--20--32--40--02
NE12589	60.4	12.0	0.3	30.7	7.7	2.71	0.31	64	17	HARD	03--12--27--58--01
NE10683	55.6	12.4	0.3	32.2	8.8	2.66	0.35	32	18	SOFT	57--24--10--09--04
MT1117	59.4	12.2	0.2	30.9	7.4	2.67	0.32	58	17	HARD	07--15--32--46--02
MT1138	58.8	12.3	0.3	29.6	7.2	2.63	0.32	61	19	HARD	06--17--26--51--02
BCS-12L00006	58.6	12.3	0.2	33.9	7.1	2.73	0.32	56	13	HARD	02--20--36--42--01

2015 NRPN Intraregional Production Zone

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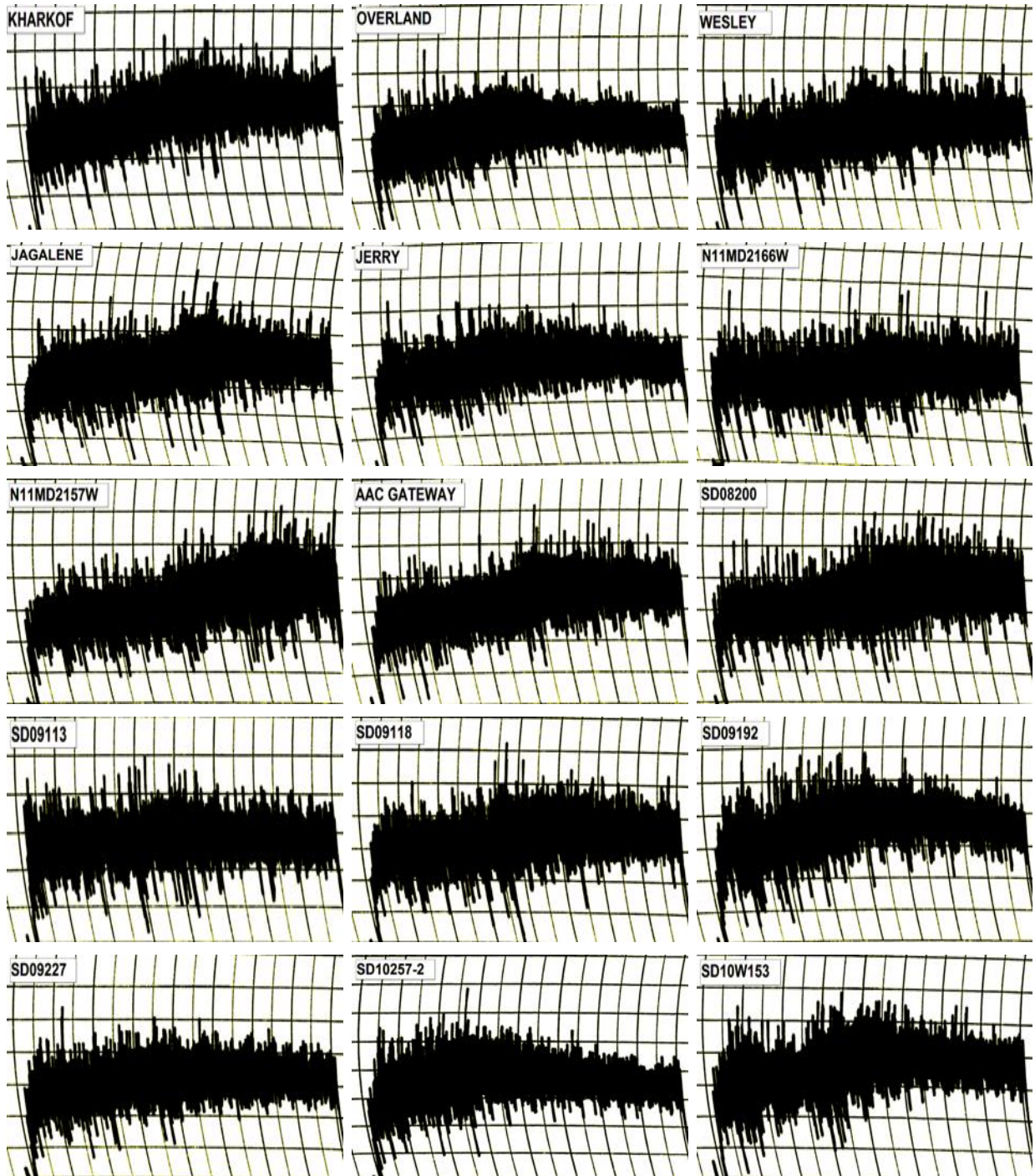
LINE	Wheat		Flour			Noodle Color					
	Protein	Milling Yield	Ash	Protein	PPO	L @ 0	a @ 0	b @ 0	Delta L 24 hrs	Delta a 24 hrs	Delta b 24 hrs
	(%)	(%)	(%)	(%)							
Kharkof	11.6	64.4	0.43	9.8	0.550	81.97	-2.35	22.90	-8.67	0.93	5.69
Overland	9.5	68.1	0.47	7.8	0.471	82.31	-2.20	21.02	-9.13	0.94	4.61
Wesley	10.1	67.1	0.43	8.4	0.454	81.48	-2.57	23.49	-7.92	1.13	3.29
Jagalene	11.2	65.5	0.46	9.8	0.385	80.81	-2.20	24.53	-8.69	1.27	4.46
Jerry	10.4	69.0	0.46	8.9	0.524	80.26	-2.38	26.05	-8.55	1.29	4.88
N11MD2166W	9.8	67.0	0.42	8.3	0.534	82.53	-2.24	22.31	-8.66	0.80	4.48
N11MD2157W	11.0	66.8	0.42	9.5	0.463	81.63	-2.02	22.92	-8.76	0.90	4.71
AAC Gateway	10.5	68.6	0.47	9.3	0.616	81.54	-1.95	21.78	-8.14	0.86	4.57
SD08200	11.2	66.9	0.39	9.6	0.599	81.59	-2.02	21.93	-9.05	0.78	4.17
SD09113	9.5	67.1	0.43	7.7	0.610	81.91	-2.70	24.56	-7.47	0.87	5.04
SD09118	10.9	66.8	0.46	9.2	0.459	80.27	-2.27	25.90	-8.49	1.16	4.01
SD09192	11.2	67.3	0.47	9.6	0.490	79.62	-2.15	25.97	-8.11	1.30	2.16
SD09227	10.3	68.1	0.46	8.9	0.600	80.86	-2.41	24.97	-8.16	1.14	4.10
SD10257-2	10.3	69.1	0.44	8.8	0.510	81.33	-2.23	23.40	-7.90	0.98	3.26
SD10W153	11.0	66.1	0.37	9.4	0.489	80.08	-2.02	24.42	-8.30	1.19	3.44
SD110085-1	10.1	66.9	0.45	8.5	0.669	80.33	-2.26	25.41	-7.77	1.23	3.15
SD110060-7	9.4	67.6	0.45	7.8	0.439	81.43	-2.54	24.07	-9.36	0.94	3.71
SD11023-8	10.4	69.1	0.45	9.2	0.643	81.00	-2.59	25.56	-6.68	0.92	2.78
BCS-11L00002-001	10.1	65.1	0.42	8.8	0.236	80.94	-2.59	25.49	-6.75	0.93	4.50
BCS-12L00001	9.8	63.8	0.44	8.4	0.444	80.75	-2.77	27.71	-7.60	1.00	4.12
BCS-12L00003	9.3	64.8	0.41	7.9	0.452	81.76	-2.53	24.52	-7.57	0.79	3.78
BCS-12L00004	10.2	66.0	0.39	8.6	0.445	80.99	-2.45	24.08	-7.44	0.97	3.93
Nord1301	11.3	66.7	0.47	9.7	0.527	81.96	-2.21	24.23	-10.48	1.05	7.15
LCH13-054	10.0	66.4	0.42	8.8	0.357	80.40	-2.25	24.73	-8.03	1.06	4.93
LCH13DH-14-53W	9.0	68.9	0.48	7.5	0.520	81.63	-2.96	24.29	-7.57	1.42	2.15
LCH13DH-3-31	10.2	66.0	0.43	8.7	0.435	80.98	-2.46	24.64	-8.71	1.02	4.79
LCH13DH-7-3	9.2	67.2	0.48	7.4	0.559	83.97	-2.47	20.64	-7.75	0.47	6.38
LCH13DH-5-59	10.0	67.6	0.49	8.3	0.500	80.53	-2.05	23.19	-9.55	1.31	2.65
LCH13DH-4-16W	10.5	68.9	0.40	8.9	0.200	82.72	-2.11	21.80	-8.13	0.94	6.71
NW11511	9.9	65.6	0.41	8.5	0.464	82.66	-2.06	20.55	-8.65	0.91	4.43
NI12702W	10.9	64.7	0.57	9.6	0.542	81.59	-2.15	22.61	-10.68	1.60	5.67
NI13717	10.3	67.7	0.46	9.1	0.423	80.13	-2.72	27.45	-8.62	1.66	2.94
NE12443	9.5	69.0	0.47	8.0	0.529	80.41	-2.36	25.19	-7.35	1.34	1.99
NE12444	10.3	67.8	0.46	8.9	0.406	80.13	-2.38	26.51	-8.39	1.24	4.61
NE12488	9.7	67.9	0.46	8.1	0.468	81.19	-2.46	23.91	-8.41	1.10	3.99
NE12561	9.8	67.5	0.46	8.5	0.431	81.01	-2.18	23.23	-8.42	1.11	4.75
NE12589	10.2	66.1	0.46	9.3	0.426	79.72	-1.88	22.09	-7.78	1.11	2.74
NE10683	9.3	65.8	0.44	7.5	0.477	81.71	-2.30	22.30	-8.14	1.01	4.42
MT1117	10.8	66.9	0.45	9.2	0.505	80.30	-1.93	24.76	-7.39	0.88	3.77
MT1138	10.5	69.3	0.49	9.3	0.549	79.97	-2.14	25.73	-8.40	1.38	3.58
BCS-12L00006	10.8	70.2	0.44	9.3	0.520	80.93	-2.22	24.01	-7.85	1.12	3.08

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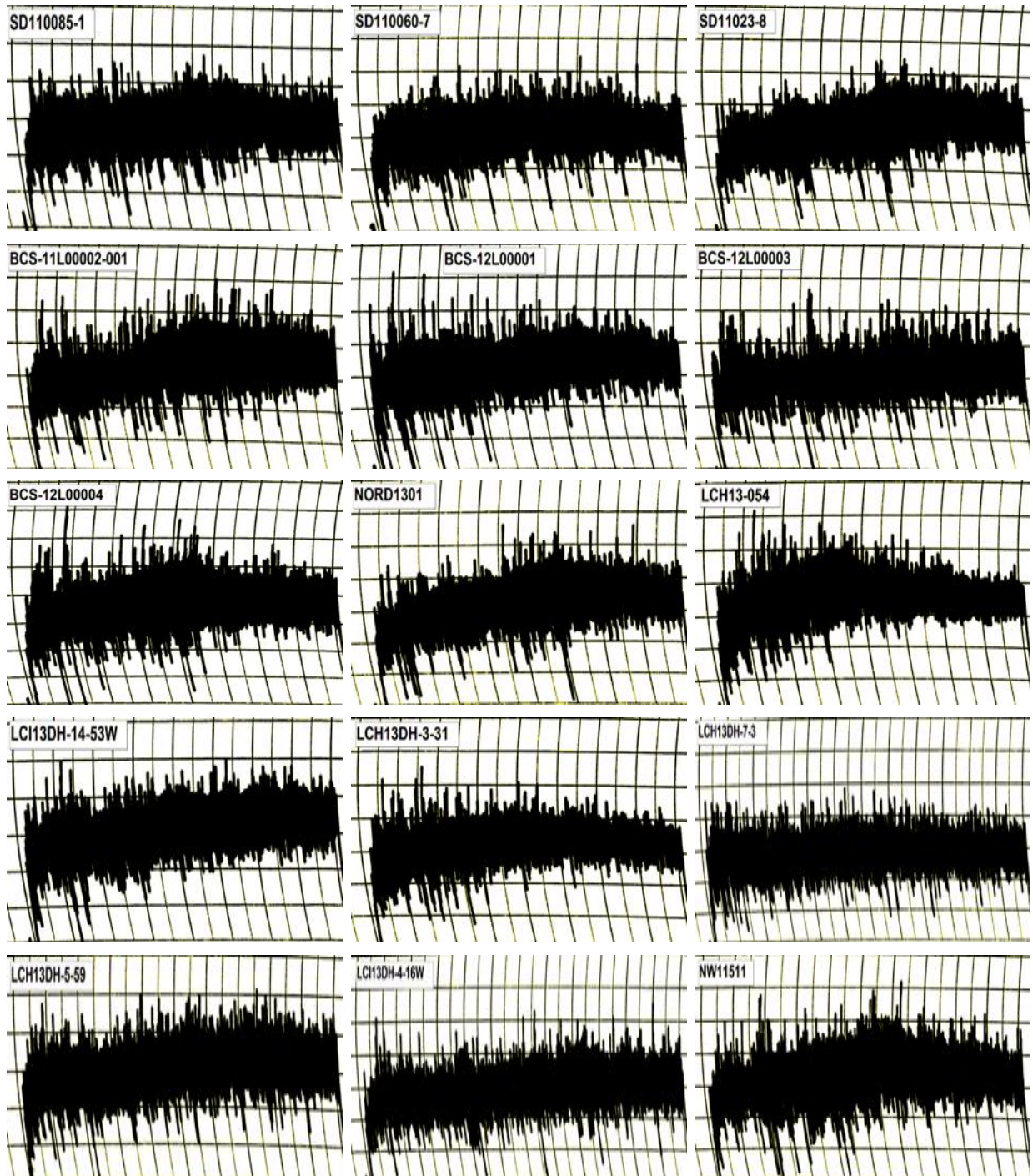
Northern High Plains

	Flour Protein	Mixograph			
		Absorption	As-Is	Corrected	Tolerance
Line	(%)	(%)	(min)	(min)	
Kharkof	9.8	58.2	4.63	3.40	3
Overland	7.8	55.9	3.63	1.78	2
Wesley	8.4	55.9	4.25	2.39	3
Jagalene	9.8	59.7	5.00	3.66	4
Jerry	8.9	57.8	3.50	2.19	2
N11MD2166W	8.3	56.8	4.63	2.59	4
N11MD2157W	9.5	58.8	6.13	4.27	4
AAC Gateway	9.3	56.9	4.63	3.11	3
SD08200	9.6	59.9	5.00	3.54	5
SD09113	7.7	55.7	3.50	1.68	2
SD09118	9.2	58.3	4.25	2.84	3
SD09192	9.6	59.0	3.50	2.51	2
SD09227	8.9	57.8	3.63	2.29	3
SD10257-2	8.8	57.6	2.50	1.54	2
SD10W153	9.4	58.5	4.00	2.73	3
SD110085-1	8.5	57.1	4.50	2.60	2
SD110060-7	7.8	56.0	4.25	2.12	2
SD11023-8	9.2	58.2	4.88	3.22	3
BCS-11L00002-001	8.8	57.6	4.63	2.85	4
BCS-12L00001	8.4	56.9	4.25	2.40	3
BCS-12L00003	7.9	56.0	5.00	2.53	3
BCS-12L00004	8.6	58.1	4.50	2.64	4
Nord1301	9.7	59.2	5.00	3.65	4
LCH13-054	8.8	57.6	3.38	2.08	2
LCI13DH-14-53W	7.5	55.5	4.38	2.03	3
LCH13DH-3-31	8.7	57.3	3.38	2.02	2
LCH13DH-7-3	7.4	55.3	5.63	2.55	4
LCH13DH-5-59	8.3	56.8	5.63	3.16	4
LCI13DH-4-16W	8.9	57.9	8.38	5.30	4
NW11511	8.5	57.1	5.88	3.41	4
NI12702W	9.6	59.9	4.13	2.92	3
NI13717	9.1	57.0	3.63	2.36	1
NE12443	8.0	56.2	3.88	2.00	2
NE12444	8.9	57.8	3.63	2.30	1
NE12488	8.1	56.5	3.13	1.68	2
NE12561	8.5	57.0	3.88	2.24	3
NE12589	9.3	58.4	4.75	3.20	4
NE10683	7.5	55.5	4.88	2.27	2
MT1117	9.2	58.3	7.00	4.65	3
MT1138	9.3	58.3	5.75	3.85	4
BCS-12L00006	9.3	58.5	5.13	3.48	3

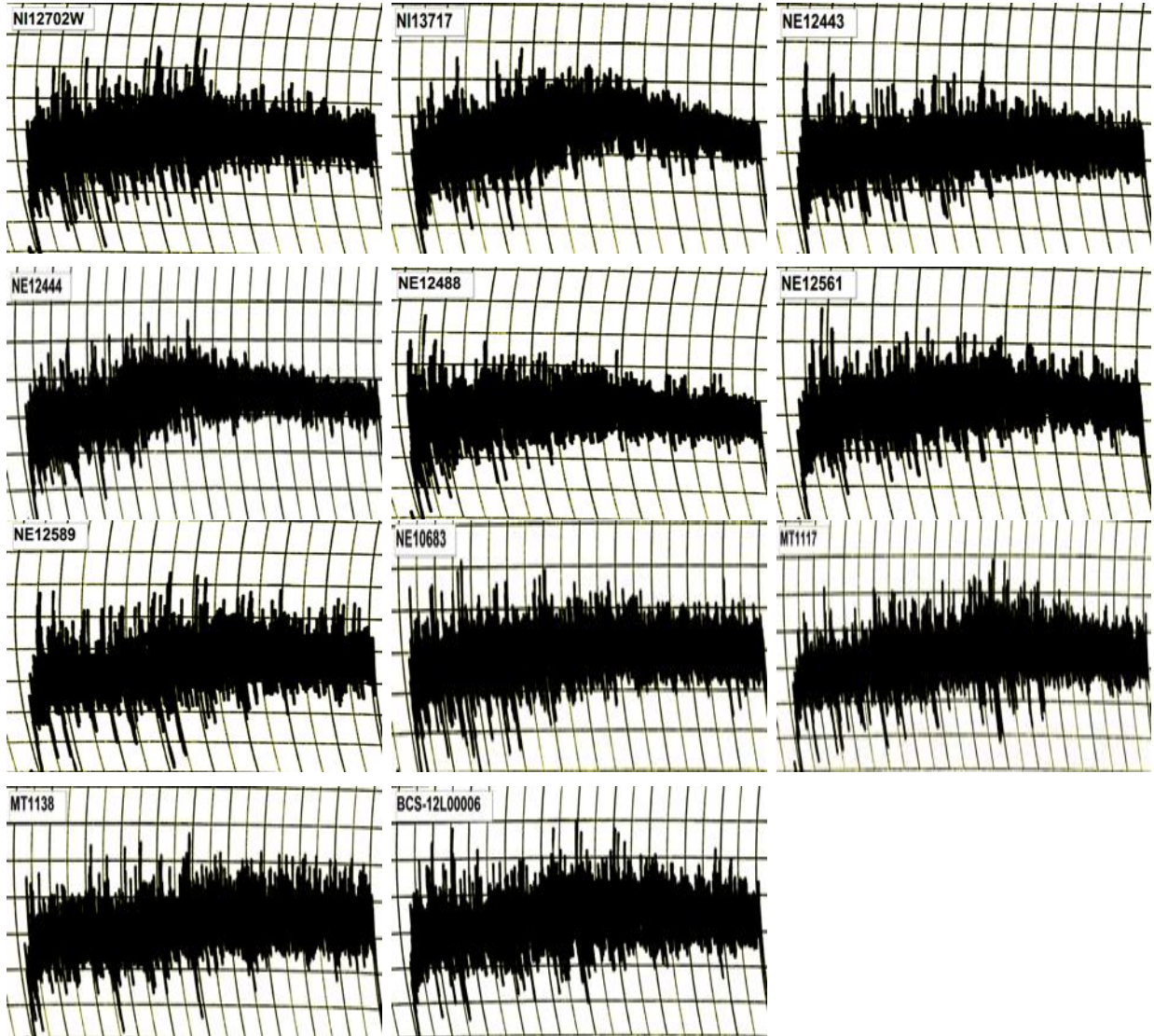
2015 NRPN Intraregional Production Zone Northern High Plains



2015 NRPN Intraregional Production Zone Northern High Plains



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2015 NRPN Intraregional Production Zone

Northern High Plains

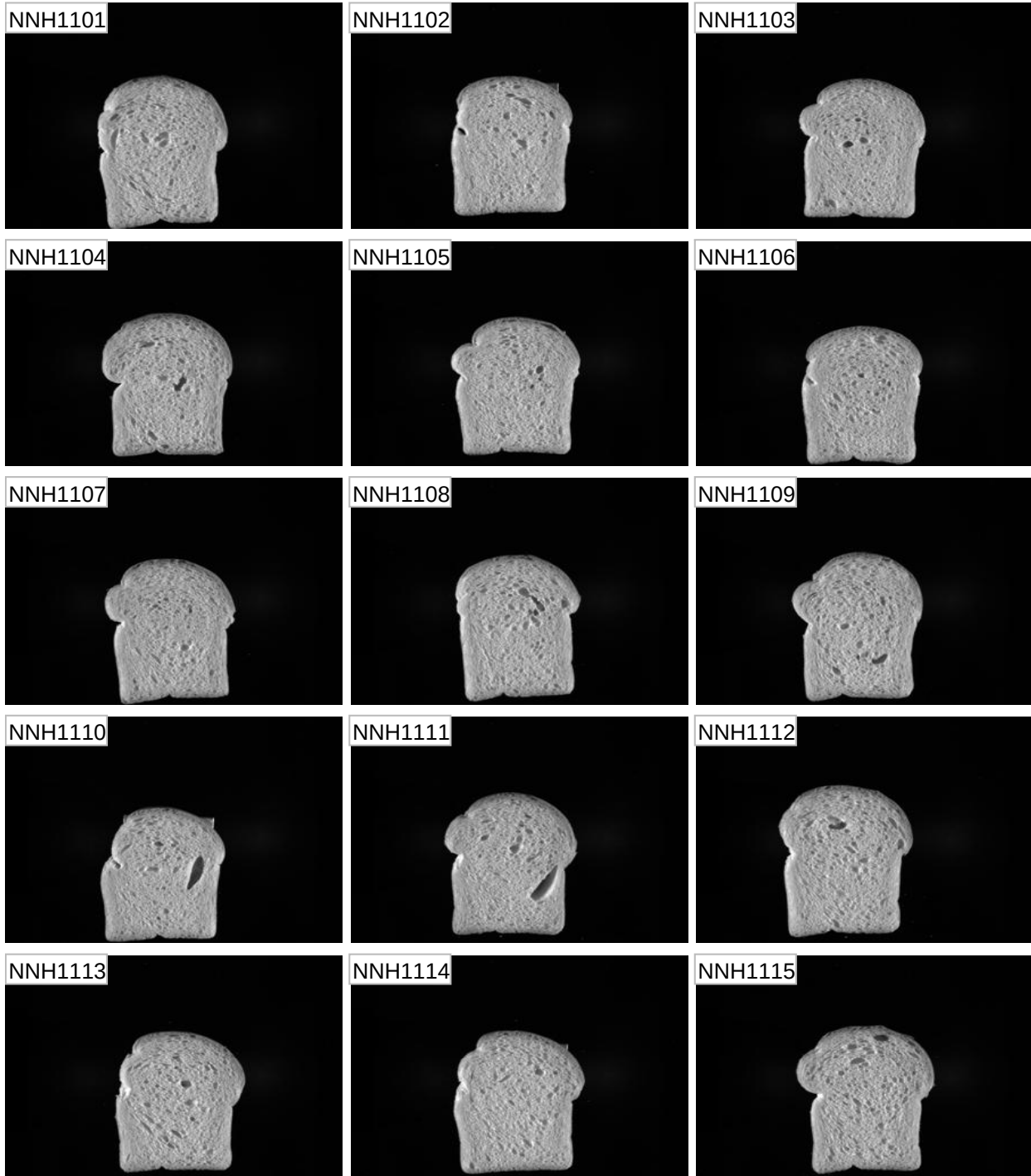
Line	RVA							Pasting Temp (Deg. C)
	Stirring Number (RVU)	Peak Viscosity (RVU)	Trough Viscosity (RVU)	Breakdown (RVU)	Final Viscosity (RVU)	Set back (RVU)	Peak Time (min)	
Kharkof	148.67	233.00	175.00	58.00	305.58	130.58	6.40	
Overland	119.50	195.83	149.75	46.08	283.58	133.83	6.20	
Wesley	97.42	190.33	135.92	54.42	269.50	133.58	6.07	
Jagalene	104.08	193.83	135.00	58.83	262.33	127.33	6.07	
Jerry	115.58	193.42	147.00	46.42	282.75	135.75	6.13	
N11MD2166W	111.25	194.00	145.75	48.25	282.75	137.00	6.13	
N11MD2157W	127.58	197.67	157.25	40.42	300.17	142.92	6.27	
AAC Gateway	115.58	207.33	150.25	57.08	280.00	129.75	6.20	
SD08200	138.33	210.75	161.83	48.92	298.50	136.67	6.33	
SD09113	115.58	219.42	158.25	61.17	289.58	131.33	6.20	
SD09118	134.08	215.50	159.67	55.83	296.33	136.67	6.27	
SD09192	105.83	217.83	160.33	57.50	303.50	143.17	6.20	
SD09227	148.83	223.08	165.42	57.67	296.17	130.75	6.33	
SD10257-2	141.33	191.00	154.33	36.67	299.17	144.83	6.20	
SD10W153	112.42	262.92	164.17	98.75	290.25	126.08	6.13	
SD110085-1	116.42	251.83	161.92	89.92	291.17	129.25	6.20	
SD110060-7	117.92	224.83	162.08	62.75	306.58	144.50	6.13	
SD11023-8	120.83	223.50	163.17	60.33	300.92	137.75	6.27	
BCS-11L00002-001	102.83	242.58	154.08	88.50	289.50	135.42	6.07	
BCS-12L00001	132.25	256.58	178.58	78.00	320.58	142.00	6.33	
BCS-12L00003	118.67	325.17	189.00	136.17	313.67	124.67	6.27	
BCS-12L00004	105.25	306.50	175.25	131.25	299.25	124.00	6.13	
Nord1301	145.50	239.25	173.67	65.58	317.83	144.17	6.27	
LCH13-054	157.25	248.17	177.83	70.33	303.58	125.75	6.33	
LCI13DH-14-53W	125.50	245.08	157.08	88.00	280.58	123.50	6.20	
LCH13DH-3-31	107.92	198.00	147.08	50.92	281.00	133.92	6.20	
LCH13DH-7-3	136.33	209.58	151.83	57.75	283.58	131.75	6.20	
LCH13DH-5-59	107.75	268.92	161.58	107.33	280.50	118.92	6.13	
LCI13DH-4-16W	112.42	276.00	191.83	84.17	354.83	163.00	6.13	
NW11511	115.50	220.42	149.08	71.33	288.08	139.00	6.07	
NI12702W	117.58	255.50	173.50	82.00	287.58	114.08	6.33	
NI13717	125.25	228.67	158.83	69.83	299.75	140.92	6.20	
NE12443	125.33	194.50	137.50	57.00	261.00	123.50	6.13	
NE12444	126.67	216.42	152.25	64.17	283.58	131.33	6.27	
NE12488	114.75	266.25	156.58	109.67	272.00	115.42	6.13	
NE12561	131.75	178.00	126.83	51.17	242.33	115.50	6.13	
NE12589	136.83	220.50	149.25	71.25	278.17	128.92	6.20	
NE10683	133.42	270.83	186.17	84.67	334.92	148.75	6.27	
MT1117	140.83	232.75	169.17	63.58	303.42	134.25	6.27	
MT1138	138.50	233.33	171.67	61.67	304.00	132.33	6.33	
BCS-12L00006	109.00	177.17	133.17	44.00	263.83	130.67	6.07	

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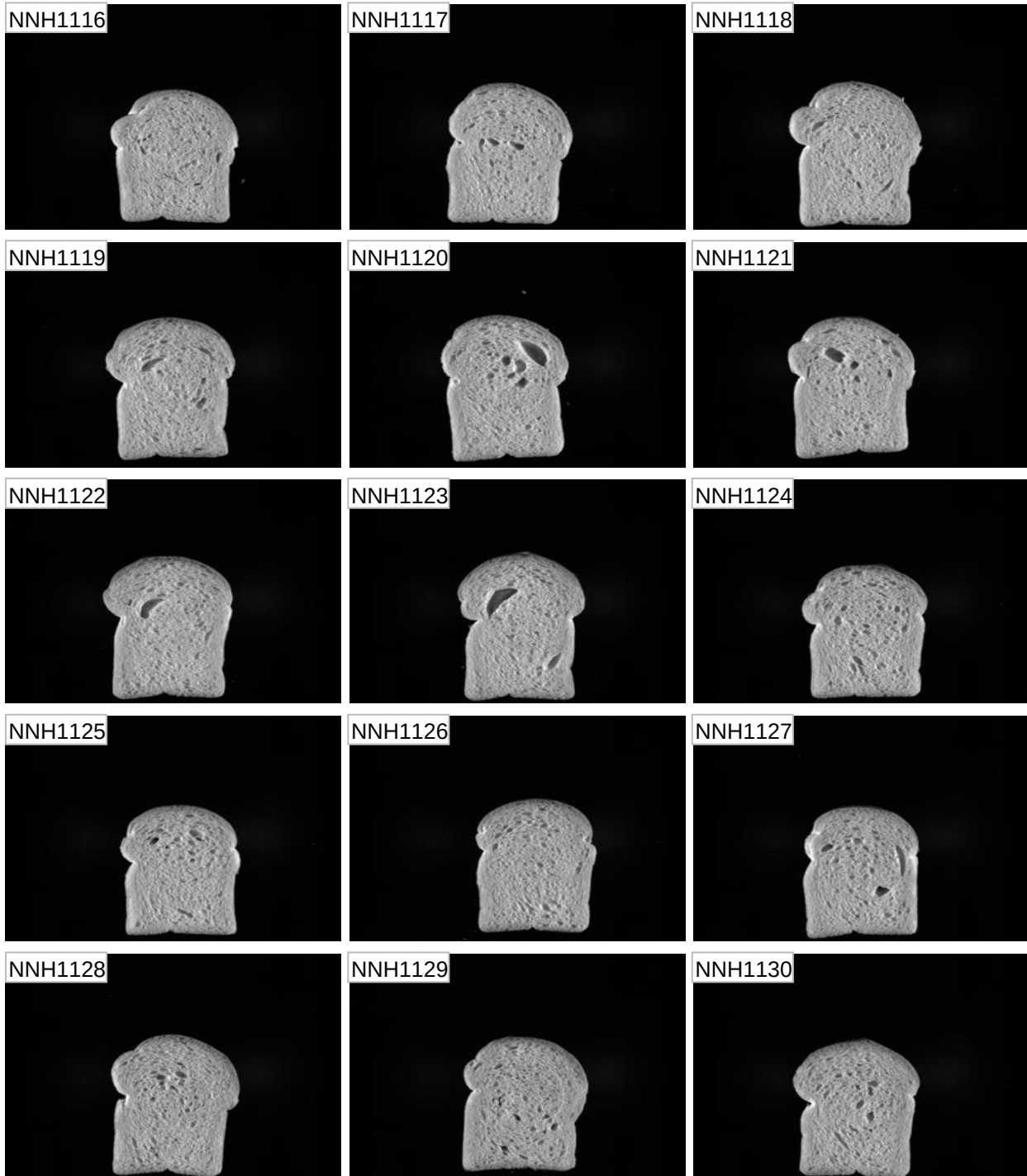
Northern High Plains

Line	Flour		Mix Time		Dough					
	Protein	Water Abs.	As-is	Corrected	Weight	Proof Height	Crumb Grain	As-Rec'd.	Specific Volume	Loaf Volume Potential
	(%)	(%)	(min)	(min)	(g)	(cm)		(cc)	(cc/g)	(cc/%)
Kharkof	9.8	59.3	6.00	4.40	168.3	7.2	3.0	775	5.3	68
Overland	7.8	56.2	4.00	1.96	164.9	6.5	3.0	680	4.7	73
Wesley	8.4	57.0	5.00	2.82	165.8	6.7	2.0	695	4.8	69
Jagalene	9.8	60.9	5.75	4.21	169.5	6.5	2.0	765	5.1	67
Jerry	8.9	57.7	4.38	2.74	167.0	6.8	2.0	705	4.8	66
N11MD2166W	8.3	57.8	5.75	3.22	166.0	6.7	1.5	660	4.5	63
N11MD2157W	9.5	58.9	6.50	4.53	167.6	6.7	4.0	740	5.0	66
AAC Gateway	9.3	57.8	5.25	3.53	166.8	6.6	3.0	745	5.1	69
SD08200	9.6	60.2	6.50	4.61	169.0	6.9	3.5	770	5.2	70
SD09113	7.7	56.0	4.50	2.16	165.1	6.3	1.5	630	4.3	64
SD09118	9.2	58.4	4.75	3.17	168.0	6.7	2.5	740	5.0	68
SD09192	9.6	60.0	4.00	2.87	169.2	7.0	4.0	795	5.4	73
SD09227	8.9	58.0	4.25	2.68	167.3	6.6	3.0	735	5.0	70
SD10257-2	8.8	58.0	3.25	2.00	167.4	6.4	3.0	705	4.8	66
SD10W153	9.4	60.1	4.50	3.07	169.0	7.0	2.0	795	5.4	75
SD110085-1	8.5	57.1	4.75	2.74	166.0	6.7	3.0	690	4.7	67
SD110060-7	7.8	56.9	5.25	2.61	166.1	6.5	3.0	705	4.8	77
SD11023-8	9.2	59.2	5.50	3.63	168.1	6.7	4.0	755	5.0	71
BCS-11L00002-001	8.8	57.8	5.50	3.39	167.0	6.5	3.0	745	5.1	73
BCS-12L00001	8.4	59.5	6.00	3.39	167.8	6.8	2.0	730	4.9	75
BCS-12L00003	7.9	59.2	7.00	3.55	167.6	6.5	2.0	715	4.8	78
BCS-12L00004	8.6	61.0	5.75	3.38	170.1	6.6	2.0	765	5.1	79
Nord1301	9.7	58.8	5.00	3.65	167.4	7.1	3.0	790	5.4	71
LCH13-054	8.8	58.1	3.75	2.31	167.2	6.5	2.0	675	4.6	62
LCI13DH-14-53W	7.5	55.9	4.75	2.21	164.9	6.2	3.0	650	4.5	69
LCH13DH-3-31	8.7	56.8	4.00	2.40	166.0	6.5	2.0	690	4.7	65
LCH13DH-7-3	7.4	56.9	7.13	3.23	165.4	6.4	1.0	640	4.4	68
LCH13DH-5-59	8.3	56.0	6.25	3.51	164.5	6.6	2.0	705	4.9	71
LCI13DH-4-16W	8.9	60.9	13.00	8.22	169.0	6.7	1.0	675	4.5	60
NW11511	8.5	58.5	6.25	3.63	167.1	6.5	2.0	700	4.8	68
NI12702W	9.6	61.7	4.75	3.36	170.8	7.0	2.5	780	5.2	71
NI13717	9.1	56.9	3.50	2.27	166.2	6.8	1.5	785	5.4	77
NE12443	8.0	56.9	4.00	2.06	166.5	6.3	2.0	705	4.8	75
NE12444	8.9	57.7	3.88	2.46	166.5	6.7	1.5	730	5.0	69
NE12488	8.1	57.8	3.50	1.87	167.0	6.5	1.5	715	4.9	75
NE12561	8.5	57.6	4.25	2.45	167.0	6.5	1.5	700	4.7	69
NE12589	9.3	61.1	6.00	4.05	170.9	7.0	4.0	795	5.3	76
NE10683	7.5	55.8	5.88	2.74	164.6	6.5	1.0	675	4.6	74
MT1117	9.2	58.4	6.50	4.32	166.9	6.6	3.5	770	5.2	73
MT1138	9.3	61.0	7.00	4.69	170.4	7.0	4.0	830	5.6	82
BCS-12L00006	9.3	61.1	7.25	4.91	170.4	6.7	4.0	800	5.3	76

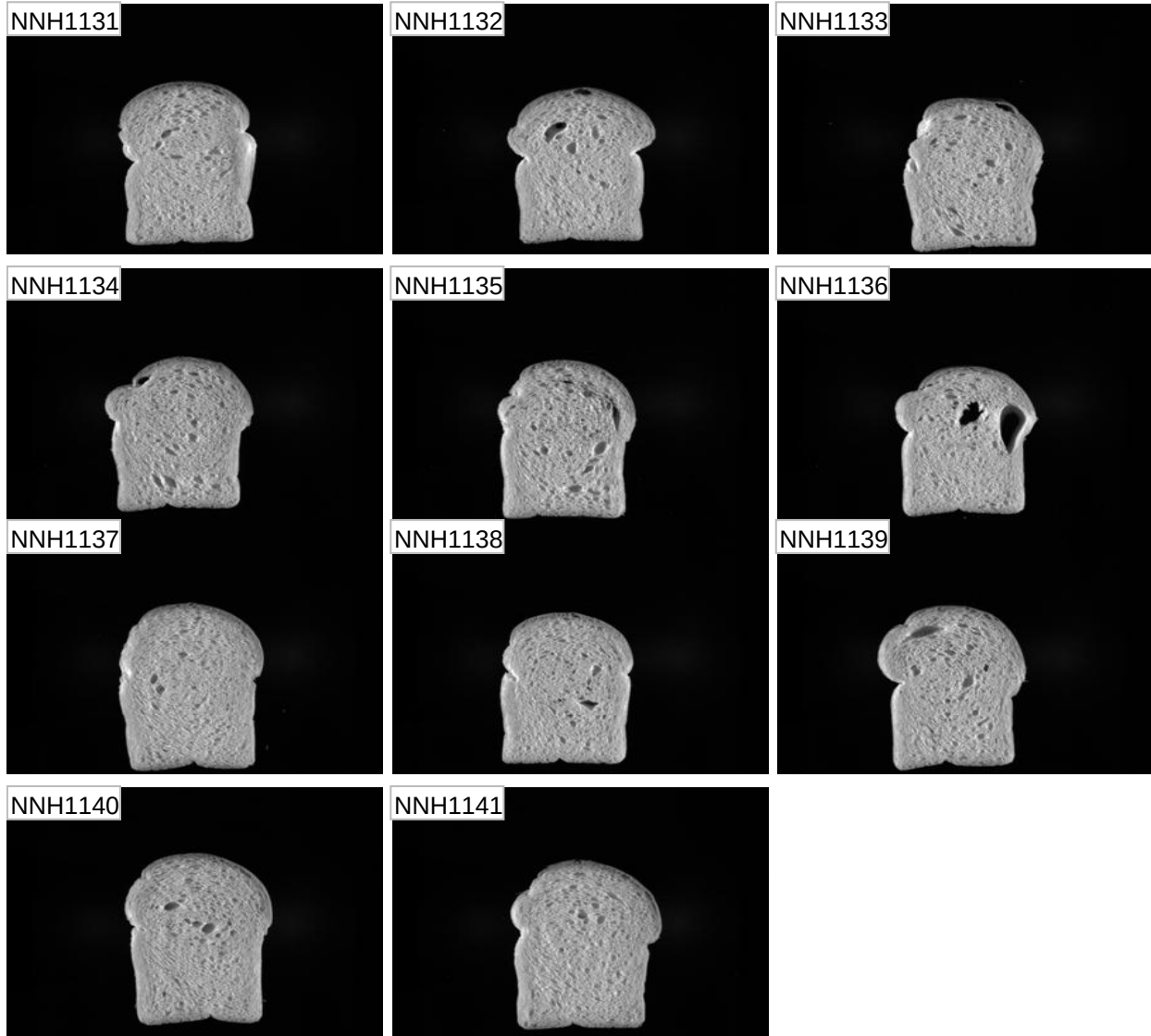
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Hard Winter Wheat Quality Report 2015 NRPN-NP

1 - Test weight	10	11 - Flour protein	8
2 - SKCS kernel weight	8	12 - Bake absorption	15
3 - Kernel weight SD	8	13 - Mixograph absorption	5
4 - SKCS kernel diameter	8	14 - Bake mix time	10
5 - Kernel diameter SD	8	15 - Mixograph mix time	5
6 - SKCS hardness	10	16 - Mixograph tolerance	5
7 - Hardness SD	8	17 - Dough weight	
8 - Flour yield	30	18 - Proof height	2
9 - Flour ash	10	19 - Loaf volume	20
10 - Milling score		20 - Volume regression	5
		21 - Crumb grain	25

ID	Milling Score	Rating	%	Baking Score	Rating	%	1RS	Trait Deficiencies
Kharkof	37.0	Very Poor	70.3	58.2	Very Good	97.4		8,10,
Overland	43.1	Average	82.0	34.9	Poor	58.4		12,13,16,17,
Wesley	43.9	Average	83.7	43.4	Average	72.6		14,15,
Jagalene	39.0	Very Poor	74.2	46.7	Very Good	78.2		5,
Jerry	45.2	Good	86.0	38.6	Average	64.5		
N11MD2166W	40.8	Poor	77.7	23.4	Very Poor	39.1		4,11,15,
N11MD2157W	45.1	Good	85.9	27.3	Very Poor	45.8	1AL	15,
AAC Gateway	42.4	Average	80.7	44.0	Good	73.6		2,4,15,
SD08200	48.4	Very Good	92.1	54.5	Very Good	91.3		
SD09113	42.1	Poor	80.1	32.5	Poor	54.5		16,
SD09118	44.1	Average	84.0	45.6	Good	76.4		16,
SD09192	49.0	Very Good	93.2	33.6	Poor	56.3	1AL	12,16,
SD09227	50.1	Very Good	95.5	28.9	Very Poor	48.4		16,
SD10257-2	52.5	Very Good	100.0	22.7	Very Poor	37.9		16,
SD10W153	45.6	Good	86.8	35.8	Poor	60.0	1AL	
SD110085-1	48.0	Very Good	91.3	45.5	Good	76.2		12,16,
SD110060-7	39.8	Very Poor	75.8	42.7	Average	71.4		
SD11023-8	50.0	Very Good	95.1	38.9	Average	65.1	1BL	
BCS-11L00002-001	40.5	Poor	77.2	29.4	Very Poor	49.2		15,
BCS-12L00001	40.1	Very Poor	76.3	49.9	Very Good	83.5		
BCS-12L00003	34.9	Very Poor	66.5	43.4	Good	72.6		8,10,
BCS-12L00004	47.8	Very Good	91.0	48.3	Very Good	80.8		
Nord1301	41.2	Poor	78.5	44.6	Good	74.6		
LCH13-054	44.8	Good	85.3	39.2	Average	65.6	1AL	16,20,
LCI13DH-14-53W	43.4	Average	82.6	46.2	Good	77.4	1AL	9,
LCH13DH-3-31	42.2	Poor	80.3	29.3	Very Poor	49.0	1BL	13,18,19,20,
LCH13DH-7-3	40.2	Poor	76.6	37.4	Average	62.7		15,18,
LCH13DH-5-59	40.1	Poor	76.4	40.6	Average	68.0		11,15,18,
LCI13DH-4-16W	42.6	Average	81.1	22.6	Very Poor	37.9		14,15,
NW11511	37.6	Very Poor	71.7	33.6	Poor	56.3		1,

Quality scores and ratings are calculated directly from the relative trait weightings (printed at the top of the page) and are applicable only to the nursery selected.



Hard Winter Wheat Quality Report 2015 NRPN-NP

1 - Test weight	10	11 - Flour protein	8
2 - SKCS kernel weight	8	12 - Bake absorption	15
3 - Kernel weight SD	8	13 - Mixograph absorption	5
4 - SKCS kernel diameter	8	14 - Bake mix time	10
5 - Kernel diameter SD	8	15 - Mixograph mix time	5
6 - SKCS hardness	10	16 - Mixograph tolerance	5
7 - Hardness SD	8	17 - Dough weight	
8 - Flour yield	30	18 - Proof height	2
9 - Flour ash	10	19 - Loaf volume	20
10 - Milling score		20 - Volume regression	5
		21 - Crumb grain	25

ID	Milling Score	Rating	%	Baking Score	Rating	%	1RS	Trait Deficiencies
NI12702W	43.2	Average	82.3	59.7	Very Good	100.0		8,9,10,
NI13717	39.4	Very Poor	75.0	45.0	Good	75.4	1BL	9,16,
NE12443	45.7	Good	87.0	30.7	Very Poor	51.4		16,
NE12444	44.7	Good	85.1	40.1	Average	67.2	1BL	12,16,17,
NE12488	40.1	Very Poor	76.3	28.6	Very Poor	47.9		16,
NE12561	46.9	Good	89.2	47.6	Very Good	79.6	1BL	
NE12589	51.3	Very Good	97.6	31.6	Poor	53.0		
NE10683	35.6	Very Poor	67.8	32.0	Poor	53.6		1,3,5,6,
MT1117	46.4	Good	88.4	52.7	Very Good	88.3		15,
MT1138	42.1	Poor	80.2	45.9	Good	76.8		14,15,
BCS-12L00006	42.2	Average	80.4	31.5	Poor	52.8		3,11,13,14,15,

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LINE	Wt/Bu (lb)	SKCS Average Kernel						Hardness			
		Moisture		Weight		Diameter		SKCS	Class	Distribution	
		(%)	(sd)	(mg)	(sd)	(mm)	(sd)				
								(sd)			
Kharkof	60.6	10.7	1.0	28.0	7.8	2.50	0.30	41 19	MIXED	38--26--20--16--03	
Overland	59.8	12.0	0.7	28.6	9.8	2.48	0.39	52 20	MIXED	20--23--23--34--03	
Wesley	58.1	11.4	0.7	30.0	9.8	2.55	0.36	50 16	MIXED	15--24--31--30--03	
Jagalene	58.9	11.5	0.7	29.4	10.2	2.61	0.41	60 20	HARD	08--14--22--56--02	
Jerry	58.9	11.7	0.6	30.8	9.5	2.53	0.36	49 20	MIXED	22--21--22--35--03	
N11MD2166W	58.5	11.5	0.9	27.3	7.9	2.40	0.31	51 19	MIXED	16--24--28--32--03	
N11MD2157W	60.0	11.5	0.8	27.4	9.0	2.50	0.33	53 18	MIXED	12--22--29--37--03	
AAC Gateway	59.2	11.2	0.9	25.2	10.1	2.37	0.37	55 17	HARD	10--18--31--41--02	
SD08200	59.8	11.4	0.6	31.2	9.2	2.60	0.37	49 17	MIXED	17--26--29--28--03	
SD09113	57.6	11.9	0.7	27.1	8.4	2.51	0.34	57 19	HARD	08--21--21--50--02	
SD09118	59.0	11.7	0.7	27.9	8.7	2.54	0.35	56 18	MIXED	13--16--26--45--03	
SD09192	60.1	11.8	0.8	31.9	9.6	2.58	0.34	60 18	HARD	07--13--24--56--02	
SD09227	60.5	11.2	0.7	27.6	8.6	2.54	0.36	64 18	HARD	06--10--21--63--02	
SD10257-2	61.4	11.2	0.8	31.7	8.5	2.67	0.35	60 18	HARD	10--13--22--55--02	
SD10W153	59.4	11.7	0.6	28.7	9.2	2.54	0.35	54 18	MIXED	12--19--30--39--03	
SD110085-1	60.4	12.0	0.6	26.8	7.9	2.46	0.33	65 18	HARD	04--10--22--64--01	
SD110060-7	58.8	11.7	0.7	27.4	9.2	2.45	0.35	56 19	MIXED	14--16--25--45--03	
SD11023-8	60.7	11.3	0.7	28.3	9.6	2.50	0.34	63 17	HARD	05--13--16--66--01	
BCS-11L00002-001	58.5	11.7	0.7	28.8	9.9	2.53	0.38	58 17	HARD	06--19--30--45--02	
BCS-12L00001	57.8	11.3	0.7	27.2	9.9	2.56	0.40	53 17	MIXED	11--22--31--36--03	
BCS-12L00003	59.1	11.4	0.6	29.0	9.6	2.54	0.37	54 19	MIXED	14--22--22--42--03	
BCS-12L00004	60.0	11.6	0.6	31.5	9.1	2.66	0.35	56 16	HARD	07--21--28--44--02	
Nord1301	57.6	11.5	0.8	30.0	10.5	2.49	0.38	50 19	MIXED	19--21--27--33--03	
LCH13-054	59.4	11.6	0.8	29.4	10.1	2.52	0.38	61 17	HARD	05--13--28--54--01	
LCI13DH-14-53W	58.8	11.9	0.7	31.5	10.3	2.65	0.39	55 17	HARD	10--19--28--43--02	
LCH13DH-3-31	59.3	11.3	0.8	31.0	9.9	2.57	0.38	48 16	MIXED	17--29--28--26--03	
LCH13DH-7-3	59.2	11.3	0.8	27.5	9.1	2.49	0.33	55 19	MIXED	11--21--25--43--03	
LCH13DH-5-59	58.6	11.7	0.7	27.1	9.7	2.48	0.37	57 21	MIXED	12--18--24--46--03	
LCI13DH-4-16W	57.2	12.0	0.7	31.2	9.7	2.61	0.39	50 19	MIXED	18--25--23--34--03	
NW11511	56.4	11.7	0.8	28.3	9.4	2.53	0.38	54 17	MIXED	11--21--30--38--03	
NI12702W	61.2	11.3	0.8	30.5	9.5	2.62	0.37	67 17	HARD	03--08--22--67--01	
NI13717	58.6	11.5	0.8	28.1	9.8	2.57	0.40	56 18	HARD	08--19--30--43--02	
NE12443	59.1	10.8	0.8	28.0	9.2	2.50	0.36	62 19	HARD	08--12--21--59--02	
NE12444	58.6	11.6	0.7	30.5	10.1	2.64	0.40	52 16	HARD	10--21--35--34--02	
NE12488	58.1	11.3	0.8	28.1	9.8	2.49	0.36	57 18	MIXED	12--15--22--51--03	
NE12561	60.0	11.2	0.7	30.1	9.9	2.66	0.39	60 17	HARD	07--14--29--50--02	
NE12589	60.9	11.1	0.8	29.0	9.0	2.60	0.37	66 17	HARD	03--09--23--65--01	
NE10683	54.8	11.5	0.8	30.1	11.2	2.54	0.44	39 18	MIXED	34--30--24--12--03	
MT1117	57.9	11.4	0.6	31.7	9.9	2.67	0.40	63 16	HARD	04--11--25--60--01	
MT1138	57.1	11.4	0.6	30.9	9.8	2.58	0.39	64 18	HARD	05--10--24--61--01	
BCS-12L00006	57.5	11.4	0.6	31.7	10.7	2.61	0.39	52 18	MIXED	14--24--27--35--03	

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Northern Plains

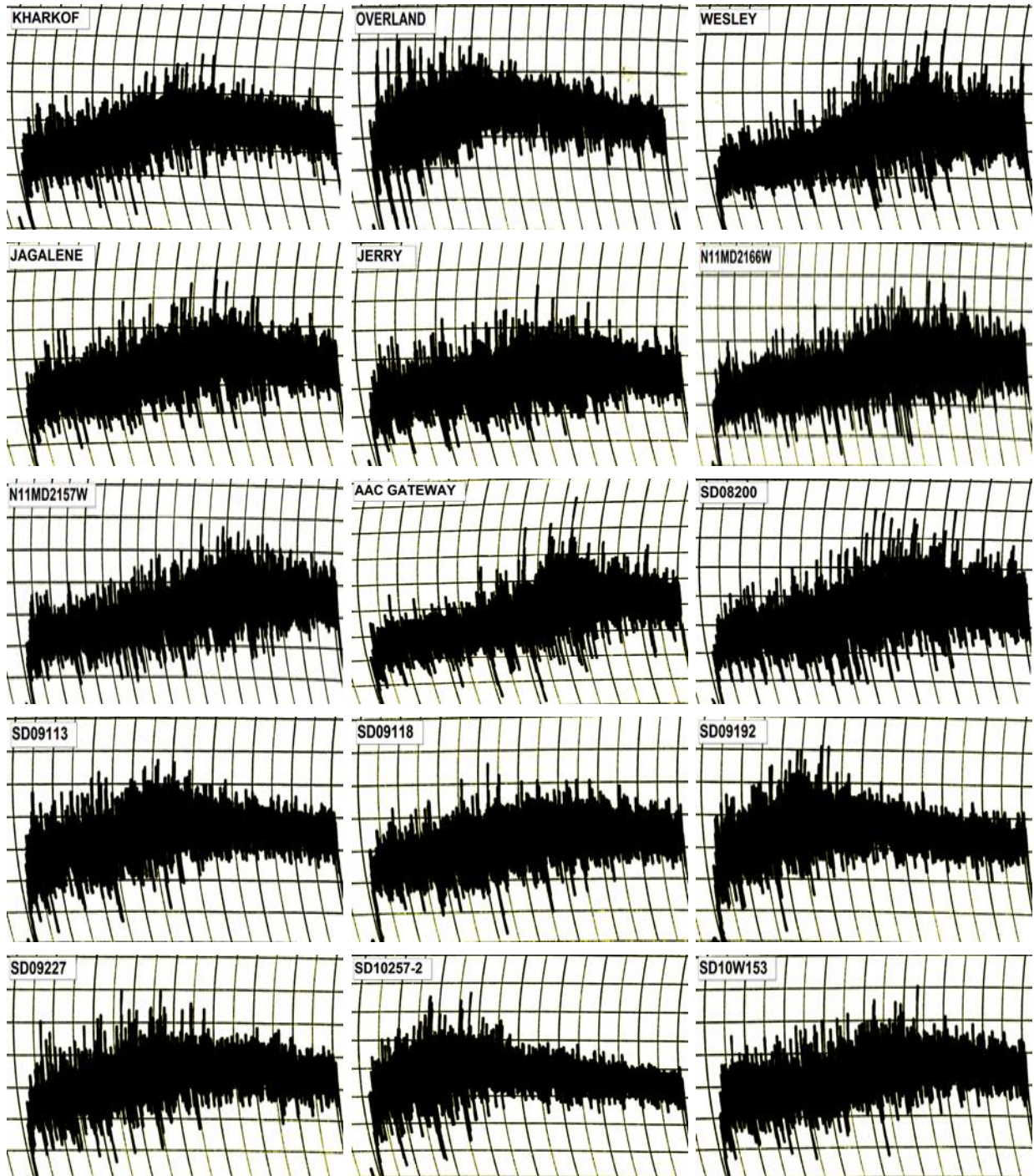
LINE	Wheat		Flour			Noodle Color					
	Protein	Milling Yield	Ash	Protein	PPO	L @ 0	a @ 0	b @ 0	Delta L 24 hrs	Delta a 24 hrs	Delta b 24 hrs
	(%)	(%)	(%)	(%)							
Kharkof	12.4	60.9	0.40	10.8	0.528	81.35	-2.05	21.87	-9.02	1.06	3.03
Overland	11.0	66.7	0.42	9.6	0.545	80.28	-1.86	22.47	-9.25	1.38	3.27
Wesley	11.7	65.9	0.41	10.6	0.662	80.75	-1.92	22.57	-8.09	1.34	1.66
Jagalene	11.5	64.1	0.45	10.4	0.498	79.96	-1.71	23.16	-10.27	1.60	3.13
Jerry	10.7	66.9	0.38	9.7	0.531	81.61	-2.06	23.58	-10.27	1.49	4.90
N11MD2166W	10.5	63.8	0.39	9.4	0.517	82.73	-1.87	20.91	-9.17	1.30	3.75
N11MD2157W	11.2	65.5	0.39	10.1	0.523	82.36	-1.80	20.93	-10.22	1.13	4.56
AAC Gateway	12.4	66.2	0.42	11.5	0.714	81.39	-1.38	21.45	-8.56	1.22	2.27
SD08200	11.0	66.0	0.34	10.6	0.619	82.17	-2.10	21.93	-9.77	1.46	2.76
SD09113	11.2	65.1	0.42	10.1	0.664	80.06	-1.97	24.02	-10.65	1.83	3.33
SD09118	11.1	65.4	0.42	9.9	0.596	79.49	-1.82	25.38	-8.95	1.53	2.39
SD09192	11.1	66.4	0.39	9.9	0.583	80.94	-2.01	23.68	-9.66	1.64	2.59
SD09227	11.3	67.6	0.43	10.1	0.594	80.65	-1.87	23.25	-9.91	1.51	3.60
SD10257-2	10.9	67.0	0.41	9.9	0.510	81.10	-1.88	22.24	-9.62	1.46	3.14
SD10W153	11.5	66.2	0.42	10.4	0.655	80.90	-2.00	23.77	-9.03	1.74	2.95
SD110085-1	11.0	65.9	0.43	10.2	0.717	79.71	-1.52	22.51	-10.64	1.63	3.63
SD110060-7	11.0	64.2	0.42	9.8	0.593	80.29	-2.12	24.21	-9.07	1.63	2.56
SD11023-8	12.3	67.1	0.41	11.1	0.648	82.75	-1.89	21.91	-10.42	1.47	4.45
BCS-11L00002-001	11.2	63.6	0.41	10.0	0.222	81.35	-2.26	24.70	-6.86	1.02	4.06
BCS-12L00001	10.7	64.7	0.42	9.8	0.611	80.49	-2.40	27.02	-8.76	1.57	1.45
BCS-12L00003	10.9	60.7	0.42	9.5	0.582	81.18	-1.94	22.92	-9.21	1.50	3.45
BCS-12L00004	11.7	64.5	0.38	10.5	0.538	80.44	-2.08	24.26	-8.12	1.54	2.27
Nord1301	11.4	66.6	0.42	10.1	0.573	81.91	-1.89	23.09	-10.98	1.46	5.13
LCH13-054	11.4	66.0	0.44	10.6	0.532	79.95	-1.90	25.42	-8.79	1.73	3.19
LCH13DH-14-53W	11.0	66.0	0.48	10.0	0.634	80.58	-2.25	23.89	-9.75	2.02	1.71
LCH13DH-3-31	11.5	64.2	0.41	10.2	0.555	81.42	-2.06	23.71	-9.79	1.40	3.71
LCH13DH-7-3	11.0	64.3	0.44	9.7	0.518	82.05	-1.73	21.62	-10.46	1.25	4.43
LCH13DH-5-59	10.5	66.2	0.46	9.2	0.650	79.72	-1.92	24.31	-9.12	1.87	0.84
LCH13DH-4-16W	11.4	66.6	0.44	10.3	0.284	82.70	-1.93	21.24	-9.06	1.38	5.31
NW11511	11.7	63.6	0.42	10.6	0.593	81.01	-1.63	21.29	-10.03	1.58	1.98
NI12702W	11.6	62.8	0.48	10.6	0.532	80.16	-2.04	24.24	-9.85	1.85	1.94
NI13717	11.9	64.7	0.47	10.9	0.607	80.41	-2.34	26.58	-9.50	1.80	0.71
NE12443	11.5	67.2	0.45	10.7	0.609	81.10	-1.82	22.55	-9.52	1.65	2.30
NE12444	11.8	65.6	0.42	10.7	0.560	81.49	-1.91	23.17	-9.82	1.45	4.07
NE12488	10.9	64.3	0.42	10.3	0.564	80.88	-1.74	23.45	-10.56	1.71	3.00
NE12561	10.9	65.9	0.41	10.1	0.527	81.56	-1.93	22.77	-9.46	1.47	3.51
NE12589	10.4	67.2	0.42	9.9	0.514	80.14	-1.59	21.92	-8.72	1.49	2.24
NE10683	10.8	66.6	0.45	10.0	0.586	80.43	-1.58	22.12	-11.79	1.89	2.74
MT1117	11.6	66.1	0.43	10.5	0.488	79.04	-1.34	24.03	-10.34	1.65	1.51
MT1138	10.8	65.1	0.44	9.7	0.476	79.83	-1.58	24.12	-9.61	1.51	2.05
BCS-12L00006	10.5	66.5	0.45	9.3	0.542	81.62	-2.05	23.24	-9.63	1.40	2.55

2015 NRPN Intraregional Production Zone

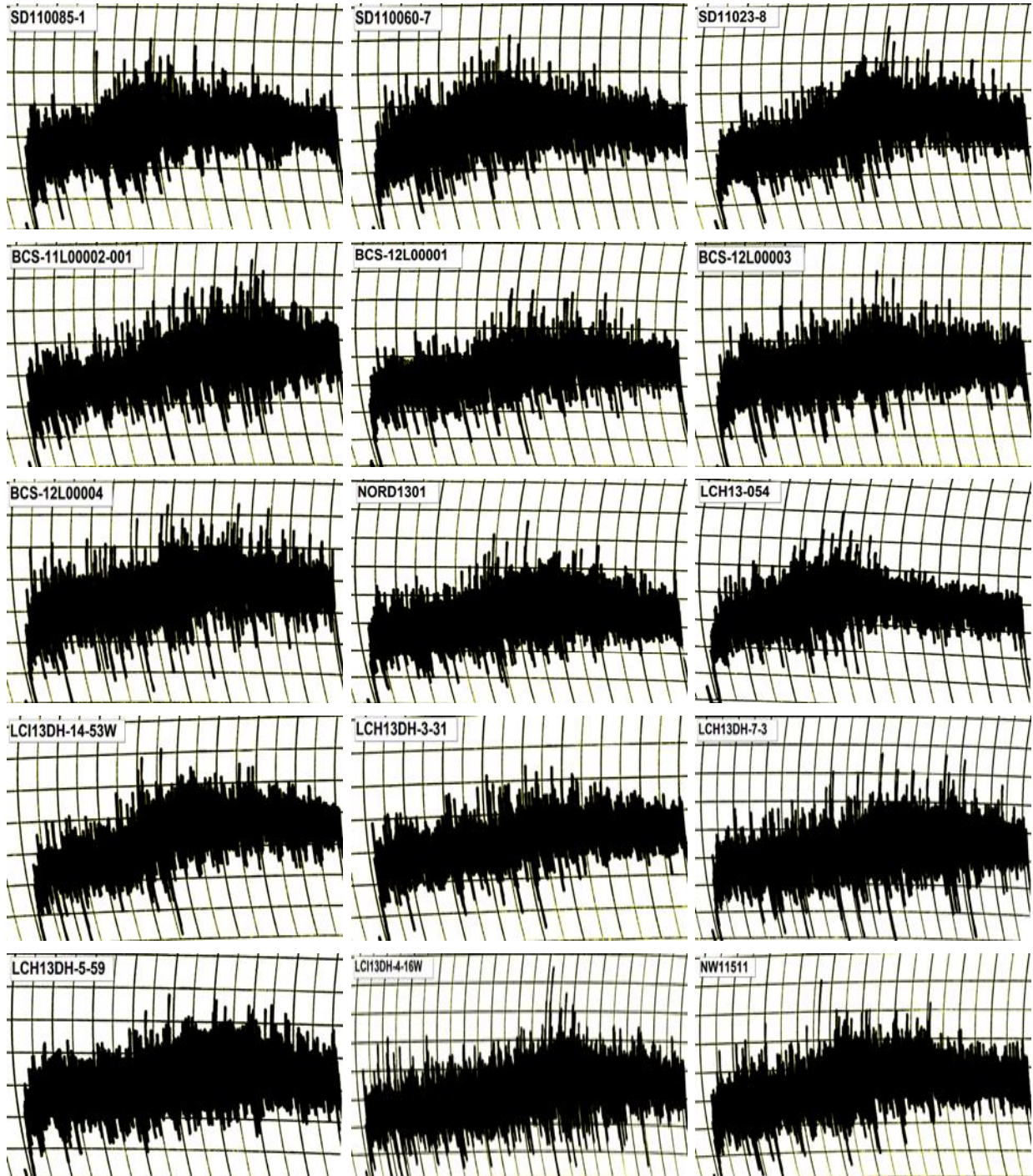
Northern Plains

	Flour Protein	Mixograph			
		Absorption	As-Is	Corrected	Tolerance
Line	(%)	(%)	(min)	(min)	
Kharkof	10.8	61.0	4.38	3.77	3
Overland	9.6	57.9	3.00	2.14	2
Wesley	10.6	59.5	5.50	4.55	4
Jagalene	10.4	60.2	4.88	3.92	4
Jerry	9.7	59.0	5.00	3.59	4
N11MD2166W	9.4	58.6	6.25	4.27	4
N11MD2157W	10.1	59.8	6.13	4.74	4
AAC Gateway	11.5	61.2	5.38	5.08	5
SD08200	10.6	60.6	5.13	4.25	5
SD09113	10.1	58.8	3.63	2.81	2
SD09118	9.9	58.5	4.13	3.11	2
SD09192	9.9	59.4	2.50	1.86	2
SD09227	10.1	59.7	3.63	2.79	2
SD10257-2	9.9	59.4	2.25	1.67	2
SD10W153	10.4	60.3	4.38	3.55	3
SD110085-1	10.2	59.9	3.63	2.83	1
SD110060-7	9.8	59.3	3.63	2.68	3
SD11023-8	11.1	61.5	4.50	4.02	4
BCS-11L00002-001	10.0	59.6	6.00	4.56	3
BCS-12L00001	9.8	59.2	4.75	3.48	4
BCS-12L00003	9.5	58.8	4.63	3.25	3
BCS-12L00004	10.5	60.4	4.88	4.01	4
Nord1301	10.1	59.7	5.00	3.83	4
LCH13-054	10.6	60.6	3.50	2.90	2
LCI13DH-14-53W	10.0	58.5	4.38	3.31	3
LCH13DH-3-31	10.2	57.9	4.25	3.31	3
LCH13DH-7-3	9.7	59.2	6.38	4.64	4
LCH13DH-5-59	9.2	58.2	5.38	3.55	4
LCI13DH-4-16W	10.3	60.1	7.88	6.27	5
NW11511	10.6	60.6	5.13	4.27	4
NI12702W	10.6	61.6	4.00	3.33	4
NI13717	10.9	60.1	4.00	3.49	2
NE12443	10.7	60.8	2.88	2.45	2
NE12444	10.7	58.4	4.00	3.40	2
NE12488	10.3	60.1	3.13	2.49	2
NE12561	10.1	59.7	4.88	3.74	3
NE12589	9.9	60.4	4.13	3.08	4
NE10683	10.0	59.5	4.88	3.68	4
MT1117	10.5	60.4	6.50	5.35	4
MT1138	9.7	60.6	7.50	5.39	4
BCS-12L00006	9.3	57.5	7.13	4.85	3

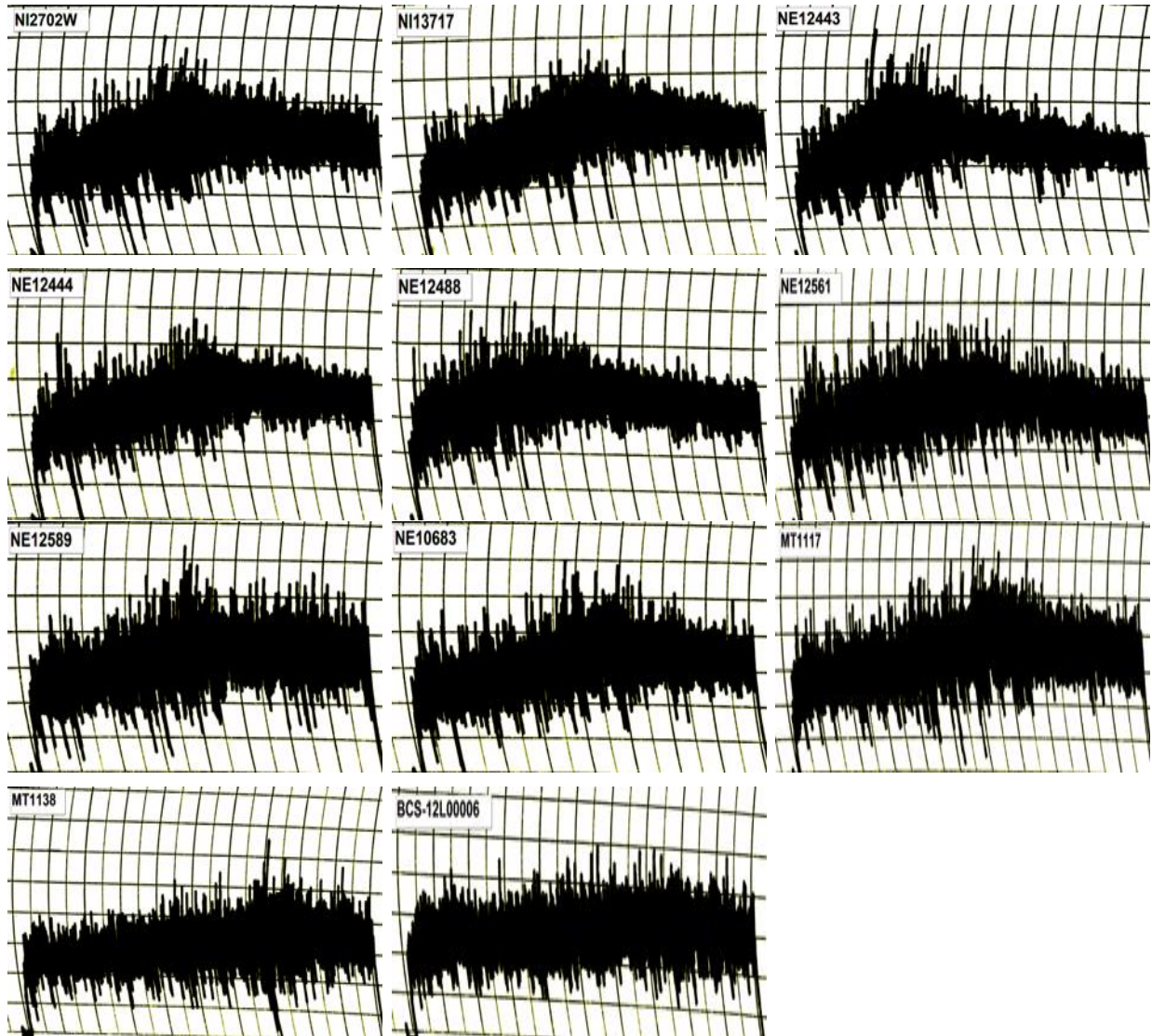
2015 NRPN Intraregional Production Zone Northern Plains



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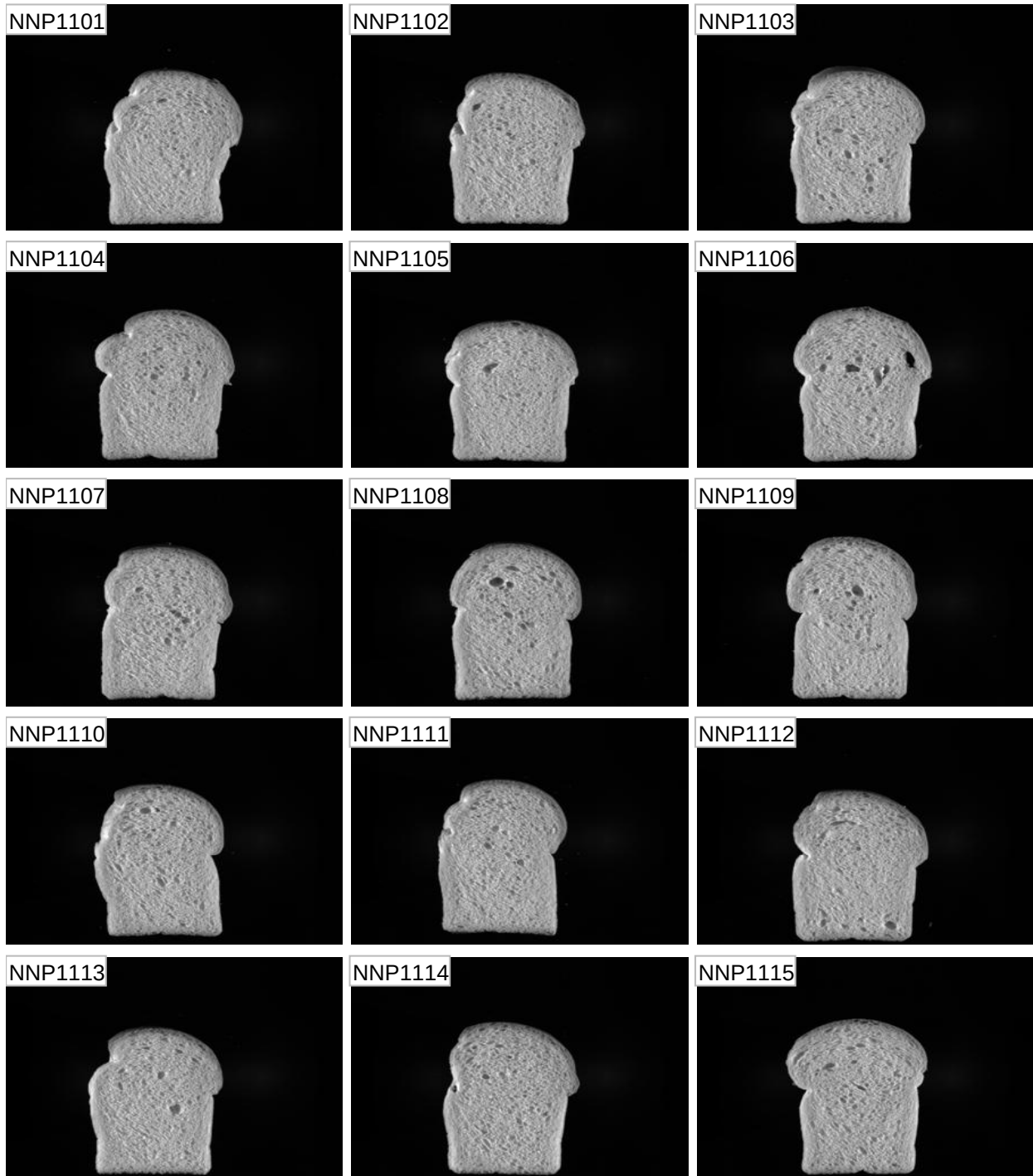
Line	RVA						
	Stirring Number (RVU)	Peak Viscosity (RVU)	Trough Viscosity (RVU)	Breakdown (RVU)	Final Viscosity (RVU)	Set back (RVU)	Peak Time (min)
Kharkof	129.17	199.17	114.92	84.25	211.00	96.08	6.07
Overland	113.75	214.75	135.50	79.25	247.75	112.25	6.07
Wesley	119.17	203.67	129.75	73.92	243.75	114.00	6.07
Jagalene	118.50	216.33	130.92	85.42	245.58	114.67	6.07
Jerry	108.17	165.67	94.83	70.83	188.00	93.17	5.80
N11MD2166W	107.25	227.17	135.42	91.75	250.67	115.25	6.07
N11MD2157W	103.17	204.58	121.42	83.17	224.17	102.75	6.00
AAC Gateway	124.50	217.17	138.83	78.33	246.00	107.17	6.27
SD08200	142.42	241.92	161.00	80.92	283.08	122.08	6.27
SD09113	113.75	235.83	139.67	96.17	244.25	104.58	6.20
SD09118	98.33	223.58	138.33	85.25	253.17	114.83	6.13
SD09192	118.08	222.08	141.42	80.67	262.33	120.92	6.13
SD09227	98.25	167.83	94.58	73.25	183.67	89.08	5.87
SD10257-2	95.42	204.67	124.00	80.67	229.00	105.00	6.07
SD10W153	127.17	248.17	154.75	93.42	264.58	109.83	6.33
SD110085-1	94.50	194.58	91.17	103.42	172.50	81.33	5.87
SD110060-7	106.00	221.17	131.25	89.92	242.08	110.83	6.07
SD11023-8	123.58	245.17	161.83	83.33	286.17	124.33	6.27
BCS-11L00002-001	116.92	242.92	144.25	98.67	256.67	112.42	6.13
BCS-12L00001	154.75	260.25	173.42	86.83	294.08	120.67	6.33
BCS-12L00003	118.08	291.08	171.08	120.00	276.00	104.92	6.40
BCS-12L00004	108.67	278.08	157.58	120.50	256.17	98.58	6.33
Nord1301	116.17	201.67	126.75	74.92	234.58	107.83	6.07
LCH13-054	180.00	254.58	186.58	68.00	297.83	111.25	6.53
LCI13DH-14-53W	108.25	248.17	134.67	113.50	239.33	104.67	6.20
LCH13DH-3-31	145.58	226.67	159.67	67.00	278.50	118.83	6.33
LCH13DH-7-3	119.42	205.42	116.83	88.58	217.75	100.92	6.00
LCH13DH-5-59	108.33	240.08	128.75	111.33	220.75	92.00	6.20
LCI13DH-4-16W	117.83	236.00	141.17	94.83	252.00	110.83	6.13
NW11511	118.50	218.50	131.42	87.08	243.00	111.58	6.13
NI12702W	129.42	259.67	158.00	101.67	254.00	96.00	6.40
NI13717	116.83	171.00	100.75	70.25	190.42	89.67	6.00
NE12443	101.08	214.58	120.17	94.42	220.08	99.92	6.00
NE12444	127.17	231.58	150.00	81.58	262.67	112.67	6.27
NE12488	110.00	232.67	125.00	107.67	213.00	88.00	6.27
NE12561	122.08	175.92	104.58	71.33	192.58	88.00	6.07
NE12589	134.00	224.83	126.75	98.08	223.67	96.92	6.20
NE10683	88.00	148.50	61.00	87.50	126.83	65.83	5.60
MT1117	123.58	221.92	132.83	89.08	239.58	106.75	6.20
MT1138	127.50	240.83	145.33	95.50	261.50	116.17	6.20
BCS-12L00006	111.50	214.25	139.42	74.83	256.58	117.17	6.13

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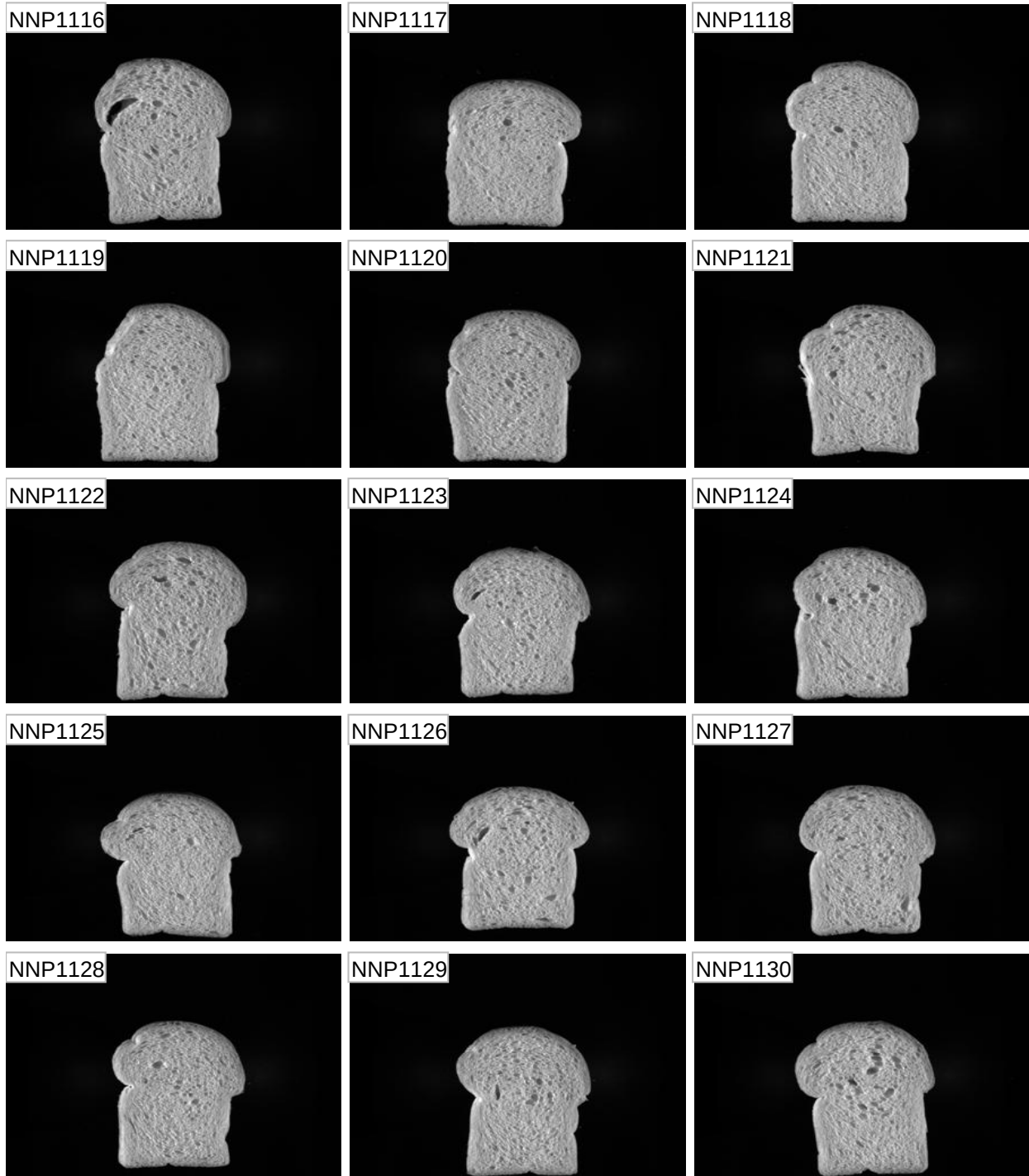
Northern Plains

Line	Flour		Mix Time		Dough					
	Protein	Water Abs.	As-is	Corrected	Weight	Proof Height	Crumb Grain	As-Rec'd.	Specific Volume	Loaf Volume Potential
	(%)	(%)	(min)	(min)	(g)	(cm)		(cc)	(cc/g)	(cc/%)
Kharkof	10.8	60.0	5.00	4.30	168.8	7.8	5.0	890	6.1	75
Overland	9.6	57.8	4.00	2.85	166.9	7.2	3.0	790	5.4	72
Wesley	10.6	61.0	7.50	6.20	169.7	7.3	4.0	885	6.0	77
Jagalene	10.4	61.0	6.50	5.22	169.2	7.2	4.0	860	5.9	75
Jerry	9.7	59.8	5.88	4.23	169.7	7.2	3.0	800	5.4	73
N11MD2166W	9.4	59.9	7.00	4.79	168.4	7.2	4.5	810	5.5	78
N11MD2157W	10.1	59.8	6.75	5.22	168.5	7.4	4.5	855	5.9	77
AAC Gateway	11.5	61.9	6.75	6.37	171.1	7.1	3.0	895	6.0	70
SD08200	10.6	60.9	5.00	4.15	169.6	7.2	4.0	905	6.2	79
SD09113	10.1	58.8	4.88	3.78	168.1	7.0	2.5	830	5.7	73
SD09118	9.9	59.9	4.88	3.67	169.1	7.4	3.0	870	6.0	81
SD09192	9.9	56.8	3.50	2.61	167.2	7.0	3.0	825	5.7	75
SD09227	10.1	58.9	4.13	3.17	168.6	7.2	3.5	800	5.4	69
SD10257-2	9.9	59.0	3.00	2.23	168.7	7.3	2.5	810	5.5	73
SD10W153	10.4	58.8	5.25	4.26	168.3	7.3	3.5	890	6.0	78
SD110085-1	10.2	57.9	4.25	3.32	167.4	7.3	3.0	930	6.3	86
SD110060-7	9.8	59.6	5.13	3.79	168.5	7.1	3.0	805	5.5	72
SD11023-8	11.1	61.9	5.88	5.25	171.6	7.3	5.5	910	6.1	75
BCS-11L00002-001	10.0	60.1	6.00	4.56	169.4	7.1	4.5	865	5.9	79
BCS-12L00001	9.8	61.7	5.63	4.13	170.4	7.3	4.0	850	5.8	79
BCS-12L00003	9.5	59.0	5.88	4.12	167.4	6.9	3.0	905	6.2	90
BCS-12L00004	10.5	60.9	5.25	4.32	169.3	7.2	3.0	905	6.2	80
Nord1301	10.1	59.8	5.50	4.22	168.7	7.0	4.0	795	5.4	69
LCH13-054	10.6	59.8	3.75	3.11	169.0	7.1	3.0	810	5.5	67
LCI13DH-14-53W	10.0	59.6	5.25	3.96	168.3	7.0	4.0	810	5.5	72
LCH13DH-3-31	10.2	58.6	5.00	3.89	167.5	6.8	2.5	780	5.3	66
LCH13DH-7-3	9.7	59.8	7.25	5.27	168.1	6.8	4.0	810	5.5	74
LCH13DH-5-59	9.2	58.7	6.25	4.13	167.8	6.8	4.0	810	5.5	80
LCI13DH-4-16W	10.3	60.6	10.00	7.96	168.9	7.0	4.5	815	5.5	70
NW11511	10.6	60.7	5.88	4.89	169.8	7.0	3.5	870	5.9	74
NI12702W	10.6	62.8	5.00	4.16	172.4	7.4	4.0	925	6.2	81
NI13717	10.9	58.7	4.38	3.82	167.8	7.3	3.0	890	6.0	74
NE12443	10.7	60.6	3.50	2.97	169.6	7.0	3.5	860	5.9	72
NE12444	10.7	57.7	4.00	3.40	166.4	7.1	3.0	855	5.9	71
NE12488	10.3	58.8	3.50	2.78	168.7	7.0	2.5	850	5.8	74
NE12561	10.1	58.9	5.00	3.83	167.6	6.9	4.0	850	5.7	76
NE12589	9.9	59.9	5.75	4.29	168.7	7.0	2.5	805	5.4	72
NE10683	10.0	59.4	5.88	4.44	169.2	7.0	4.5	855	5.6	78
MT1117	10.5	61.5	6.75	5.56	170.5	7.3	5.0	915	6.1	81
MT1138	9.7	60.8	8.75	6.29	168.8	7.0	5.0	885	6.0	86
BCS-12L00006	9.3	59.3	10.00	6.80	168.2	6.9	3.0	870	5.9	87

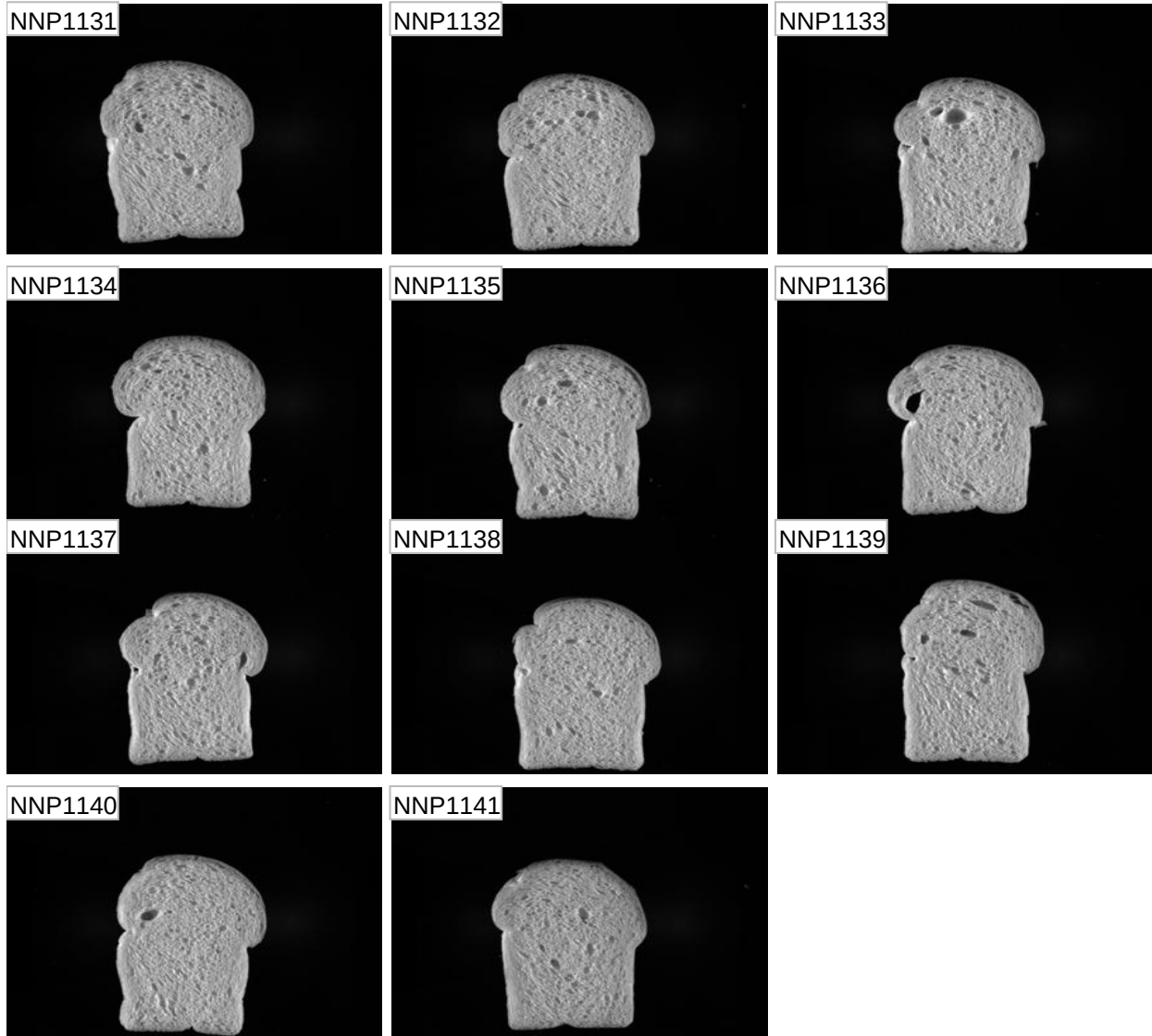
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Southern Regional Performance Nursery

2015 SRPN Intraregional Production Zone

Entry	Selection No.	Pedigree	Source
1	Kharkof	Kharkof	check
2	Scout 66	Scout 66	check
3	TAM107	TAM107	check
4	Jagalene	Jagalene	check
5	KS11HW15-4-1	KS04HW101-3(98HW423(JGR/93HW242)/98HW170(ARL/WGRC15))/RonL	KSU-Hays
6	KS11HW18-1-6	KS04HW101-3(98HW423(JGR/93HW242)/98HW170(ARL/WGRC15))/RonL	KSU-Hays
7	KS11HW39-5-4	KS04HW101-3(98HW423/98HW170)/KS04HW119-3(TREGO*2/CO960293)	KSU-Hays
8	KS11HW53-1-6	KS04HW119-3(TREGO*2/CO960293)/KS05HW122-3(KS99-5-16//STANTO	KSU-Hays
9	CO11D1767	CO07MAS114/Cowboy	CSU
10	CO11D446	CO050270/Byrd	CSU
11	CO11D1353	CO050337-2/Byrd	CSU
12	CO11D1397	CO050337-2/Byrd	CSU
13	CO11D1539	Byrd/Antero	CSU
14	CO11D1316W	Cowboy/Antero	CSU
15	LCH13-092		Limagrain
16	LCH13DH-20-87		Limagrain
17	LCI13DH-14-53W	NW03681 / SD07W084	LCS/UNL
18	LCH11-1117		Limagrain
19	LCH12-012		Limagrain
20	KS060084-M-4	KS00F5-20-3-2/KS980512-11~14//KS990160-4~3	KSU-Manhattan
21	KS060106-M-11	KS940786-6-9AC/W04-417//Everest	KSU-Manhattan
22	KS060143-K-2	KS940786-6-9EU/KS990011-1~21//KS990159-3~7	KSU-Manhattan
23	KS060371-M-3	KS990031-3~1//Overley*3/Amadina/3/KS980512-11-19	KSU-Manhattan
24	KS060476-M-6	KS990159-3~11/KS990031-3~1//KS970274-14~9	KSU-Manhattan
25	TX10A001099	TAM 303/TAM 112//TX99A0155	TAMU
26	TX09V7315	TAM 304/TX02U2508	TAMU
27	TX09V7352	TAM 112/TX02U2508	TAMU
28	TX09V7446	TAM 112/KS03HW156-3	TAMU
29	TX11A001295	TAM 112/TX02U2508	TAMU
30	TX12M4004	KS980478-3~5/FULLER	TAMU
31	TX12M4063	AP04TW9819/O3A-B3//KS980512-11-22	TAMU
32	TX12M4065	AP04TW1318/KS980512-11-9//KS06O3A~49	TAMU
33	OK09125	Overley/TX98D1170	OSU
34	OK1059060	OK10307/KS00F5-14-7	OSU
35	OK10126	OK00514/OK98680reseln	OSU
36	NI13706	NI02425/HV9W99-558//Robidoux	UNL
37	NE12429	Robidoux/NE03458	UNL
38	NE12571	OK00611W/Overland//NE03458	UNL
39	NE10507	McGill/Harry//NE87612 (=NWT//WRR*5/AGT/3/NE69441)	UNL
40	LCH13DH-3-31	NE04424 / Freeman	UNL/Limagrain
41	HV9W10-0091	TX01V5314//P25R47/HV9W02-942R	Monsanto
42	HV9W10-1002	PFAU/WEAVER/3/MASON/JGR//PECOS/4/FARMEC	Monsanto

LIST of SRPN SAMPLE ID for MIXOGRAMS and C-CELLS

Entry	Breeder ID	HWWQL ID		
		North Central Plains	Northern High Plains	South Central Plains
1	Kharkof	15-SNC1001	15-SNH1001	15-SSC1001
2	Scout 66	15-SNC1002	15-SNH1002	15-SSC1002
3	TAM107	15-SNC1003	15-SNH1003	15-SSC1003
4	Jagalene	15-SNC1004	15-SNH1004	15-SSC1004
5	KS11HW15-4-1	15-SNC1005	15-SNH1005	15-SSC1005
6	KS11HW18-1-6	15-SNC1006	15-SNH1006	15-SSC1006
7	KS11HW39-5-4	15-SNC1007	15-SNH1007	15-SSC1007
8	KS11HW53-1-6	15-SNC1008	15-SNH1008	15-SSC1008
9	CO11D1767	15-SNC1009	15-SNH1009	15-SSC1009
10	CO11D446	15-SNC1010	15-SNH1010	15-SSC1010
11	CO11D1353	15-SNC1011	15-SNH1011	15-SSC1011
12	CO11D1397	15-SNC1012	15-SNH1012	15-SSC1012
13	CO11D1539	15-SNC1013	15-SNH1013	15-SSC1013
14	CO11D1316W	15-SNC1014	15-SNH1014	15-SSC1014
15	LCH13-092	15-SNC1015	15-SNH1015	15-SSC1015
16	LCH13DH-20-87	15-SNC1016	15-SNH1016	15-SSC1016
17	LCI13DH-14-53W	15-SNC1017	15-SNH1017	15-SSC1017
18	LCH11-1117	15-SNC1018	15-SNH1018	15-SSC1018
19	LCH12-012	15-SNC1019	15-SNH1019	15-SSC1019
20	KS060084-M-4	15-SNC1020	15-SNH1020	15-SSC1020
21	KS060106-M-11	15-SNC1021	15-SNH1021	15-SSC1021
22	KS060143-K-2	15-SNC1022	15-SNH1022	15-SSC1022
23	KS060371-M-3	15-SNC1023	15-SNH1023	15-SSC1023
24	KS060476-M-6	15-SNC1024	15-SNH1024	15-SSC1024
25	TX10A001099	15-SNC1025	15-SNH1025	15-SSC1025
26	TX09V7315	15-SNC1026	15-SNH1026	15-SSC1026
27	TX09V7352	15-SNC1027	15-SNH1027	15-SSC1027
28	TX09V7446	15-SNC1028	15-SNH1028	15-SSC1028
29	TX11A001295	15-SNC1029	15-SNH1029	15-SSC1029
30	TX12M4004	15-SNC1030	15-SNH1030	15-SSC1030
31	TX12M4063	15-SNC1031	15-SNH1031	15-SSC1031
32	TX12M4065	15-SNC1032	15-SNH1032	15-SSC1032
33	OK09125	15-SNC1033	15-SNH1033	15-SSC1033
34	OK1059060	15-SNC1034	15-SNH1034	15-SSC1034
35	OK10126	15-SNC1035	15-SNH1035	15-SSC1035
36	NI13706	15-SNC1036	15-SNH1036	15-SSC1036
37	NE12429	15-SNC1037	15-SNH1037	15-SSC1037
38	NE12571	15-SNC1038	15-SNH1038	15-SSC1038
39	NE10507	15-SNC1039	15-SNH1039	15-SSC1039
40	LCH13DH-3-31	15-SNC1040	15-SNH1040	15-SSC1040
41	HV9W10-0091	15-SNC1041	15-SNH1041	15-SSC1041
42	HV9W10-1002	15-SNC1042	15-SNH1042	15-SSC1042



Hard Winter Wheat Quality Report 2015 SRPN-NCP

1 - Test weight	10	11 - Flour protein	8
2 - SKCS kernel weight	8	12 - Bake absorption	15
3 - Kernel weight SD	8	13 - Mixograph absorption	5
4 - SKCS kernel diameter	8	14 - Bake mix time	10
5 - Kernel diameter SD	8	15 - Mixograph mix time	5
6 - SKCS hardness	10	16 - Mixograph tolerance	5
7 - Hardness SD	8	17 - Dough weight	
8 - Flour yield	30	18 - Proof height	2
9 - Flour ash	10	19 - Loaf volume	20
10 - Milling score		20 - Volume regression	5
		21 - Crumb grain	25

ID	Milling Score	Rating	%	Baking Score	Rating	%	1RS	Trait Deficiencies
Kharkof	38.2	Poor	77.7	41.3	Average	59.0		6,16,
Scout 66	44.4	Good	90.2	39.5	Poor	56.4		3,
TAM 107	34.3	Very Poor	69.7	45.8	Average	65.5	1AL	1,16,
Jagalene	41.4	Average	84.2	58.5	Very Good	83.6		
KS11HW15-4-1	46.7	Very Good	94.9	48.1	Good	68.7		3,
KS11HW18-1-6	42.3	Good	86.0	40.2	Poor	57.5		
Joe	42.2	Average	85.8	39.8	Poor	56.8		16,
KS11HW53-1-6	42.7	Good	86.7	35.2	Very Poor	50.4		3,15,
CO11D1767	39.4	Poor	80.0	37.5	Very Poor	53.6		1,12,
CO11D446	41.5	Average	84.3	44.1	Average	63.1		14,15,18,
CO11D1353	41.0	Average	83.4	46.0	Average	65.7		11,15,
CO11D1397	34.5	Very Poor	70.1	29.4	Very Poor	42.0	1AL	2,4,14,15,
CO11D1539	36.2	Very Poor	73.6	41.2	Poor	58.8		1,
CO11D1316W	32.8	Very Poor	66.6	52.5	Good	75.1		2,4,11,
LCH13-092	36.6	Very Poor	74.3	56.0	Very Good	80.1		
LCS Chrome	48.9	Very Good	99.4	32.6	Very Poor	46.6		16,18,
LCI13DH-14-53W	42.1	Average	85.6	31.9	Very Poor	45.6	1AL	9,12,16,
LCH11-1117	38.3	Poor	77.8	49.4	Good	70.6		3,21,
LCH12-012	39.0	Poor	79.3	47.1	Average	67.3	1AL	18,
KS060084-M-4	42.3	Good	86.0	29.0	Very Poor	41.4		2,4,14,16,21,
KS060106-M-11	47.8	Very Good	97.1	39.8	Poor	56.9		
KS060143-K-2	48.0	Very Good	97.5	35.3	Very Poor	50.5	1BL	13,16,
KS060371-M-3	42.8	Good	86.9	24.6	Very Poor	35.2		12,16,19,20,21,
KS060476-M-6	41.6	Average	84.5	38.1	Very Poor	54.5	1BL	16,
TX10A001099	39.6	Average	80.5	47.9	Average	68.5	1AL	
TX09V7315	39.3	Poor	79.8	70.0	Very Good	100.0	1AL	2,
TX09V7352	39.3	Poor	79.9	55.1	Good	78.7	1AL	
TX09V7446	40.8	Average	83.0	43.2	Average	61.7	1AL	
TX11A001295	33.1	Very Poor	67.3	53.0	Good	75.7	1AL	8,9,10,
TX12M4004	46.2	Very Good	93.9	60.8	Very Good	86.9	1BL	

Quality scores and ratings are calculated directly from the relative trait weightings (printed at the top of the page) and are applicable only to the nursery selected.



Hard Winter Wheat Quality Report 2015 SRPN-NCP

1 - Test weight	10	11 - Flour protein	8
2 - SKCS kernel weight	8	12 - Bake absorption	15
3 - Kernel weight SD	8	13 - Mixograph absorption	5
4 - SKCS kernel diameter	8	14 - Bake mix time	10
5 - Kernel diameter SD	8	15 - Mixograph mix time	5
6 - SKCS hardness	10	16 - Mixograph tolerance	5
7 - Hardness SD	8	17 - Dough weight	
8 - Flour yield	30	18 - Proof height	2
9 - Flour ash	10	19 - Loaf volume	20
10 - Milling score		20 - Volume regression	5
		21 - Crumb grain	25

ID	Milling Score	Rating	%	Baking Score	Rating	%	1RS	Trait Deficiencies
TX12M4063	49.2	Very Good	100.0	48.3	Good	69.1	1BL	5,
TX12M4065	45.7	Good	92.8	38.6	Poor	55.1	1BL	16,
Bentley	48.2	Very Good	98.0	68.2	Very Good	97.4		
OK1059060	39.5	Poor	80.3	46.6	Average	66.7		
OK10126	38.3	Poor	77.8	49.4	Good	70.6		
NI13706	32.4	Very Poor	65.8	40.3	Poor	57.6	1BL	8,20,21,
NE12429	45.4	Good	92.3	53.6	Good	76.5		
NE12571	48.5	Very Good	98.5	39.2	Poor	56.0		
NE10507	38.2	Very Poor	77.7	59.3	Very Good	84.7		1,9,
LCH13DH-3-31	42.0	Average	85.4	43.4	Average	62.0	1BL	13,16,
WB4462	42.3	Good	85.9	55.7	Very Good	79.6	1AL	3,5,16,
WB4303	37.0	Very Poor	75.2	59.3	Very Good	84.7		15,

2015 SRPN Intraregional Production Zone

North Central Plains

LINE	Wt/Bu (lb)	SKCS Average Kernel						Hardness			
		Moisture		Weight		Diameter		SKCS	Class	Distribution	
		(%)	(sd)	(mg)	(sd)	(mm)	(sd)				
								(sd)			
Kharkof	57.4	11.7	0.4	25.5	7.7	2.42	0.28	36 21	MIXED	51--17--18--14--03	
Scout 66	58.1	11.4	0.4	29.1	10.2	2.56	0.39	49 19	MIXED	17--27--29--27--03	
TAM107	53.3	11.4	0.4	26.3	9.0	2.44	0.33	55 20	MIXED	11--20--26--43--03	
Jagalene	55.9	11.4	0.4	26.6	8.5	2.53	0.35	58 17	HARD	07--13--35--45--02	
KS11HW15-4-1	59.1	11.6	0.4	31.9	10.3	2.68	0.38	59 15	HARD	05--13--33--49--01	
KS11HW18-1-6	56.5	11.6	0.4	27.9	8.2	2.52	0.35	57 17	HARD	09--17--31--43--02	
KS11HW39-5-4	58.6	11.5	0.4	29.7	8.8	2.57	0.36	46 20	MIXED	26--27--22--25--03	
KS11HW53-1-6	56.7	11.5	0.4	30.5	10.1	2.64	0.39	56 16	HARD	08--19--27--46--02	
CO11D1767	53.9	11.4	0.4	25.1	8.0	2.45	0.33	53 19	MIXED	16--21--27--36--03	
CO11D446	57.1	11.8	0.5	28.9	10.1	2.49	0.36	51 18	MIXED	16--24--26--34--03	
CO11D1353	56.7	11.5	0.4	26.4	8.5	2.41	0.33	51 18	MIXED	18--20--29--33--03	
CO11D1397	55.2	11.2	0.4	23.3	7.7	2.29	0.29	51 20	MIXED	18--17--34--31--03	
CO11D1539	54.2	11.4	0.4	27.2	9.1	2.45	0.33	49 18	MIXED	19--26--23--32--03	
CO11D1316W	55.1	11.3	0.4	23.6	8.1	2.36	0.32	54 21	MIXED	15--20--23--42--03	
LCH13-092	56.2	11.3	0.4	24.8	8.6	2.44	0.33	52 20	MIXED	17--20--27--36--03	
LCH13DH-20-87	58.7	11.3	0.3	27.0	7.4	2.52	0.32	63 15	HARD	02--10--25--63--01	
LCI13DH-14-53W	56.9	11.4	0.6	27.1	9.0	2.53	0.35	54 19	MIXED	11--22--30--37--03	
LCH11-1117	57.1	11.6	0.5	28.1	10.2	2.53	0.38	49 18	MIXED	17--25--32--26--03	
LCH12-012	55.3	11.1	0.6	26.8	9.3	2.47	0.37	63 16	HARD	03--12--24--61--01	
KS060084-M-4	60.4	11.1	0.4	23.2	7.7	2.35	0.32	58 17	HARD	08--18--24--50--02	
KS060106-M-11	58.0	11.4	0.6	28.8	9.0	2.56	0.37	53 16	HARD	09--24--31--36--02	
KS060143-K-2	55.0	11.5	0.4	28.8	8.5	2.60	0.33	54 14	HARD	05--23--35--37--01	
KS060371-M-3	55.0	11.2	0.4	26.8	7.6	2.50	0.34	51 16	MIXED	13--26--34--27--03	
KS060476-M-6	58.3	11.4	0.4	27.2	8.4	2.56	0.35	57 18	HARD	08--20--28--44--02	
TX10A001099	56.5	11.6	0.4	26.8	8.8	2.48	0.36	58 18	HARD	10--15--28--47--02	
TX09V7315	55.8	11.4	0.4	24.1	7.7	2.43	0.31	71 18	HARD	03--04--17--76--01	
TX09V7352	57.5	11.7	0.5	27.9	8.9	2.58	0.35	59 18	HARD	07--15--28--50--02	
TX09V7446	57.7	12.1	0.4	26.7	8.8	2.57	0.36	61 16	HARD	02--17--26--55--01	
TX11A001295	58.6	11.9	0.4	28.5	9.4	2.57	0.37	74 18	HARD	03--05--10--82--01	
TX12M4004	56.0	12.1	0.5	29.1	8.8	2.57	0.38	57 15	HARD	03--22--30--45--01	
TX12M4063	58.4	12.2	0.4	33.4	9.5	2.77	0.40	57 16	HARD	07--20--29--44--02	
TX12M4065	57.5	12.1	0.5	30.9	9.3	2.66	0.37	64 19	HARD	05--18--18--59--01	
OK09125	56.9	12.1	0.4	30.7	9.0	2.67	0.38	50 16	MIXED	14--27--32--27--03	
OK1059060	55.9	11.8	0.4	28.0	8.6	2.56	0.34	51 17	MIXED	14--28--27--31--03	
OK10126	55.7	11.6	0.4	27.0	8.7	2.55	0.37	64 17	HARD	04--10--24--62--01	
NI13706	55.2	11.9	0.3	25.9	9.4	2.47	0.35	55 17	HARD	10--20--28--42--02	
NE12429	56.8	11.4	0.4	27.8	8.9	2.56	0.34	55 17	HARD	10--17--33--40--02	
NE12571	57.3	11.4	0.4	29.5	9.5	2.56	0.37	50 16	MIXED	15--29--25--31--03	
NE10507	54.2	11.9	0.4	26.3	8.4	2.45	0.33	54 17	HARD	10--20--31--39--02	
LCH13DH-3-31	57.5	11.7	0.4	30.0	9.6	2.57	0.36	45 17	MIXED	24--33--22--21--03	
HV9W10-0091	57.0	11.6	0.5	31.3	10.9	2.67	0.43	55 16	HARD	09--20--33--38--02	
HV9W10-1002	54.3	11.5	0.3	27.4	8.8	2.45	0.34	60 17	HARD	06--14--31--49--02	

2015 SRPN Intraregional Production Zone

North Central Plains

LINE	Wheat		Flour			Noodle Color					
	Protein	Milling Yield	Ash	Protein	PPO	L @ 0	a @ 0	b @ 0	Delta L 24 hrs	Delta a 24 hrs	Delta b 24 hrs
	(%)	(%)	(%)	(%)							
Kharkof	13.6	65.7	0.43	12.3	0.600	77.57	-1.12	23.49	-11.93	1.97	1.85
Scout 66	12.8	68.1	0.42	11.5	0.512	78.00	-0.72	21.28	-12.50	2.36	2.68
TAM107	12.8	63.9	0.43	11.7	0.639	77.39	-0.95	24.10	-12.38	2.05	2.52
Jagalene	12.2	66.1	0.49	11.2	0.557	77.93	-0.98	23.21	-12.49	2.01	2.58
KS11HW15-4-1	12.9	65.7	0.43	11.5	0.605	78.35	-1.09	22.80	-12.55	1.97	2.12
KS11HW18-1-6	12.1	65.1	0.43	11.0	0.550	77.94	-0.89	22.66	-12.30	2.41	2.23
KS11HW39-5-4	12.2	65.3	0.38	10.9	0.597	78.75	-1.20	22.14	-9.47	1.83	1.47
KS11HW53-1-6	12.5	66.4	0.48	11.4	0.262	78.04	-1.02	23.60	-10.85	2.04	3.57
CO11D1767	12.0	66.3	0.44	11.0	0.681	78.32	-1.30	24.60	-12.21	2.12	2.05
CO11D446	11.9	66.1	0.42	10.9	0.590	78.31	-0.70	21.48	-11.92	1.84	3.64
CO11D1353	11.5	65.6	0.41	10.3	0.612	79.45	-1.44	23.46	-10.10	1.46	2.57
CO11D1397	11.9	63.2	0.40	10.6	0.633	78.54	-1.38	24.25	-10.30	1.45	1.50
CO11D1539	11.8	64.7	0.44	10.7	0.645	78.95	-1.11	21.84	-13.77	2.19	3.59
CO11D1316W	11.6	62.9	0.42	10.4	0.681	78.54	-1.50	25.10	-10.82	1.68	3.20
LCH13-092	12.1	64.4	0.43	10.7	0.649	77.93	-0.98	23.60	-10.82	1.52	2.55
LCH13DH-20-87	12.3	66.2	0.47	11.2	0.591	78.83	-1.55	23.07	-9.58	1.65	0.80
LCH13DH-14-53W	11.8	67.7	0.51	10.6	0.567	77.91	-1.28	24.42	-10.83	2.07	-0.41
LCH11-1117	12.1	65.1	0.42	11.0	0.555	78.07	-0.90	22.14	-10.31	1.88	1.57
LCH12-012	12.4	64.0	0.43	11.3	0.564	78.49	-1.13	23.94	-11.14	1.61	3.27
KS060084-M-4	12.4	64.4	0.45	11.4	0.609	77.40	-0.79	22.38	-11.68	2.52	2.17
KS060106-M-11	12.0	66.8	0.37	11.0	0.595	78.66	-1.10	22.04	-9.23	1.51	3.02
KS060143-K-2	12.1	67.9	0.42	10.9	0.594	78.76	-1.28	24.30	-11.06	1.45	2.28
KS060371-M-3	12.0	65.4	0.39	10.8	0.602	78.54	-1.12	22.45	-8.97	1.54	2.05
KS060476-M-6	11.9	64.4	0.44	11.0	0.581	79.48	-1.10	21.29	-12.22	1.98	2.79
TX10A001099	13.1	65.4	0.47	12.2	0.581	77.26	-0.73	23.73	-13.93	2.98	0.75
TX09V7315	12.7	63.6	0.48	11.7	0.499	77.26	-0.84	22.85	-13.88	2.43	3.09
TX09V7352	12.3	63.5	0.46	11.2	0.526	78.24	-0.73	20.90	-13.01	2.07	2.55
TX09V7446	12.4	64.0	0.48	11.3	0.556	78.69	-0.82	20.39	-17.24	3.66	2.93
TX11A001295	13.0	59.2	0.53	11.8	0.577	78.31	-0.79	21.50	-14.66	2.30	2.21
TX12M4004	11.7	67.7	0.47	11.2	0.718	77.82	-1.28	23.91	-10.74	2.09	-0.28
TX12M4063	13.1	67.1	0.44	11.9	0.673	77.16	-0.91	23.97	-11.02	1.66	0.21
TX12M4065	13.0	66.6	0.45	11.8	0.649	75.91	-0.38	22.88	-12.13	2.71	0.40
OK09125	12.4	67.9	0.40	11.4	0.565	78.99	-1.12	22.63	-11.77	1.85	3.07
OK1059060	12.6	65.4	0.48	11.5	0.614	77.54	-1.07	24.07	-11.50	2.05	0.51
OK10126	12.6	64.0	0.49	11.9	0.531	76.80	-0.50	22.71	-13.29	2.75	1.47
NI13706	13.0	61.9	0.46	12.3	0.601	76.83	-0.63	23.36	-13.50	3.03	1.20
NE12429	12.3	67.2	0.44	11.2	0.487	77.68	-1.48	26.09	-11.42	2.81	1.00
NE12571	12.0	68.7	0.40	11.1	0.521	77.10	-0.61	22.62	-11.76	2.45	1.80
NE10507	11.7	65.8	0.51	11.0	0.572	77.51	-0.80	22.61	-14.13	3.13	0.66
LCH13DH-3-31	12.0	66.3	0.45	10.9	0.512	78.38	-1.08	23.29	-13.02	2.82	1.77
HV9W10-0091	12.5	65.7	0.43	11.5	0.545	78.12	-0.62	20.84	-11.15	1.84	2.19

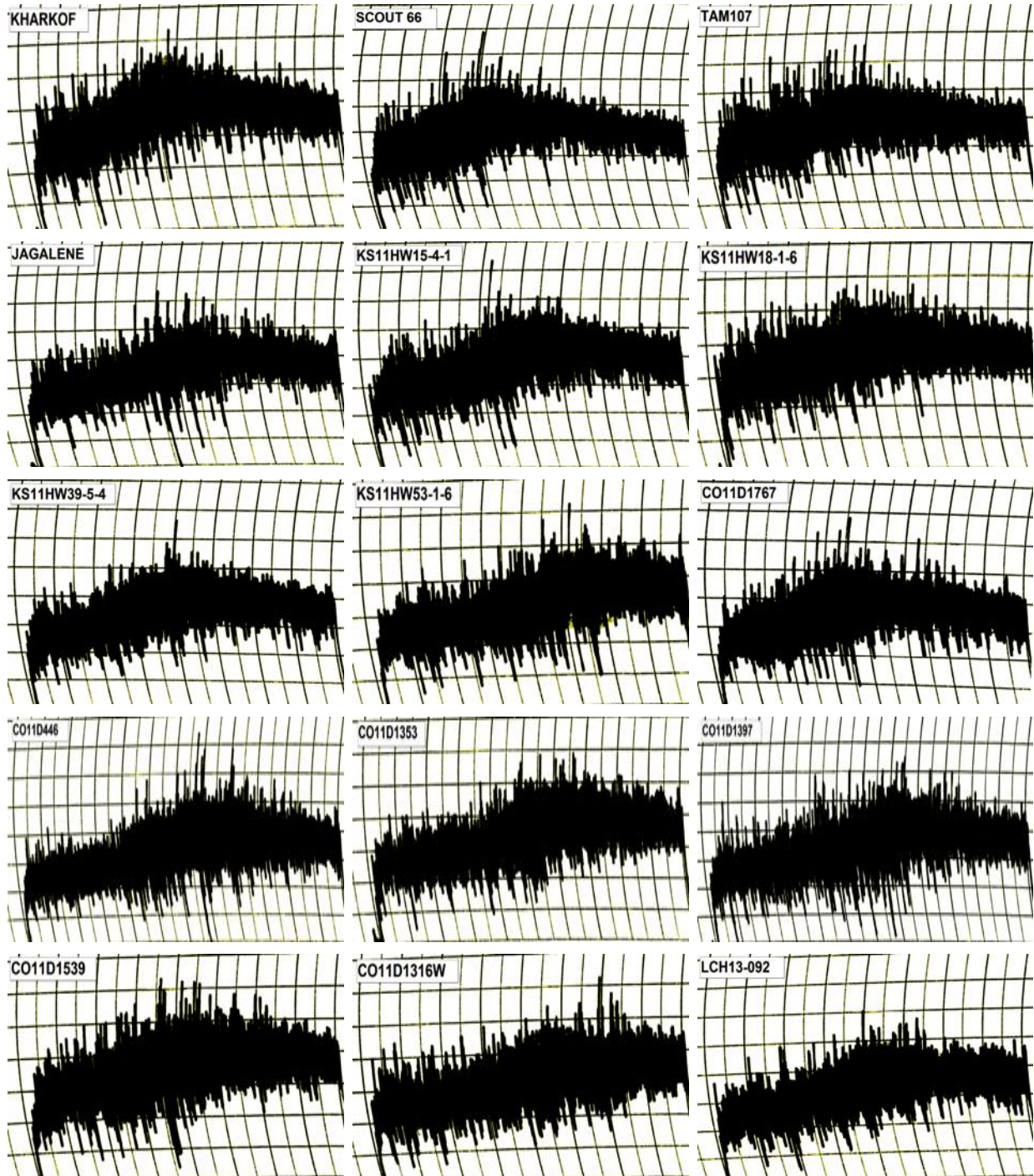
LINE	Wheat		Flour			Noodle Color					
	Protein	Milling Yield	Ash	Protein	PPO	L @ 0	a @ 0	b @ 0	Delta L 24 hrs	Delta a 24 hrs	Delta b 24 hrs
	(%)	(%)	(%)	(%)							
HV9W10-1002	12.5	63.1	0.42	11.8	0.584	76.95	-0.75	24.16	-13.03	1.98	1.93

2015 SRPN Intraregional Production Zone

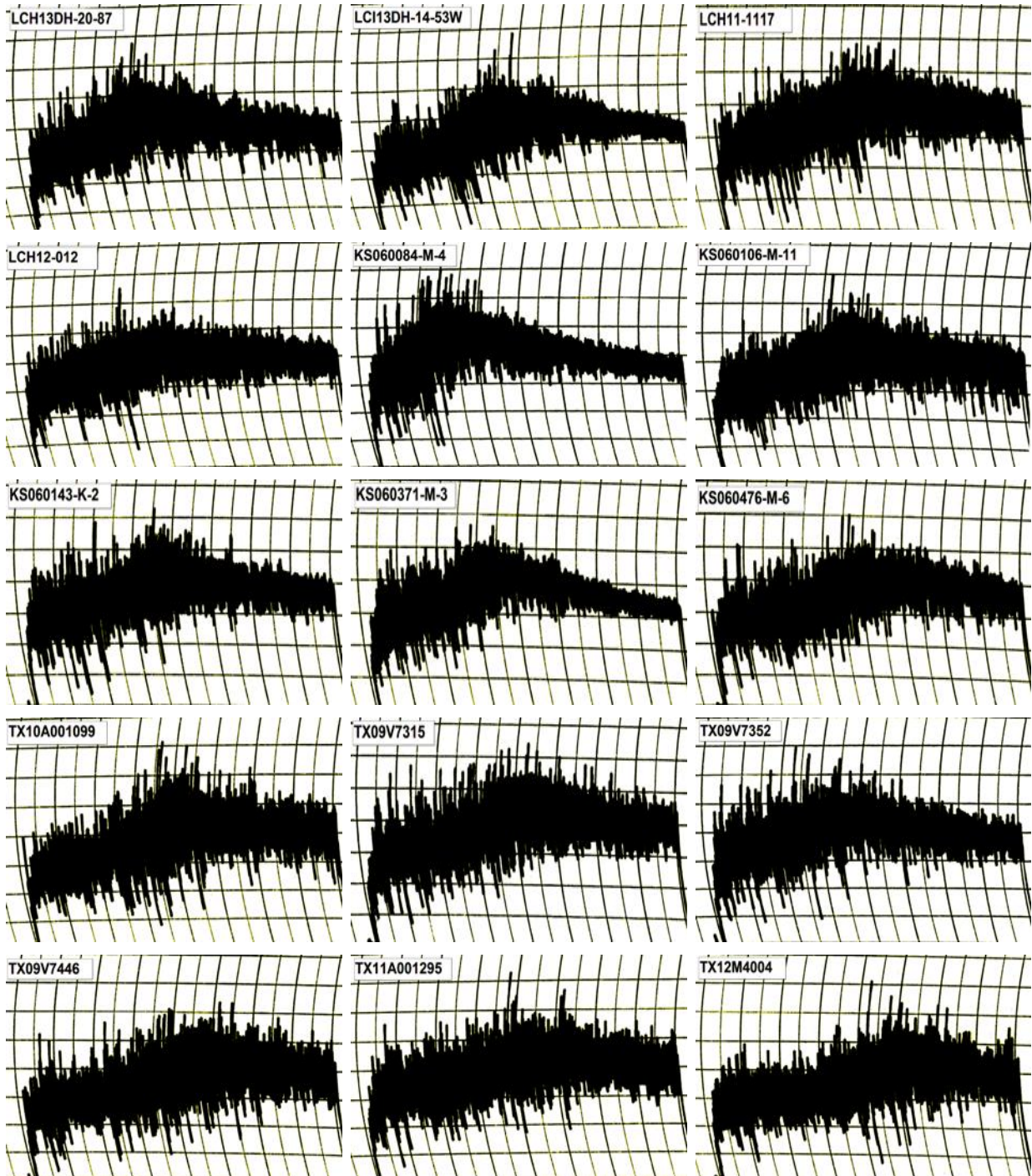
North Central Plains

	Flour Protein	Mixograph			
		Absorption	As-Is	Corrected	Tolerance
Line	(%)	(%)	(min)	(min)	
Kharkof	12.3	62.3	3.75	3.75	2
Scout 66	11.5	64.1	3.38	3.17	3
TAM107	11.7	63.3	3.50	3.36	2
Jagalene	11.2	62.6	4.75	4.30	3
KS11HW15-4-1	11.5	63.1	4.38	4.10	4
KS11HW18-1-6	11.0	62.3	3.88	3.41	3
KS11HW39-5-4	10.9	62.1	4.00	3.48	2
KS11HW53-1-6	11.4	62.9	5.38	4.98	4
CO11D1767	11.0	62.4	3.75	3.31	3
CO11D446	10.9	62.7	7.38	6.42	4
CO11D1353	10.3	61.7	6.38	5.10	3
CO11D1397	10.6	60.6	7.38	6.13	4
CO11D1539	10.7	60.8	4.38	3.72	4
CO11D1316W	10.4	61.2	4.88	3.92	4
LCH13-092	10.7	61.8	4.75	4.03	4
LCH13DH-20-87	11.2	62.6	3.13	2.83	2
LCI13DH-14-53W	10.6	61.7	3.63	3.04	0
LCH11-1117	11.0	62.4	4.00	3.54	4
LCH12-012	11.3	61.7	3.38	3.09	3
KS060084-M-4	11.4	62.9	2.38	2.20	1
KS060106-M-11	11.0	63.3	3.75	3.29	4
KS060143-K-2	10.9	59.1	3.63	3.14	1
KS060371-M-3	10.8	61.5	3.38	2.90	1
KS060476-M-6	11.0	61.3	4.00	3.53	2
TX10A001099	12.2	64.7	4.38	4.38	4
TX09V7315	11.7	63.5	4.38	4.24	4
TX09V7352	11.2	64.1	3.38	3.07	3
TX09V7446	11.3	63.3	4.75	4.36	5
TX11A001295	11.8	66.6	4.50	4.39	4
TX12M4004	11.2	62.7	5.00	4.53	5
TX12M4063	11.9	61.2	3.38	3.34	3
TX12M4065	11.8	62.6	3.75	3.68	2
OK09125	11.4	63.4	4.38	4.05	3
OK1059060	11.5	63.6	4.13	3.88	3
OK10126	11.9	65.2	4.50	4.43	4
NI13706	12.3	63.5	3.13	3.13	3
NE12429	11.2	63.1	3.88	3.52	3
NE12571	11.1	61.4	3.00	2.68	3
NE10507	11.0	62.2	4.88	4.27	4
LCH13DH-3-31	10.9	59.6	2.63	2.29	2
HV9W10-0091	11.5	62.2	3.63	3.43	2
HV9W10-1002	11.8	65.1	5.75	5.60	4

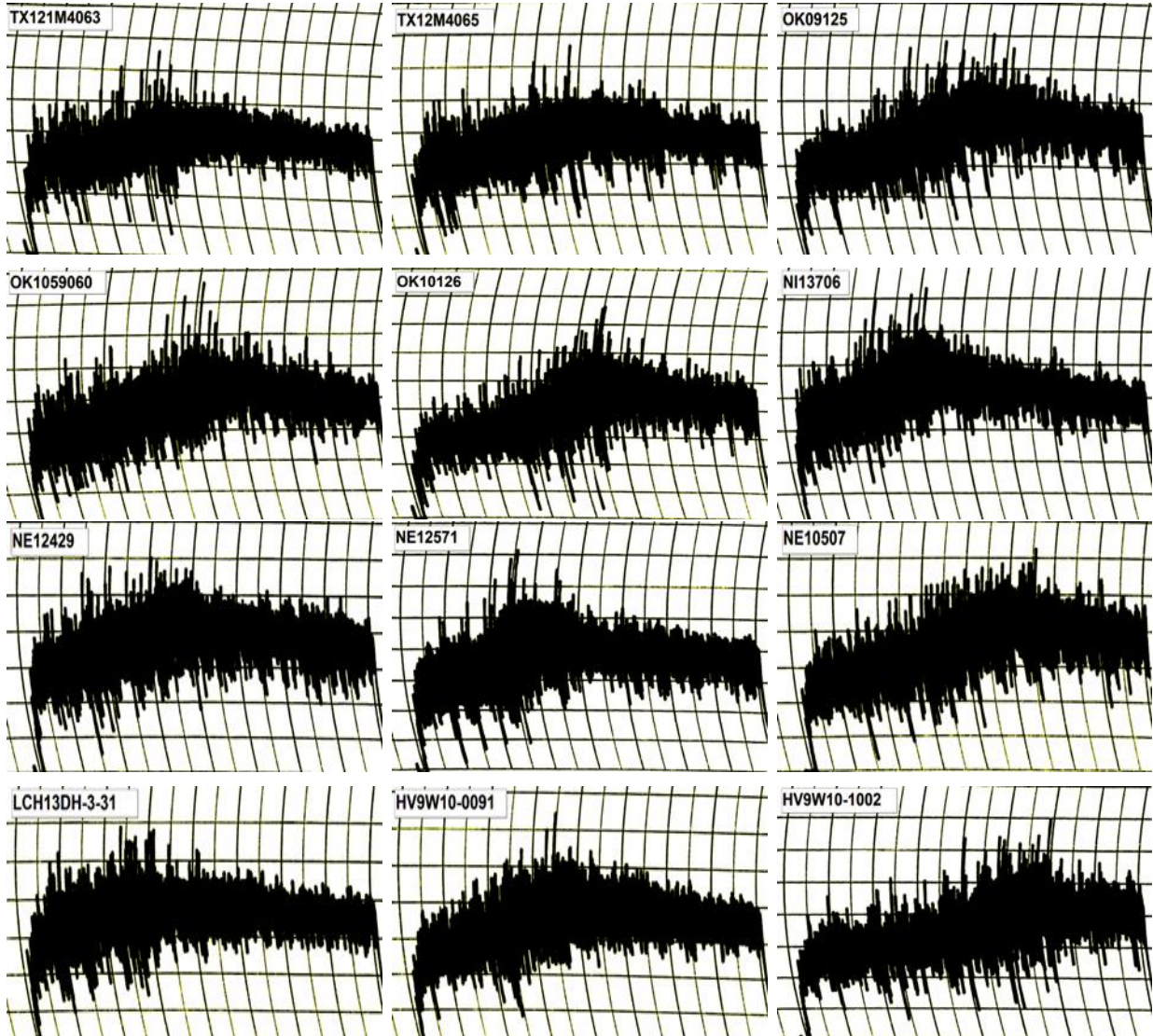
2015 SRPN Intraregional Production Zone North Central Plains



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North Central Plains

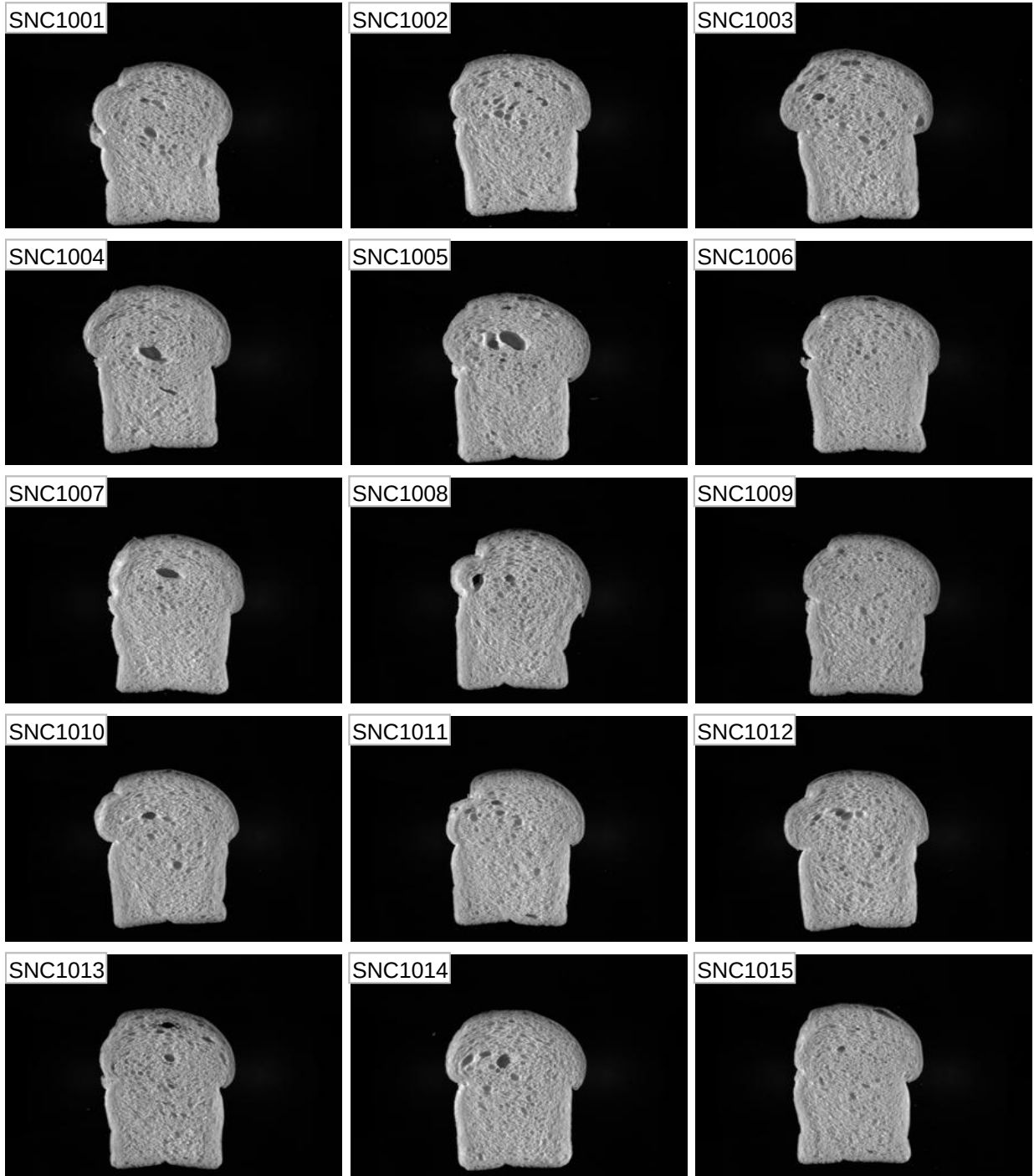
Line	RVA						
	Stirring Number (RVU)	Peak Viscosity (RVU)	Trough Viscosity (RVU)	Breakdown (RVU)	Final Viscosity (RVU)	Set back (RVU)	Peak Time (min)
Kharkof	135.17	236.75	157.58	79.17	279.83	122.25	6.27
Scout 66	110.75	221.25	135.58	85.67	253.92	118.33	6.13
TAM107	124.08	246.83	154.33	92.50	285.00	130.67	6.27
Jagalene	117.17	226.08	141.08	85.00	273.67	132.58	6.13
KS11HW15-4-1	114.92	252.42	152.25	100.17	271.58	119.33	6.27
KS11HW18-1-6	112.92	234.25	132.33	101.92	253.50	121.17	6.13
KS11HW39-5-4	123.50	222.42	126.33	96.08	239.25	112.92	6.13
KS11HW53-1-6	127.08	260.58	151.25	109.33	263.17	111.92	6.27
CO11D1767	110.92	232.08	137.58	94.50	270.17	132.58	6.00
CO11D446	98.42	213.83	116.33	97.50	232.00	115.67	5.87
CO11D1353	103.58	248.17	149.17	99.00	284.83	135.67	6.07
CO11D1397	98.25	232.83	136.92	95.92	266.92	130.00	6.00
CO11D1539	131.25	244.08	154.33	89.75	286.58	132.25	6.20
CO11D1316W	109.17	248.25	136.17	112.08	245.75	109.58	6.27
LCH13-092	115.67	234.33	142.17	92.17	275.42	133.25	6.07
LCH13DH-20-87	129.25	223.25	150.17	73.08	274.00	123.83	6.20
LCI13DH-14-53W	97.67	226.83	115.58	111.25	222.08	106.50	6.00
LCH11-1117	106.67	231.42	133.58	97.83	249.58	116.00	6.13
LCH12-012	107.00	227.58	135.75	91.83	257.25	121.50	6.13
KS060084-M-4	112.00	217.58	139.00	78.58	259.42	120.42	6.13
KS060106-M-11	151.33	249.08	173.67	75.42	290.08	116.42	6.47
KS060143-K-2	127.00	212.83	143.83	69.00	269.17	125.33	6.20
KS060371-M-3	73.33	150.17	66.83	83.33	149.08	82.25	5.60
KS060476-M-6	80.25	148.50	76.17	72.33	164.25	88.08	5.73
TX10A001099	103.92	264.92	148.75	116.17	262.75	114.00	6.13
TX09V7315	96.17	245.50	116.50	129.00	204.33	87.83	6.00
TX09V7352	113.25	250.92	128.58	122.33	223.58	95.00	6.13
TX09V7446	120.92	282.67	161.58	121.08	267.75	106.17	6.27
TX11A001295	140.42	239.92	147.00	92.92	266.00	119.00	6.33
TX12M4004	103.08	210.75	118.50	92.25	224.42	105.92	6.13
TX12M4063	128.58	221.33	143.25	78.08	267.75	124.50	6.27
TX12M4065	133.75	211.42	127.75	83.67	243.50	115.75	6.13
OK09125	127.83	241.00	152.50	88.50	282.58	130.08	6.13
OK1059060	120.75	240.42	153.58	86.83	288.75	135.17	6.20
OK10126	107.92	224.25	114.92	109.33	216.58	101.67	5.93
NI13706	138.92	232.67	154.92	77.75	281.25	126.33	6.27
NE12429	133.58	231.25	153.67	77.58	283.67	130.00	6.27
NE12571	97.67	234.25	152.08	82.17	285.50	133.42	6.07
NE10507	123.67	255.67	137.42	118.25	236.42	99.00	6.20
LCH13DH-3-31	123.83	218.67	143.58	75.08	272.42	128.83	6.20
HV9W10-0091	123.00	189.50	125.75	63.75	245.25	119.50	6.07
HV9W10-1002	120.92	226.33	137.50	88.83	262.83	125.33	6.13

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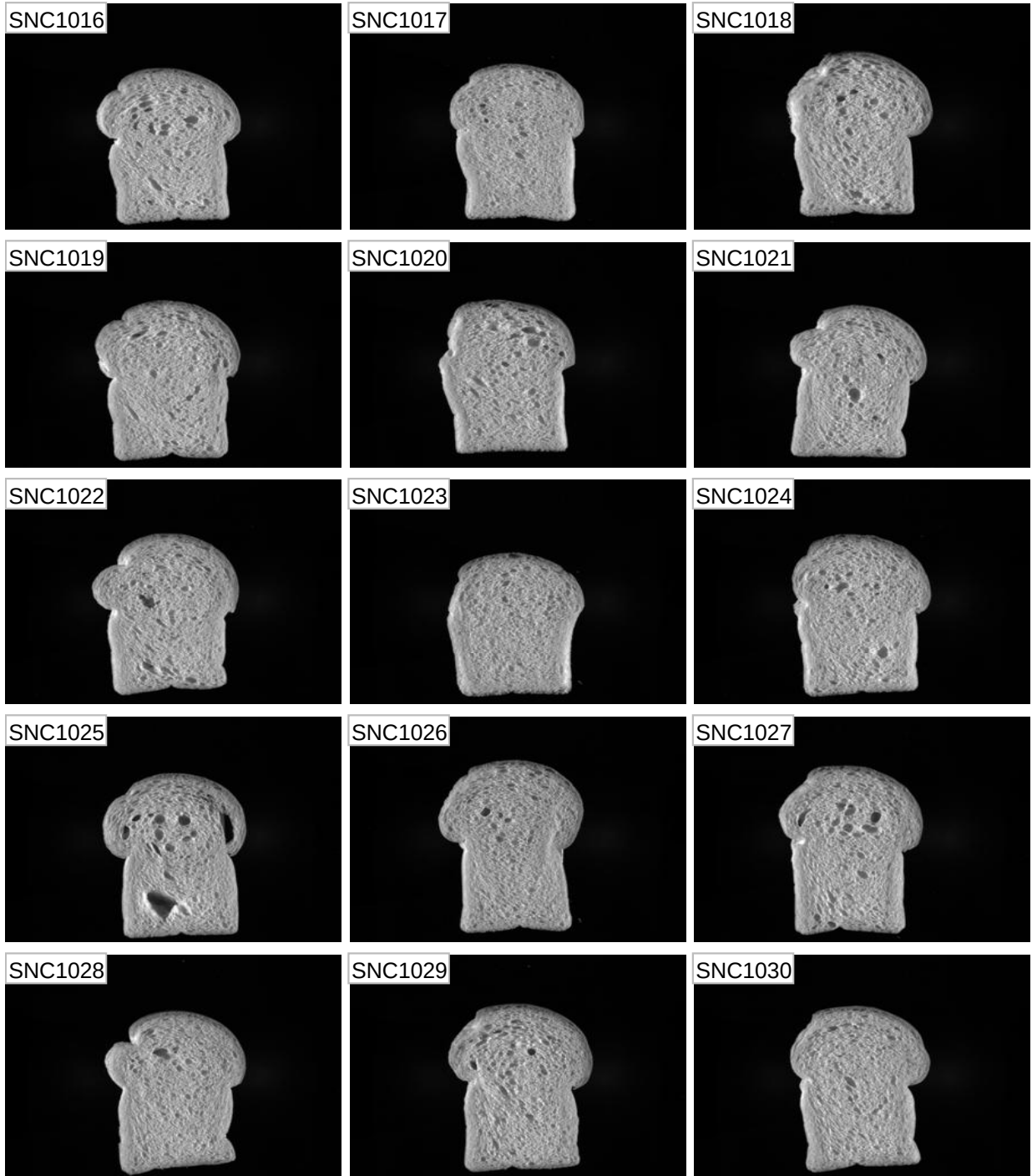
North Central Plains

Line	Flour		Mix Time		Dough					
	Protein	Water Abs.	As-is	Corrected	Weight	Proof Height	Crumb Grain	As-Rec'd.	Specific Volume	Loaf Volume Potential
	(%)	(%)	(min)	(min)	(g)	(cm)		(cc)	(cc/g)	(cc/%)
Kharkof	12.3	61.4	4.00	4.00	170.6	7.7	4.5	945	6.4	70
Scout 66	11.5	62.9	3.75	3.52	172.4	7.9	3.5	895	6.0	70
TAM107	11.7	63.3	4.25	4.07	174.0	7.9	3.5	990	6.7	80
Jagalene	11.2	62.3	5.38	4.87	172.0	7.8	4.0	970	6.6	81
KS11HW15-4-1	11.5	63.0	4.75	4.45	173.2	8.1	4.5	985	6.6	81
KS11HW18-1-6	11.0	62.0	4.38	3.85	171.1	7.4	3.5	895	6.0	74
KS11HW39-5-4	10.9	62.1	4.63	4.02	172.0	7.5	4.5	895	6.0	75
KS11HW53-1-6	11.4	61.9	6.50	6.02	170.7	7.5	3.5	905	6.2	72
CO11D1767	11.0	59.4	3.75	3.31	169.1	7.5	3.5	920	6.3	77
CO11D446	10.9	62.4	8.13	7.08	171.5	7.1	4.0	905	6.1	76
CO11D1353	10.3	61.0	6.63	5.30	169.9	7.5	4.0	900	6.1	81
CO11D1397	10.6	61.0	8.13	6.75	169.3	7.5	3.5	940	6.4	83
CO11D1539	10.7	61.9	5.25	4.46	170.8	7.6	3.5	910	6.2	78
CO11D1316W	10.4	61.1	5.88	4.72	169.8	7.6	4.0	915	6.3	82
LCH13-092	10.7	60.1	4.75	4.03	169.3	7.6	4.0	940	6.3	82
LCH13DH-20-87	11.2	60.9	3.25	2.94	170.2	7.0	2.5	885	6.0	71
LCI13DH-14-53W	10.6	58.9	3.75	3.14	169.0	7.4	3.5	875	5.9	74
LCH11-1117	11.0	62.0	4.25	3.76	170.6	7.3	2.0	965	6.5	82
LCH12-012	11.3	61.1	3.75	3.42	170.8	7.0	3.0	915	6.2	74
KS060084-M-4	11.4	62.0	2.50	2.31	172.1	7.3	1.5	880	5.8	69
KS060106-M-11	11.0	62.1	3.75	3.29	172.1	7.2	3.5	900	6.0	75
KS060143-K-2	10.9	59.9	4.00	3.47	169.2	7.6	3.5	910	6.2	77
KS060371-M-3	10.8	59.0	3.13	2.69	169.0	7.3	1.5	785	5.2	62
KS060476-M-6	11.0	61.3	4.50	3.97	170.3	7.6	2.5	885	6.0	72
TX10A001099	12.2	63.6	5.25	5.25	173.3	7.4	3.5	975	6.5	73
TX09V7315	11.7	62.8	5.00	4.84	172.9	7.6	5.0	1020	6.9	82
TX09V7352	11.2	64.3	3.75	3.40	173.3	7.6	3.0	975	6.6	82
TX09V7446	11.3	63.2	6.00	5.51	172.7	7.3	3.5	950	6.4	78
TX11A001295	11.8	66.3	4.75	4.64	176.0	7.6	2.5	1005	6.7	80
TX12M4004	11.2	62.0	5.00	4.53	171.4	7.6	4.0	975	6.5	82
TX12M4063	11.9	60.8	3.88	3.84	169.6	7.4	3.0	925	6.3	70
TX12M4065	11.8	61.8	3.75	3.68	171.2	7.3	2.5	915	6.2	70
OK09125	11.4	63.5	4.50	4.16	174.0	8.0	5.0	1010	6.7	84
OK1059060	11.5	63.8	4.63	4.35	174.3	8.0	4.5	955	6.3	77
OK10126	11.9	63.8	5.25	5.16	173.9	8.0	3.5	995	6.7	78
NI13706	12.3	61.6	3.00	3.00	171.6	7.7	1.0	940	6.3	69
NE12429	11.2	61.0	4.13	3.74	171.2	8.0	3.0	970	6.5	81
NE12571	11.1	61.0	3.50	3.12	170.6	7.9	3.5	970	6.5	82
NE10507	11.0	62.7	5.50	4.81	172.8	7.6	4.0	975	6.5	84
LCH13DH-3-31	10.9	60.7	3.50	3.05	170.1	7.7	3.0	915	6.2	77
HV9W10-0091	11.5	62.5	4.00	3.77	172.6	7.6	4.0	935	6.3	74
HV9W10-1002	11.8	66.8	6.25	6.09	175.8	7.9	4.0	965	6.4	76

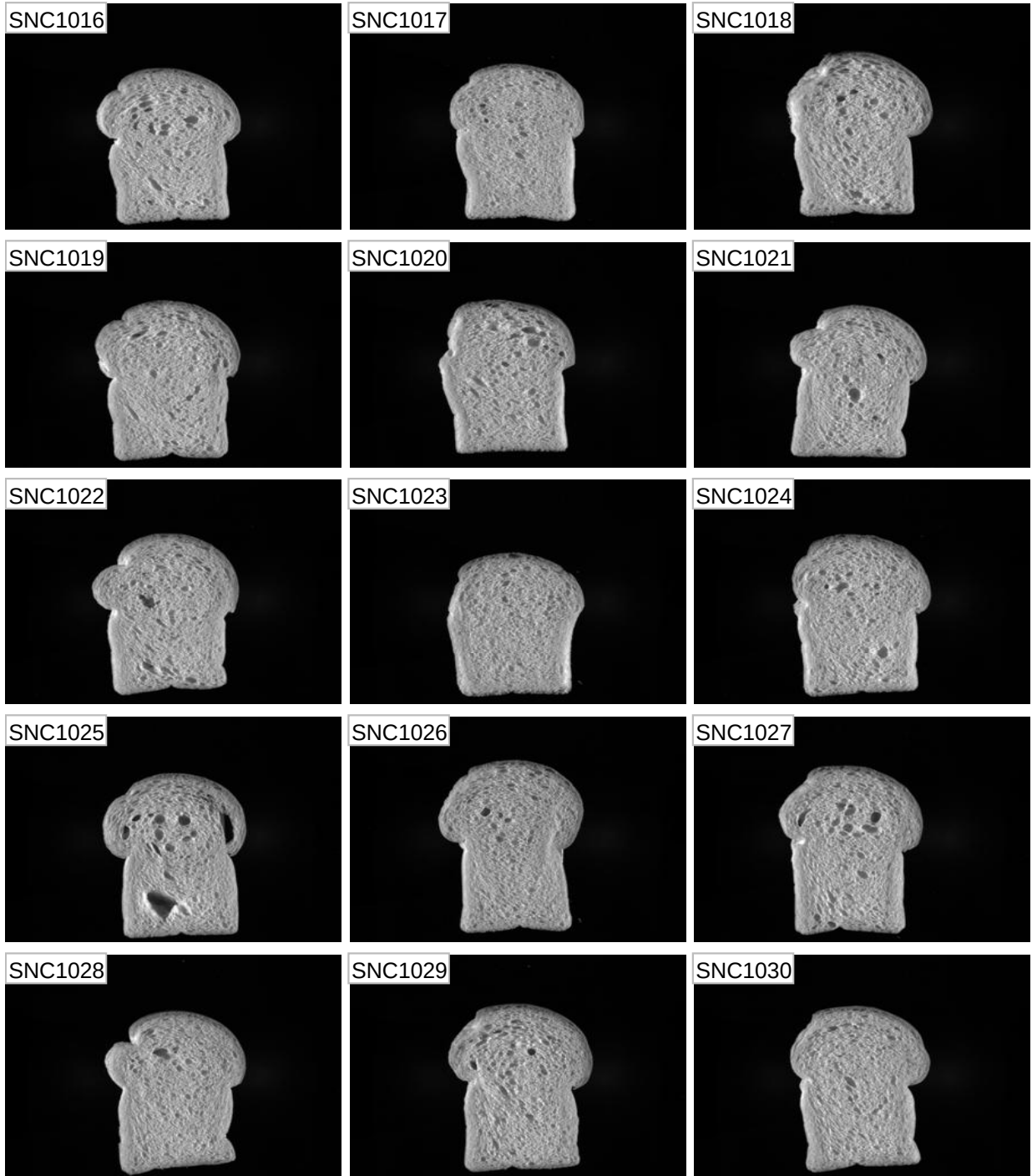
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Hard Winter Wheat Quality Report 2015 SRPN-NHP

1 - Test weight	10	11 - Flour protein	8
2 - SKCS kernel weight	8	12 - Bake absorption	15
3 - Kernel weight SD	8	13 - Mixograph absorption	5
4 - SKCS kernel diameter	8	14 - Bake mix time	10
5 - Kernel diameter SD	8	15 - Mixograph mix time	5
6 - SKCS hardness	10	16 - Mixograph tolerance	5
7 - Hardness SD	8	17 - Dough weight	
8 - Flour yield	30	18 - Proof height	2
9 - Flour ash	10	19 - Loaf volume	20
10 - Milling score		20 - Volume regression	5
		21 - Crumb grain	25

ID	Milling Score	Rating	%	Baking Score	Rating	%	1RS	Trait Deficiencies
Kharkof	38.5	Very Poor	66.9	48.9	Good	72.4		6,8,10,
Scout 66	52.5	Very Good	91.2	29.9	Very Poor	44.3		14,16,20,
TAM 107	42.3	Very Poor	73.3	48.1	Average	71.2	1AL	16,
Jagalene	52.7	Very Good	91.5	57.1	Very Good	84.6		16,
KS11HW15-4-1	57.6	Very Good	100.0	33.0	Very Poor	48.9		16,18,20,
KS11HW18-1-6	49.2	Average	85.3	52.3	Good	77.5		16,
Joe	52.3	Very Good	90.7	48.7	Good	72.2		16,
KS11HW53-1-6	54.5	Very Good	94.5	42.9	Average	63.6		
CO11D1767	49.6	Average	86.1	48.7	Average	72.1		16,
CO11D446	51.3	Good	89.0	34.5	Poor	51.1		14,15,
CO11D1353	48.7	Poor	84.5	57.2	Very Good	84.8		4,11,15,
CO11D1397	50.1	Average	87.0	32.9	Very Poor	48.7	1AL	4,6,11,13,15,
CO11D1539	51.8	Good	90.0	65.5	Very Good	97.1		
CO11D1316W	44.9	Very Poor	77.9	38.9	Poor	57.6		11,
LCH13-092	46.0	Very Poor	79.8	49.9	Good	73.9		13,16,
LCS Chrome	50.5	Good	87.7	48.7	Good	72.2		2,10,16,
LCI13DH-14-53W	49.6	Average	86.1	33.6	Very Poor	49.8	1AL	9,16,
LCH11-1117	50.0	Average	86.7	44.3	Average	65.7		16,
LCH12-012	49.1	Average	85.2	35.4	Poor	52.5	1AL	14,16,18,21,
KS060084-M-4	49.0	Average	85.0	27.8	Very Poor	41.2		2,14,15,16,18,21,
KS060106-M-11	52.3	Very Good	90.8	38.5	Poor	57.0		14,16,21,
KS060143-K-2	55.5	Very Good	96.3	36.2	Poor	53.7	1BL	12,13,16,21,
KS060371-M-3	48.1	Poor	83.5	25.4	Very Poor	37.6		1,2,16,19,20,21,
KS060476-M-6	48.8	Poor	84.7	39.7	Poor	58.9	1BL	16,
TX10A001099	53.0	Very Good	92.0	57.6	Very Good	85.4	1AL	
TX09V7315	44.5	Very Poor	77.3	59.7	Very Good	88.5	1AL	2,
TX09V7352	47.6	Poor	82.7	55.8	Good	82.7	1AL	16,
TX09V7446	49.9	Average	86.6	67.5	Very Good	100.0	1AL	9,
TX11A001295	43.1	Very Poor	74.7	61.1	Very Good	90.6	1AL	5,8,9,10,
TX12M4004	47.1	Poor	81.7	47.1	Average	69.8	1BL	1,

Quality scores and ratings are calculated directly from the relative trait weightings (printed at the top of the page) and are applicable only to the nursery selected.



Hard Winter Wheat Quality Report 2015 SRPN-NHP

1 - Test weight	10	11 - Flour protein	8
2 - SKCS kernel weight	8	12 - Bake absorption	15
3 - Kernel weight SD	8	13 - Mixograph absorption	5
4 - SKCS kernel diameter	8	14 - Bake mix time	10
5 - Kernel diameter SD	8	15 - Mixograph mix time	5
6 - SKCS hardness	10	16 - Mixograph tolerance	5
7 - Hardness SD	8	17 - Dough weight	
8 - Flour yield	30	18 - Proof height	2
9 - Flour ash	10	19 - Loaf volume	20
10 - Milling score		20 - Volume regression	5
		21 - Crumb grain	25

ID	Milling Score	Rating	%	Baking Score	Rating	%	1RS	Trait Deficiencies
TX12M4063	50.9	Good	88.3	34.4	Poor	51.0	1BL	12,16,17,20,
TX12M4065	50.9	Good	88.3	37.3	Poor	55.2	1BL	16,
Bentley	50.6	Good	87.9	44.0	Average	65.2		16,
OK1059060	48.7	Poor	84.5	41.4	Average	61.4		16,
OK10126	48.4	Poor	84.0	55.1	Good	81.6		5,21,
NI13706	43.8	Very Poor	76.0	28.9	Very Poor	42.8	1BL	8,12,14,16,17,20,21,
NE12429	46.8	Very Poor	81.3	44.4	Average	65.9		16,
NE12571	50.2	Good	87.2	33.1	Very Poor	49.0		16,21,
NE10507	48.8	Poor	84.7	61.6	Very Good	91.4		
LCH13DH-3-31	50.8	Good	88.1	25.4	Very Poor	37.6	1BL	6,12,14,16,19,21,
WB4462	49.8	Average	86.5	40.5	Average	60.0	1AL	3,12,16,
WB4303	41.4	Very Poor	71.9	55.8	Good	82.8		1,21,

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Northern High Plains

LINE	Wt/Bu (lb)	SKCS Average Kernel						Hardness			
		Moisture		Weight		Diameter		SKCS	Class	Distribution	
		(%)	(sd)	(mg)	(sd)	(mm)	(sd)				
								(sd)			
Kharkof	59.3	12.0	0.5	28.6	7.3	2.51	0.30	30 18	SOFT	60--21--13--06--04	
Scout 66	59.8	12.3	0.5	33.1	9.3	2.67	0.33	42 16	MIXED	27--35--24--14--03	
TAM107	57.8	12.1	0.4	30.7	9.8	2.58	0.39	49 18	MIXED	20--27--24--29--03	
Jagalene	61.1	11.6	0.4	31.9	9.4	2.70	0.37	57 17	HARD	08--18--30--44--02	
KS11HW15-4-1	61.7	12.5	0.4	37.0	9.5	2.80	0.36	54 15	HARD	06--26--31--37--02	
KS11HW18-1-6	60.2	12.4	0.5	31.7	9.1	2.58	0.35	53 16	HARD	10--24--33--33--02	
KS11HW39-5-4	60.6	12.3	0.5	32.8	8.4	2.61	0.32	43 16	MIXED	27--33--25--15--03	
KS11HW53-1-6	60.6	12.5	0.5	33.3	9.6	2.69	0.40	56 15	HARD	06--19--31--44--02	
CO11D1767	58.3	12.7	0.5	31.9	9.1	2.61	0.37	46 17	MIXED	22--30--27--21--03	
CO11D446	59.3	12.9	0.5	32.3	10.2	2.57	0.37	47 17	MIXED	22--27--28--23--03	
CO11D1353	59.3	12.6	0.5	30.6	10.4	2.49	0.37	42 17	MIXED	33--29--21--17--03	
CO11D1397	59.4	12.6	0.5	29.8	9.2	2.46	0.34	38 16	SOFT	37--34--19--10--04	
CO11D1539	59.5	12.6	0.5	33.8	10.3	2.66	0.38	45 15	MIXED	23--29--29--19--03	
CO11D1316W	58.5	12.5	0.5	29.3	10.2	2.53	0.40	51 20	MIXED	19--23--25--33--03	
LCH13-092	59.0	12.6	0.5	28.2	9.1	2.54	0.39	47 19	MIXED	23--26--27--24--03	
LCH13DH-20-87	59.7	12.6	0.4	27.4	7.9	2.51	0.33	59 15	HARD	05--17--32--46--01	
LCI13DH-14-53W	58.3	11.8	0.4	28.9	9.4	2.57	0.37	48 17	MIXED	18--27--29--26--03	
LCH11-1117	59.4	12.2	0.5	33.3	9.9	2.69	0.35	46 16	MIXED	21--30--28--21--03	
LCH12-012	60.5	12.0	0.4	33.9	9.6	2.65	0.38	58 17	HARD	05--21--30--44--01	
KS060084-M-4	58.7	12.0	0.4	27.8	7.9	2.52	0.32	51 17	MIXED	14--25--31--30--03	
KS060106-M-11	60.3	11.9	0.4	31.1	8.3	2.61	0.32	50 16	MIXED	14--27--28--31--03	
KS060143-K-2	59.8	12.6	0.5	33.0	9.2	2.73	0.35	48 16	MIXED	17--29--28--26--03	
KS060371-M-3	57.2	12.5	0.6	27.3	7.6	2.50	0.35	49 18	MIXED	22--24--26--28--03	
KS060476-M-6	59.8	12.4	0.6	29.5	8.1	2.62	0.36	55 18	HARD	10--21--29--40--02	
TX10A001099	59.4	12.7	0.5	31.4	9.0	2.62	0.36	54 17	HARD	09--23--33--35--02	
TX09V7315	59.2	12.2	0.5	27.5	8.7	2.55	0.35	65 20	HARD	07--12--15--66--02	
TX09V7352	59.9	12.4	0.5	31.6	9.9	2.68	0.36	54 17	HARD	10--21--30--39--02	
TX09V7446	60.8	12.6	0.5	33.5	9.4	2.78	0.37	57 17	HARD	08--21--25--46--02	
TX11A001295	61.9	12.2	0.5	32.5	10.5	2.67	0.41	76 17	HARD	01--04--11--84--01	
TX12M4004	57.4	12.1	0.5	33.2	10.4	2.67	0.41	47 16	MIXED	18--30--31--21--03	
TX12M4063	59.6	12.2	0.5	35.7	8.9	2.83	0.36	54 19	MIXED	14--22--23--41--03	
TX12M4065	59.6	12.3	0.5	33.2	8.2	2.71	0.32	63 17	HARD	07--08--26--59--02	
OK09125	58.3	12.3	0.5	33.4	10.5	2.73	0.41	47 17	MIXED	21--30--31--18--03	
OK1059060	58.5	12.4	0.5	33.3	9.4	2.69	0.36	45 16	MIXED	23--35--24--18--03	
OK10126	60.0	12.2	0.4	33.7	10.1	2.77	0.42	61 18	HARD	05--13--30--52--01	
NI13706	59.5	12.1	0.5	30.4	9.0	2.62	0.33	46 16	MIXED	20--33--29--18--03	
NE12429	59.1	12.1	0.4	30.3	10.4	2.63	0.37	49 17	MIXED	19--26--28--27--03	
NE12571	58.5	12.1	0.5	31.4	10.1	2.62	0.39	44 16	MIXED	23--30--28--19--03	
NE10507	57.6	12.0	0.5	29.4	8.4	2.55	0.34	47 16	MIXED	21--27--30--22--03	
LCH13DH-3-31	60.1	11.5	0.5	36.1	10.6	2.76	0.40	39 17	MIXED	38--31--17--14--03	
HV9W10-0091	60.0	12.0	0.6	36.0	10.8	2.80	0.40	49 15	MIXED	15--30--30--25--03	
HV9W10-1002	55.3	12.3	0.5	29.8	9.6	2.53	0.37	51 16	MIXED	15--24--31--30--03	

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LINE	Wheat		Flour			Noodle Color					
	Protein	Milling Yield	Ash	Protein	PPO	L @ 0	a @ 0	b @ 0	Delta L 24 hrs	Delta a 24 hrs	Delta b 24 hrs
	(%)	(%)	(%)	(%)							
Kharkof	14.5	62.4	0.41	13.2	0.447	80.01	-1.69	23.24	-9.99	1.46	2.90
Scout 66	13.6	68.9	0.41	12.8	0.482	79.16	-1.35	22.67	-10.02	1.77	1.83
TAM107	12.9	65.9	0.42	12.0	0.478	77.69	-1.30	24.87	-11.08	1.84	1.19
Jagalene	13.2	68.5	0.44	12.1	0.409	78.82	-1.39	24.06	-10.30	1.55	2.08
KS11HW15-4-1	13.2	68.6	0.42	12.6	0.538	79.27	-1.76	25.12	-11.14	1.77	0.74
KS11HW18-1-6	13.1	66.4	0.42	11.9	0.458	79.43	-1.80	25.08	-9.66	1.67	2.79
KS11HW39-5-4	12.8	67.2	0.37	11.7	0.540	80.84	-1.71	21.59	-9.54	1.55	4.13
KS11HW53-1-6	13.3	69.1	0.45	12.2	0.209	74.59	-1.43	24.31	-4.68	1.35	4.36
CO11D1767	12.2	68.9	0.42	11.1	0.493	79.35	-1.66	24.10	-9.61	1.58	2.16
CO11D446	12.3	70.3	0.43	11.2	0.526	80.70	-1.44	21.84	-11.76	1.48	3.79
CO11D1353	11.3	70.0	0.42	10.0	0.507	80.98	-2.07	24.02	-10.28	1.56	3.64
CO11D1397	11.3	69.2	0.39	10.2	0.497	79.86	-1.92	24.79	-9.44	1.62	1.66
CO11D1539	11.9	68.9	0.40	11.0	0.569	81.96	-1.88	21.52	-11.83	1.55	4.97
CO11D1316W	11.4	68.7	0.43	10.1	0.589	80.51	-2.25	26.86	-10.40	1.94	3.03
LCH13-092	12.2	68.3	0.42	10.9	0.487	80.13	-1.74	24.13	-10.68	1.70	2.36
LCH13DH-20-87	13.7	67.4	0.45	12.2	0.524	78.96	-1.67	23.76	-11.07	2.06	0.93
LCH13DH-14-53W	11.9	70.6	0.48	10.9	0.510	79.66	-2.22	25.30	-9.85	2.15	-0.68
LCH11-1117	12.9	67.7	0.40	12.0	0.462	79.17	-1.11	22.02	-10.87	1.69	2.70
LCH12-012	12.8	65.8	0.42	11.6	0.456	77.92	-1.44	25.28	-9.57	1.66	1.28
KS060084-M-4	12.3	67.6	0.41	11.5	0.525	79.85	-1.54	22.99	-9.38	1.51	2.96
KS060106-M-11	13.3	67.1	0.36	12.1	0.554	80.24	-1.47	21.59	-10.78	1.80	2.73
KS060143-K-2	12.9	70.1	0.41	12.2	0.545	78.63	-1.55	24.54	-10.46	1.87	0.60
KS060371-M-3	13.1	68.5	0.40	11.9	0.486	79.46	-1.57	23.30	-9.58	1.72	1.81
KS060476-M-6	13.2	66.9	0.42	12.1	0.477	79.93	-1.34	22.03	-11.12	1.60	3.03
TX10A001099	13.0	69.9	0.46	12.3	0.422	79.69	-1.44	22.86	-12.79	2.18	3.48
TX09V7315	12.8	65.9	0.46	12.1	0.409	78.53	-1.41	24.44	-10.63	2.06	2.65
TX09V7352	12.5	66.1	0.41	11.9	0.442	78.62	-1.09	21.73	-11.06	1.86	2.54
TX09V7446	13.1	66.8	0.47	12.2	0.503	80.56	-1.54	21.33	-13.67	2.04	3.82
TX11A001295	13.0	62.3	0.50	12.0	0.427	80.31	-1.34	21.58	-14.09	2.08	3.43
TX12M4004	13.0	68.3	0.44	12.1	0.634	77.91	-1.41	24.51	-12.92	2.41	0.72
TX12M4063	14.4	67.4	0.44	13.8	0.556	77.89	-1.19	25.45	-12.74	2.02	-0.38
TX12M4065	13.8	65.9	0.43	13.0	0.493	77.32	-1.07	24.75	-9.73	1.82	1.11
OK09125	12.9	69.4	0.39	11.8	0.435	80.01	-1.79	23.87	-11.07	1.87	2.15
OK1059060	13.3	67.8	0.45	12.3	0.541	79.72	-1.56	24.46	-11.22	1.68	1.46
OK10126	13.2	66.8	0.46	12.1	0.386	78.59	-1.26	22.88	-10.77	1.81	1.90
NI13706	13.4	63.8	0.40	12.6	0.515	80.37	-1.88	24.85	-9.97	1.65	1.29
NE12429	12.4	68.0	0.42	11.4	0.442	79.63	-2.07	26.98	-9.26	1.63	2.14
NE12571	13.0	69.3	0.39	11.9	0.476	79.40	-1.41	23.51	-11.15	1.95	1.56
NE10507	12.3	68.5	0.42	11.1	0.561	78.61	-1.63	23.60	-11.00	2.04	2.45
LCH13DH-3-31	12.9	69.4	0.44	11.7	0.496	79.26	-1.63	23.30	-12.93	1.92	1.93
HV9W10-0091	13.4	66.8	0.41	12.2	0.460	79.47	-1.46	21.28	-9.94	1.59	2.44

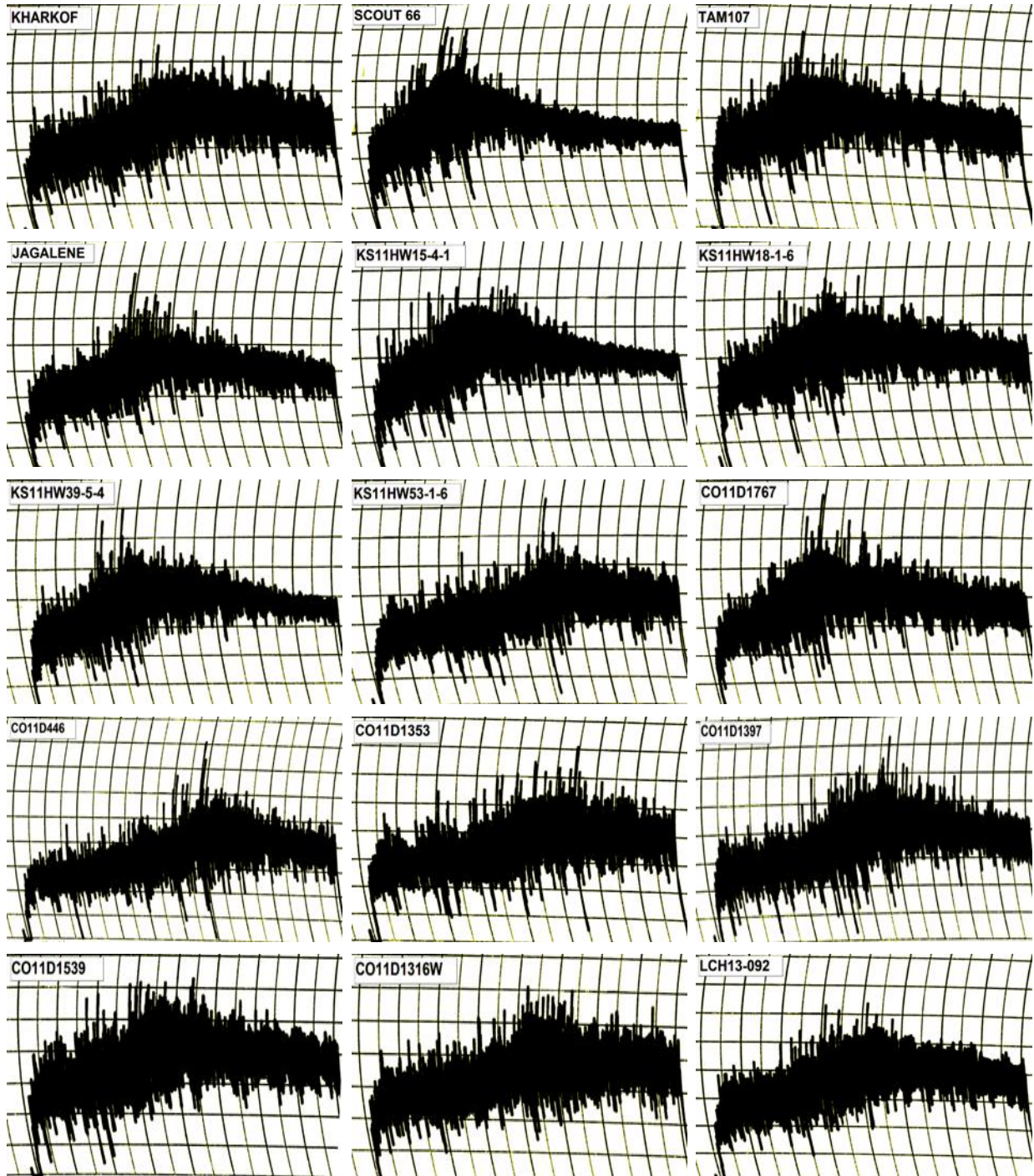
LINE	Wheat		Flour			Noodle Color					
	Protein	Milling Yield	Ash	Protein	PPO	L @ 0	a @ 0	b @ 0	Delta L 24 hrs	Delta a 24 hrs	Delta b 24 hrs
	(%)	(%)	(%)	(%)							
HV9W10-1002	13.1	65.3	0.39	12.3	0.481	78.49	-1.29	23.89	-12.04	1.65	2.99

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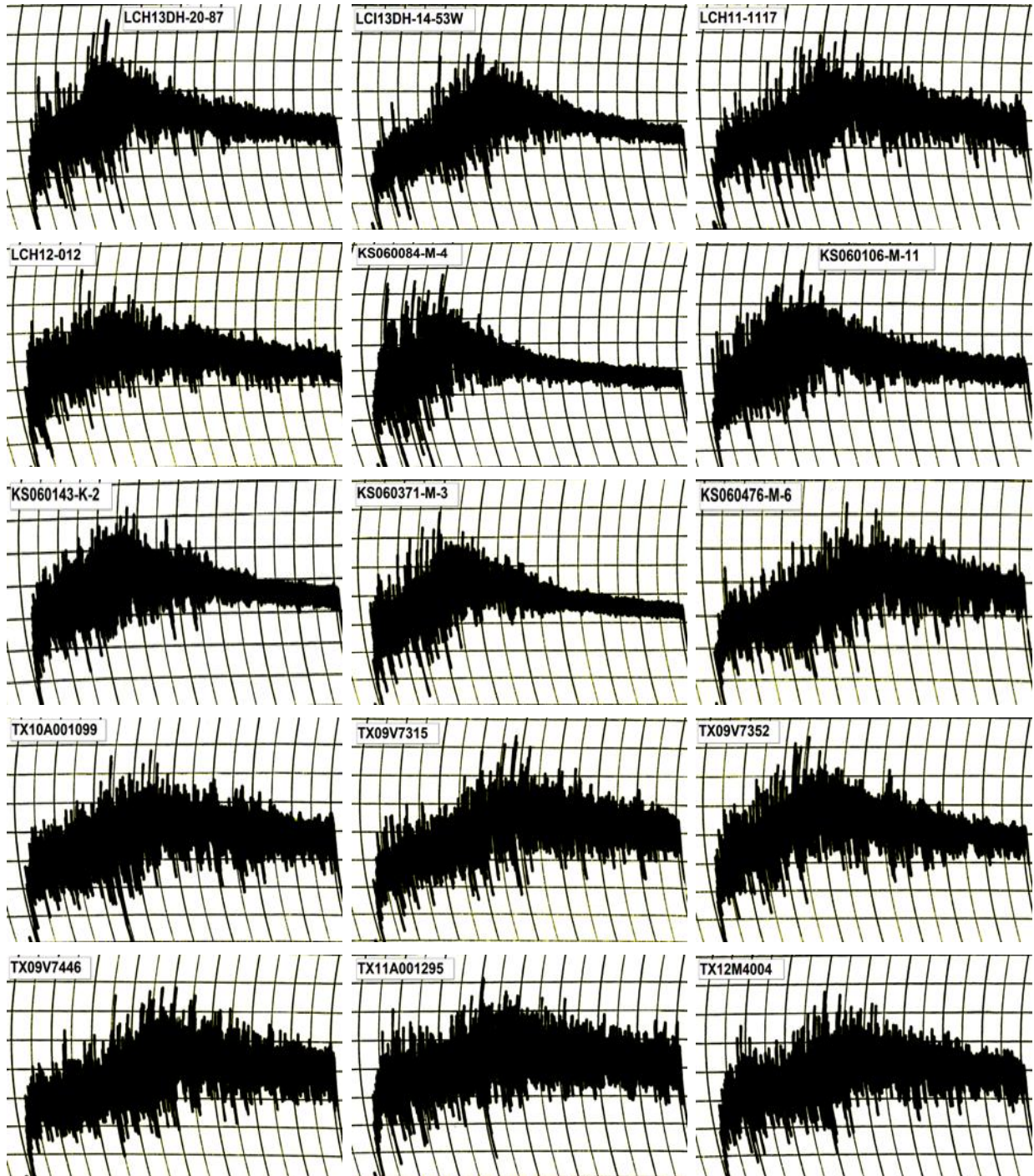
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	Flour Protein	Mixograph			
		Absorption	As-Is	Corrected	Tolerance
Line	(%)	(%)	(min)	(min)	
Kharkof	13.2	64.0	4.38	4.38	4
Scout 66	12.8	64.3	2.50	2.50	1
TAM107	12.0	63.0	2.75	2.75	2
Jagalene	12.1	64.1	3.38	3.38	2
KS11HW15-4-1	12.6	62.9	3.13	3.13	1
KS11HW18-1-6	11.9	62.8	3.13	3.10	2
KS11HW39-5-4	11.7	62.4	3.00	2.89	1
KS11HW53-1-6	12.2	61.9	4.75	4.75	3
CO11D1767	11.1	61.4	3.00	2.67	2
CO11D446	11.2	61.6	6.50	5.86	4
CO11D1353	10.0	60.6	5.38	4.07	4
CO11D1397	10.2	59.9	5.63	4.39	4
CO11D1539	11.0	61.2	3.75	3.28	4
CO11D1316W	10.1	60.7	4.75	3.67	4
LCH13-092	10.9	60.0	4.38	3.79	2
LCH13DH-20-87	12.2	62.4	2.38	2.38	1
LCI13DH-14-53W	10.9	61.2	3.38	2.95	0
LCH11-1117	12.0	63.0	3.25	3.25	2
LCH12-012	11.6	60.8	2.50	2.38	2
KS060084-M-4	11.5	62.5	2.00	1.87	0
KS060106-M-11	12.1	63.6	2.75	2.75	1
KS060143-K-2	12.2	59.7	2.88	2.88	0
KS060371-M-3	11.9	62.8	2.88	2.85	0
KS060476-M-6	12.1	62.0	4.00	4.00	2
TX10A001099	12.3	63.9	3.50	3.50	3
TX09V7315	12.1	63.6	3.88	3.88	4
TX09V7352	11.9	64.7	3.00	2.95	2
TX09V7446	12.2	64.3	3.88	3.88	4
TX11A001295	12.0	66.3	3.88	3.86	4
TX12M4004	12.1	63.6	3.75	3.75	3
TX12M4063	13.8	63.4	3.00	3.00	0
TX12M4065	13.0	63.1	3.63	3.63	2
OK09125	11.8	64.1	3.50	3.43	2
OK1059060	12.3	63.9	3.63	3.63	2
OK10126	12.1	65.6	4.00	4.00	3
NI13706	12.6	63.9	2.38	2.38	0
NE12429	11.4	63.5	2.88	2.68	2
NE12571	11.9	62.8	2.88	2.86	0
NE10507	11.1	62.4	3.88	3.45	3
LCH13DH-3-31	11.7	60.9	2.88	2.77	0
HV9W10-0091	12.2	63.4	2.75	2.75	0
HV9W10-1002	12.3	64.9	4.00	4.00	4

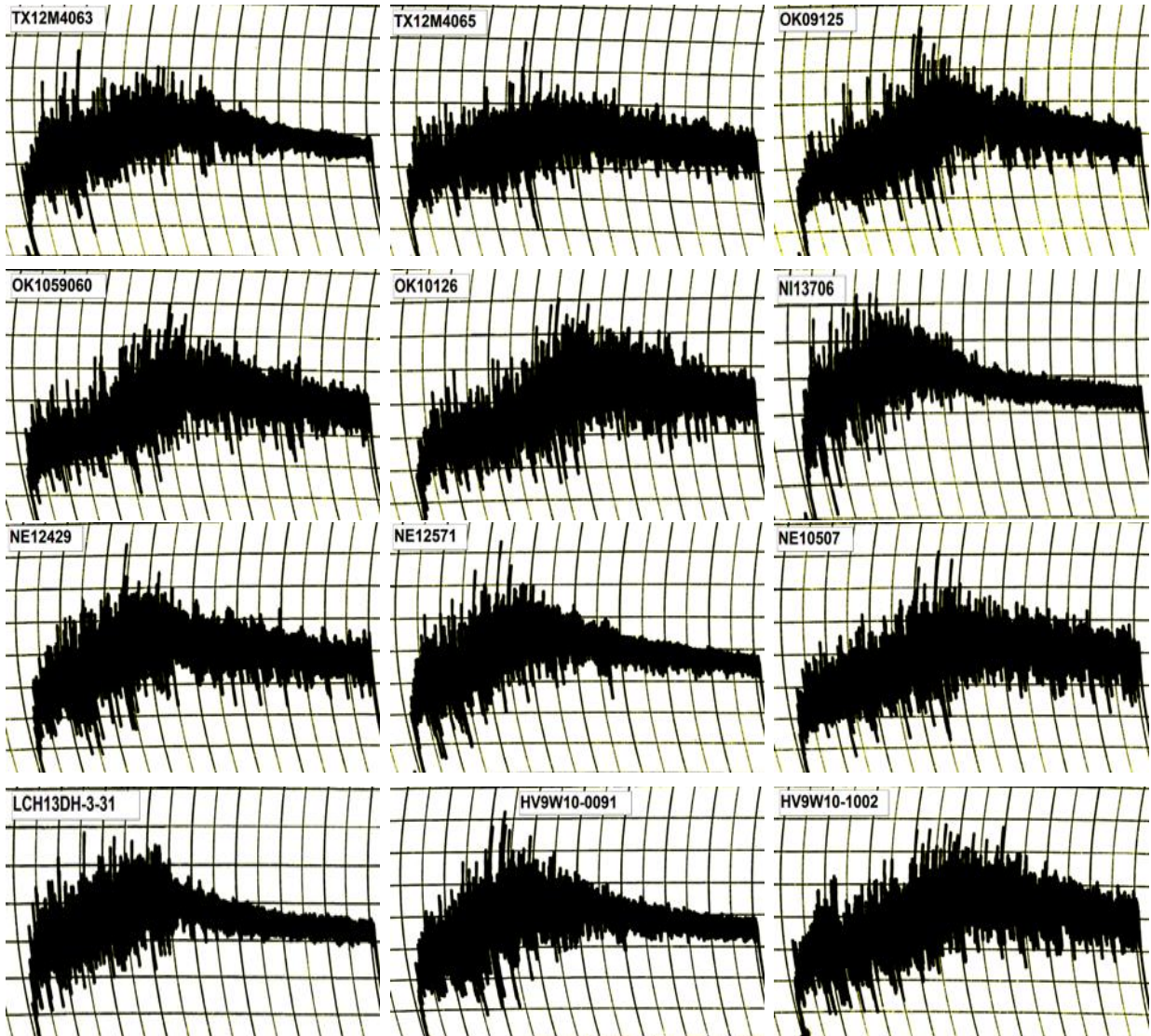
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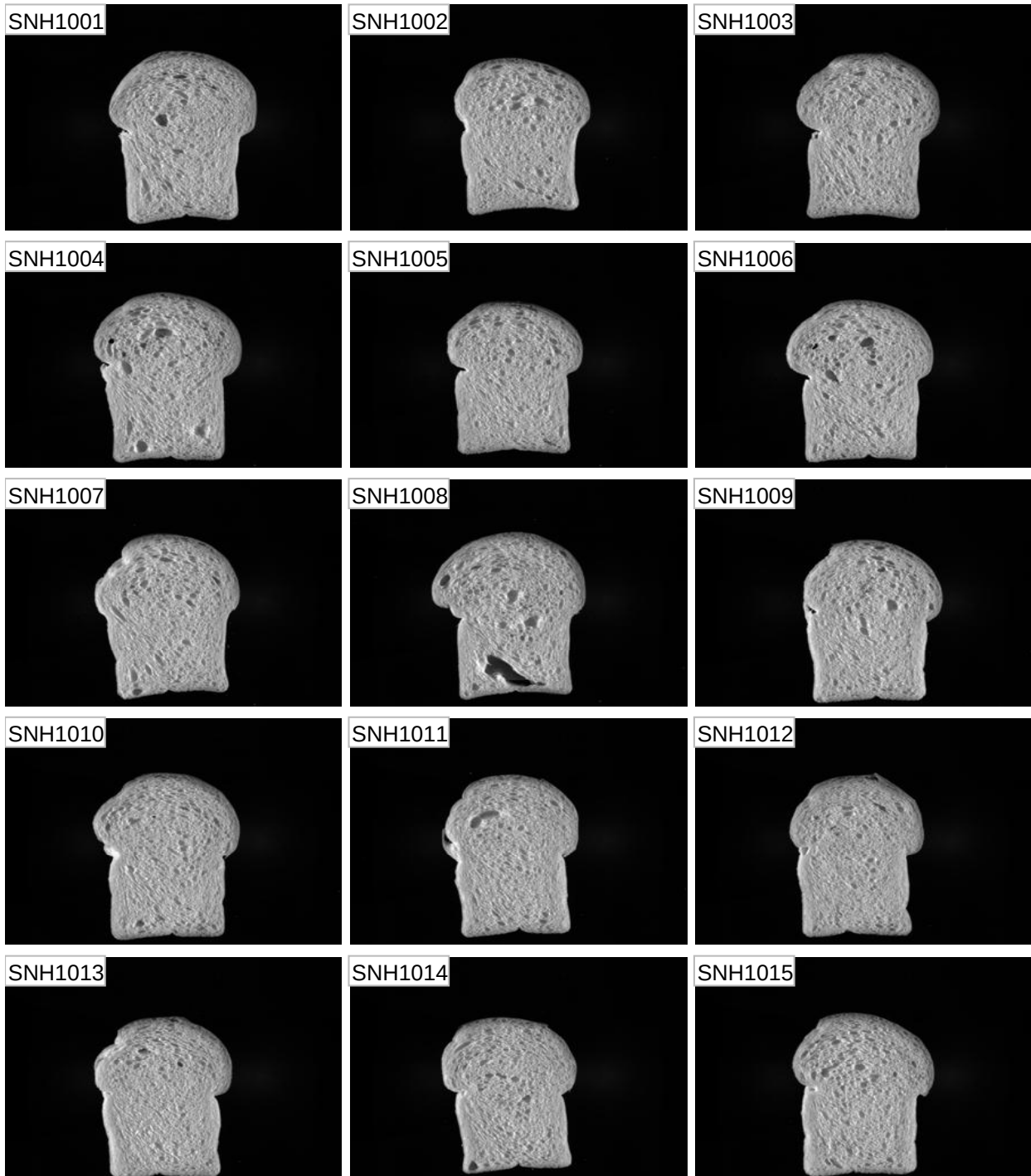
Line	RVA						
	Stirring Number	Peak Viscosity	Trough Viscosity	Breakdown	Final Viscosity	Set back	Peak Time
	(RVU)	(RVU)	(RVU)	(RVU)	(RVU)	(RVU)	(min)
Kharkof	155.17	254.17	184.00	70.17	307.75	123.75	6.40
Scout 66	114.58	232.50	151.58	80.92	273.17	121.58	6.20
TAM107	113.42	270.25	187.33	82.92	310.75	123.42	6.47
Jagalene	95.42	230.75	150.75	80.00	274.67	123.92	6.20
KS11HW15-4-1	105.92	251.42	166.42	85.00	286.75	120.33	6.33
KS11HW18-1-6	139.83	271.50	176.83	94.67	304.67	127.83	6.33
KS11HW39-5-4	120.50	254.17	158.92	95.25	278.83	119.92	6.27
KS11HW53-1-6	135.25	282.08	183.50	98.58	286.17	102.67	6.47
CO11D1767	106.08	231.75	143.33	88.42	269.75	126.42	6.07
CO11D446	117.08	259.08	158.42	100.67	290.33	131.92	6.07
CO11D1353	91.50	256.92	160.25	96.67	297.08	136.83	6.13
CO11D1397	117.25	256.58	160.00	96.58	298.33	138.33	6.07
CO11D1539	142.25	272.50	186.67	85.83	323.33	136.67	6.33
CO11D1316W	126.67	275.67	166.08	109.58	277.58	111.50	6.27
LCH13-092	113.50	246.08	157.33	88.75	285.58	128.25	6.13
LCH13DH-20-87	137.67	225.75	156.00	69.75	276.67	120.67	6.33
LCI13DH-14-53W	101.50	262.08	151.92	110.17	260.83	108.92	6.20
LCH11-1117	116.17	251.25	154.75	96.50	273.50	118.75	6.20
LCH12-012	118.42	232.67	147.58	85.08	260.83	113.25	6.27
KS060084-M-4	98.92	233.50	155.75	77.75	275.67	119.92	6.20
KS060106-M-11	154.25	258.25	188.58	69.67	304.42	115.83	6.60
KS060143-K-2	128.58	216.83	152.00	64.83	269.75	117.75	6.27
KS060371-M-3	107.00	209.00	120.67	88.33	230.42	109.75	6.00
KS060476-M-6	126.83	198.42	131.75	66.67	251.75	120.00	6.13
TX10A001099	97.92	255.58	144.92	110.67	245.08	100.17	6.20
TX09V7315	110.08	260.25	135.08	125.17	225.08	90.00	6.13
TX09V7352	124.33	286.58	163.50	123.08	260.25	96.75	6.33
TX09V7446	128.67	304.92	191.67	113.25	303.42	111.75	6.40
TX11A001295	123.75	268.58	183.17	85.42	305.42	122.25	6.40
TX12M4004	120.33	247.33	159.17	88.17	274.00	114.83	6.33
TX12M4063	138.75	223.42	153.67	69.75	276.17	122.50	6.33
TX12M4065	142.25	223.25	144.42	78.83	263.17	118.75	6.27
OK09125	128.33	250.50	163.75	86.75	294.75	131.00	6.20
OK1059060	112.50	246.92	163.67	83.25	290.83	127.17	6.33
OK10126	100.00	264.08	149.75	114.33	257.67	107.92	6.20
NI13706	137.67	230.75	161.67	69.08	280.42	118.75	6.40
NE12429	125.67	234.50	162.08	72.42	290.25	128.17	6.33
NE12571	114.92	244.17	164.00	80.17	298.50	134.50	6.20
NE10507	112.17	288.83	172.83	116.00	270.50	97.67	6.27
LCH13DH-3-31	136.17	235.50	162.83	72.67	288.58	125.75	6.33
HV9W10-0091	134.33	190.92	141.00	49.92	260.58	119.58	6.20
HV9W10-1002	111.67	247.17	162.08	85.08	290.83	128.75	6.27

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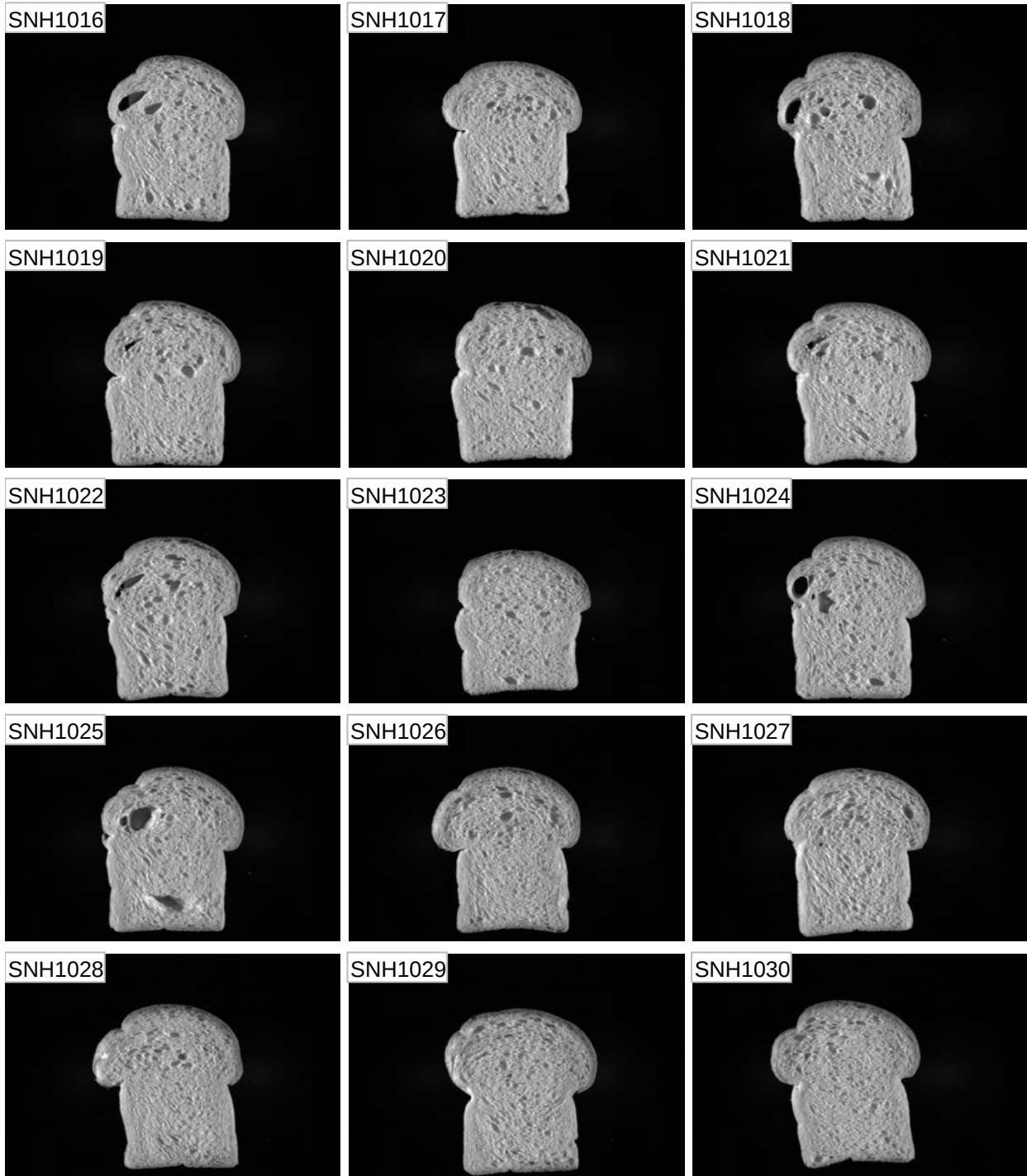
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Line	Flour		Mix Time		Dough					
	Protein	Water Abs.	As-is	Corrected	Weight	Proof Height	Crumb Grain	As-Rec'd.	Specific Volume	Loaf Volume Potential
	(%)	(%)	(min)	(min)	(g)	(cm)		(cc)	(cc/g)	(cc/%)
Kharkof	13.2	63.7	5.25	5.25	172.9	8.0	4.5	985	6.6	67
Scout 66	12.8	61.9	2.50	2.50	171.1	7.4	2.5	875	5.9	59
TAM107	12.0	60.8	3.75	3.75	170.2	7.5	3.0	960	6.6	73
Jagalene	12.1	61.7	3.75	3.75	170.9	7.6	4.0	980	6.7	75
KS11HW15-4-1	12.6	61.9	3.13	3.13	170.1	7.1	3.5	875	5.9	60
KS11HW18-1-6	11.9	62.9	3.50	3.47	173.5	7.3	4.0	915	6.0	69
KS11HW39-5-4	11.7	60.9	3.25	3.14	170.5	7.3	4.0	915	6.2	71
KS11HW53-1-6	12.2	61.9	5.50	5.50	171.6	7.5	3.5	975	6.6	73
CO11D1767	11.1	61.0	3.25	2.89	169.7	7.3	4.0	905	6.0	74
CO11D446	11.2	61.6	7.38	6.65	170.4	7.4	4.5	965	6.6	81
CO11D1353	10.0	60.8	5.75	4.35	169.8	7.5	5.0	920	6.2	87
CO11D1397	10.2	61.3	7.00	5.45	170.1	7.5	4.5	920	6.3	85
CO11D1539	11.0	62.3	4.75	4.16	172.8	7.7	5.0	935	6.3	79
CO11D1316W	10.1	60.2	5.00	3.86	169.3	7.8	2.5	885	6.0	81
LCH13-092	10.9	61.4	4.50	3.89	171.5	7.4	3.0	935	6.3	80
LCH13DH-20-87	12.2	60.5	2.63	2.63	170.6	7.4	4.0	975	6.5	73
LCI13DH-14-53W	10.9	60.7	3.50	3.05	170.2	7.4	2.5	900	6.0	75
LCH11-1117	12.0	62.6	3.88	3.88	172.7	7.6	3.5	1010	6.7	79
LCH12-012	11.6	60.9	2.50	2.38	171.3	7.1	2.0	925	6.2	72
KS060084-M-4	11.5	61.8	2.25	2.11	172.4	7.0	1.5	905	5.9	71
KS060106-M-11	12.1	61.9	2.50	2.50	171.0	7.6	2.0	935	6.2	70
KS060143-K-2	12.2	59.5	3.13	3.13	168.9	7.3	2.0	925	6.2	68
KS060371-M-3	11.9	61.1	2.75	2.72	169.8	7.3	1.5	795	5.4	56
KS060476-M-6	12.1	61.3	4.00	4.00	170.1	7.4	3.5	930	6.2	69
TX10A001099	12.3	63.2	3.75	3.75	173.2	7.2	4.0	940	6.3	69
TX09V7315	12.1	62.6	4.00	4.00	172.2	7.6	3.0	1040	7.0	81
TX09V7352	11.9	62.7	3.25	3.19	172.0	7.7	4.0	980	6.6	77
TX09V7446	12.2	63.1	4.88	4.88	173.2	7.5	4.0	1020	6.8	78
TX11A001295	12.0	64.2	4.25	4.23	174.8	7.6	3.0	1000	6.7	78
TX12M4004	12.1	63.5	3.75	3.75	173.2	7.8	2.5	1005	6.8	78
TX12M4063	13.8	59.4	3.25	3.25	168.7	7.5	2.5	935	6.3	59
TX12M4065	13.0	60.6	3.50	3.50	169.9	7.3	2.5	920	6.3	62
OK09125	11.8	62.5	3.75	3.68	172.1	7.8	2.5	990	6.7	78
OK1059060	12.3	62.4	3.75	3.75	171.9	7.7	2.5	940	6.3	69
OK10126	12.1	63.6	4.38	4.38	173.7	7.8	2.0	1015	6.7	78
NI13706	12.6	59.6	2.38	2.38	167.7	7.4	1.0	870	5.9	60
NE12429	11.4	61.1	3.25	3.02	170.9	7.5	3.0	915	6.1	73
NE12571	11.9	60.6	2.75	2.73	169.7	7.5	1.0	895	6.0	67
NE10507	11.1	61.5	4.00	3.56	170.5	7.7	4.0	1025	6.9	89
LCH13DH-3-31	11.7	59.0	2.50	2.40	169.4	7.2	1.5	850	5.7	63
HV9W10-0091	12.2	59.7	3.00	3.00	169.3	7.3	3.0	900	6.1	65
HV9W10-1002	12.3	63.1	4.25	4.25	173.4	7.6	2.0	1035	6.9	79

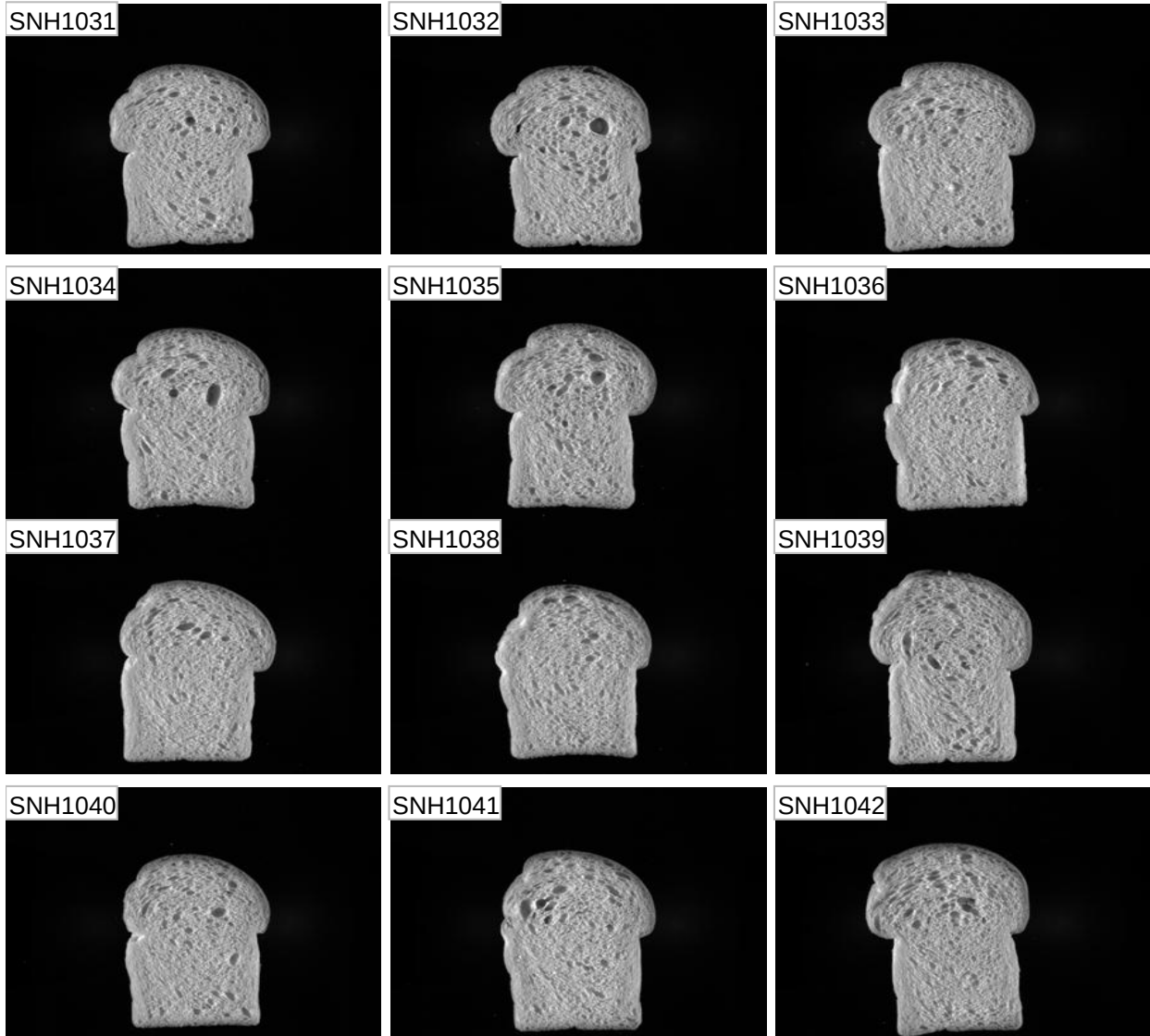
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2015 SRPN Intraregional Production Zone Northern High Plains



2015 SRPN Intraregional Production Zone Northern High Plains





Hard Winter Wheat Quality Report 2015 SRPN-SCP

1 - Test weight	10	11 - Flour protein	8
2 - SKCS kernel weight	8	12 - Bake absorption	15
3 - Kernel weight SD	8	13 - Mixograph absorption	5
4 - SKCS kernel diameter	8	14 - Bake mix time	10
5 - Kernel diameter SD	8	15 - Mixograph mix time	5
6 - SKCS hardness	10	16 - Mixograph tolerance	5
7 - Hardness SD	8	17 - Dough weight	
8 - Flour yield	30	18 - Proof height	2
9 - Flour ash	10	19 - Loaf volume	20
10 - Milling score		20 - Volume regression	5
		21 - Crumb grain	25

ID	Milling Score	Rating	%	Baking Score	Rating	%	1RS	Trait Deficiencies
Kharkof	36.7	Very Poor	69.9	44.3	Average	63.9		16,
Scout 66	40.4	Poor	77.0	33.2	Very Poor	47.9		16,20,
TAM 107	30.3	Very Poor	57.7	46.7	Good	67.4	1AL	1,8,10,
Jagalene	45.6	Average	87.0	45.9	Average	66.2		
KS11HW15-4-1	51.4	Very Good	98.0	47.7	Good	68.8		16,
KS11HW18-1-6	49.3	Very Good	94.0	48.4	Good	69.8		18,
Joe	50.1	Very Good	95.5	37.7	Poor	54.3		16,
KS11HW53-1-6	46.9	Good	89.5	44.5	Average	64.2		14,15,
CO11D1767	40.8	Poor	77.8	49.5	Good	71.3		
CO11D446	42.5	Average	81.0	44.7	Average	64.5		14,15,
CO11D1353	36.1	Very Poor	68.8	33.1	Very Poor	47.8		3,14,15,
CO11D1397	29.0	Very Poor	55.3	40.2	Poor	57.9	1AL	1,4,8,11,14,15,
CO11D1539	39.5	Poor	75.3	50.9	Good	73.5		
CO11D1316W	35.7	Very Poor	68.0	39.0	Poor	56.2		1,11,
LCH13-092	41.4	Poor	79.0	38.2	Poor	55.1		
LCS Chrome	46.1	Good	88.0	33.6	Very Poor	48.5		16,
LCI13DH-14-53W	42.3	Average	80.6	35.3	Very Poor	50.9	1AL	16,
LCH11-1117	50.1	Very Good	95.6	44.2	Average	63.7		
LCH12-012	40.4	Poor	77.1	40.8	Poor	58.9	1AL	16,
KS060084-M-4	43.3	Average	82.5	27.0	Very Poor	39.0		14,16,19,20,21,
KS060106-M-11	51.9	Very Good	99.0	42.9	Average	61.8		11,18,
KS060143-K-2	50.8	Very Good	96.9	29.9	Very Poor	43.1	1BL	12,13,16,17,
KS060371-M-3	46.3	Good	88.2	36.6	Very Poor	52.7		16,
KS060476-M-6	47.8	Good	91.1	58.4	Very Good	84.3	1BL	
TX10A001099	43.3	Average	82.5	57.3	Very Good	82.7	1AL	
TX09V7315	38.3	Poor	73.0	49.5	Good	71.4	1AL	2,
TX09V7352	35.0	Very Poor	66.8	69.3	Very Good	100.0	1AL	8,
TX09V7446	37.6	Very Poor	71.7	44.2	Average	63.8	1AL	9,10,15,
TX11A001295	36.9	Very Poor	70.4	66.5	Very Good	96.0	1AL	5,8,10,15,
TX12M4004	45.9	Average	87.5	56.4	Good	81.3	1BL	5,

Quality scores and ratings are calculated directly from the relative trait weightings (printed at the top of the page) and are applicable only to the nursery selected.



Hard Winter Wheat Quality Report 2015 SRPN-SCP

1 - Test weight	10	11 - Flour protein	8
2 - SKCS kernel weight	8	12 - Bake absorption	15
3 - Kernel weight SD	8	13 - Mixograph absorption	5
4 - SKCS kernel diameter	8	14 - Bake mix time	10
5 - Kernel diameter SD	8	15 - Mixograph mix time	5
6 - SKCS hardness	10	16 - Mixograph tolerance	5
7 - Hardness SD	8	17 - Dough weight	
8 - Flour yield	30	18 - Proof height	2
9 - Flour ash	10	19 - Loaf volume	20
10 - Milling score		20 - Volume regression	5
		21 - Crumb grain	25

ID	Milling Score	Rating	%	Baking Score	Rating	%	1RS	Trait Deficiencies
TX12M4063	51.7	Very Good	98.7	39.8	Poor	57.3	1BL	20,
TX12M4065	52.4	Very Good	100.0	42.8	Average	61.7	1BL	
Bentley	49.0	Good	93.5	58.6	Very Good	84.5		
OK1059060	46.0	Average	87.8	47.5	Good	68.5		
OK10126	47.7	Good	91.0	59.9	Very Good	86.4		
NI13706	39.2	Poor	74.8	32.8	Very Poor	47.3	1BL	16,20,
NE12429	38.2	Poor	72.8	44.2	Average	63.8		9,10,
NE12571	46.4	Good	88.5	39.5	Poor	57.0		21,
NE10507	36.2	Very Poor	69.1	60.3	Very Good	86.9		1,
LCH13DH-3-31	42.2	Average	80.4	32.8	Very Poor	47.2	1BL	12,13,16,17,19,21,
WB4462	47.8	Good	91.1	41.1	Poor	59.4	1AL	3,5,20,21,
WB4303	41.8	Average	79.7	61.4	Very Good	88.6		

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LINE	Wt/Bu (lb)	SKCS Average Kernel						Hardness			
		Moisture		Weight		Diameter		SKCS	Class	Distribution	
		(%)	(sd)	(mg)	(sd)	(mm)	(sd)				
								(sd)			
Kharkof	57.3	12.9	0.7	26.4	8.0	2.46	0.32	43 20	MIXED	32--28--20--20--03	
Scout 66	56.1	12.8	0.7	27.6	9.3	2.52	0.35	60 19	HARD	08--14--28--50--02	
TAM107	53.8	12.6	0.6	25.0	8.4	2.44	0.36	60 17	HARD	05--18--26--51--01	
Jagalene	58.7	12.5	0.5	28.7	8.9	2.61	0.35	69 18	HARD	04--06--18--72--01	
KS11HW15-4-1	61.2	12.6	0.6	32.5	9.1	2.71	0.35	65 16	HARD	02--11--27--60--01	
KS11HW18-1-6	59.2	12.7	0.7	28.2	8.2	2.52	0.30	65 17	HARD	02--11--26--61--01	
KS11HW39-5-4	59.4	12.6	0.7	33.7	8.5	2.71	0.33	53 18	MIXED	12--22--33--33--03	
KS11HW53-1-6	58.4	12.7	0.7	30.4	8.7	2.66	0.34	62 16	HARD	03--12--29--56--01	
CO11D1767	54.9	12.5	0.6	26.5	8.2	2.50	0.32	65 18	HARD	03--13--20--64--01	
CO11D446	56.6	13.0	0.5	28.7	9.8	2.48	0.34	59 17	HARD	05--18--25--52--01	
CO11D1353	56.3	12.8	0.6	27.2	10.2	2.44	0.36	57 17	HARD	08--17--27--48--02	
CO11D1397	52.9	12.4	0.6	25.1	8.7	2.40	0.32	49 18	MIXED	19--23--30--28--03	
CO11D1539	56.1	12.6	0.5	31.0	10.0	2.57	0.36	54 19	MIXED	13--23--24--40--03	
CO11D1316W	54.7	12.5	0.6	24.6	8.6	2.41	0.34	61 21	MIXED	11--11--24--54--03	
LCH13-092	57.3	12.5	0.6	26.9	8.4	2.54	0.34	56 20	MIXED	13--21--24--42--03	
LCH13DH-20-87	58.3	12.4	0.5	25.2	6.8	2.45	0.29	73 18	HARD	01--06--17--76--01	
LCI13DH-14-53W	56.7	12.8	0.6	26.8	9.0	2.52	0.37	66 19	HARD	04--13--20--63--01	
LCH11-1117	58.7	12.9	0.6	32.3	9.2	2.66	0.33	56 17	HARD	07--19--32--42--02	
LCH12-012	56.3	12.7	0.6	26.6	8.9	2.47	0.33	73 20	HARD	03--07--13--77--01	
KS060084-M-4	57.7	12.4	0.6	26.0	7.5	2.45	0.30	67 18	HARD	05--06--22--67--01	
KS060106-M-11	60.5	12.7	0.5	27.7	8.1	2.55	0.34	62 18	HARD	04--19--25--52--01	
KS060143-K-2	58.9	13.0	0.6	29.3	8.4	2.64	0.35	61 19	HARD	06--17--26--51--02	
KS060371-M-3	56.5	12.9	0.6	25.3	7.4	2.43	0.33	63 18	HARD	04--15--25--56--01	
KS060476-M-6	59.2	12.5	0.6	26.0	7.5	2.50	0.32	70 18	HARD	01--08--17--74--01	
TX10A001099	56.5	13.1	0.6	26.3	8.8	2.47	0.36	67 18	HARD	04--06--23--67--01	
TX09V7315	57.0	12.9	0.6	24.0	8.5	2.44	0.33	73 19	HARD	02--05--16--77--01	
TX09V7352	56.0	12.9	0.8	27.2	9.7	2.54	0.36	64 19	HARD	04--13--20--63--01	
TX09V7446	57.7	13.0	0.7	27.9	9.0	2.61	0.37	67 17	HARD	02--09--19--70--01	
TX11A001295	59.7	13.5	0.5	29.0	10.0	2.60	0.38	82 17	HARD	01--02--05--92--01	
TX12M4004	57.1	13.5	0.5	31.1	9.7	2.65	0.39	59 17	HARD	05--19--30--46--01	
TX12M4063	60.0	13.3	0.6	34.0	9.9	2.81	0.38	63 17	HARD	03--13--27--57--01	
TX12M4065	59.4	13.4	0.5	31.8	8.2	2.70	0.32	66 18	HARD	04--09--19--68--01	
OK09125	57.6	13.2	0.6	30.6	8.9	2.67	0.37	58 18	HARD	08--21--23--48--02	
OK1059060	58.5	13.4	0.6	28.8	9.0	2.57	0.33	66 18	HARD	03--10--23--64--01	
OK10126	58.8	12.9	0.6	29.8	8.2	2.65	0.35	73 17	HARD	01--05--17--77--01	
NI13706	57.8	12.9	0.6	28.6	9.0	2.60	0.34	59 17	HARD	05--19--29--47--01	
NE12429	56.5	13.1	0.6	26.0	8.8	2.53	0.34	67 20	HARD	06--12--18--64--02	
NE12571	56.3	13.3	0.5	28.3	9.6	2.52	0.36	55 17	MIXED	11--20--29--40--03	
NE10507	54.3	13.2	0.6	25.5	8.9	2.45	0.34	58 20	HARD	10--15--28--47--02	
LCH13DH-3-31	57.9	13.2	0.5	27.3	9.2	2.51	0.36	59 19	MIXED	11--16--24--49--03	
HV9W10-0091	58.6	13.2	0.7	32.8	10.7	2.72	0.41	64 18	HARD	03--13--25--59--01	
HV9W10-1002	56.5	13.1	0.5	28.1	9.2	2.50	0.35	65 18	HARD	03--12--24--61--01	

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LINE	Wheat		Flour			Noodle Color					
	Protein	Milling Yield	Ash	Protein	PPO	L @ 0	a @ 0	b @ 0	Delta L 24 hrs	Delta a 24 hrs	Delta b 24 hrs
	(%)	(%)	(%)	(%)							
Kharkof	13.8	64.4	0.46	12.5	0.554	78.56	-1.66	24.21	-10.30	1.47	2.82
Scout 66	13.0	65.9	0.46	11.9	0.535	78.25	-1.10	21.56	-11.75	1.64	5.03
TAM107	12.6	62.4	0.56	11.1	0.504	76.54	-0.88	23.49	-11.59	1.78	4.29
Jagalene	12.4	66.1	0.49	11.3	0.421	77.69	-1.24	24.51	-9.72	1.34	2.63
KS11HW15-4-1	13.0	66.0	0.44	11.7	0.511	79.49	-1.70	23.38	-9.95	1.27	3.92
KS11HW18-1-6	11.7	65.6	0.40	10.8	0.481	79.70	-1.55	23.57	-9.36	1.18	4.71
KS11HW39-5-4	12.0	66.3	0.39	10.8	0.494	79.27	-1.44	22.57	-9.28	1.41	3.47
KS11HW53-1-6	11.9	65.4	0.45	10.6	0.231	79.59	-1.59	24.66	-8.15	1.07	5.37
CO11D1767	12.0	65.2	0.46	11.0	0.619	79.25	-1.54	24.78	-10.57	1.45	5.01
CO11D446	12.5	66.0	0.45	11.3	0.641	79.09	-0.98	21.69	-12.06	1.53	5.62
CO11D1353	11.6	63.5	0.43	10.5	0.576	80.05	-1.64	22.49	-10.94	1.42	5.73
CO11D1397	11.6	60.8	0.45	10.3	0.582	79.04	-1.26	21.47	-12.28	1.76	6.13
CO11D1539	11.6	65.0	0.44	10.4	0.579	79.31	-1.51	22.24	-11.69	1.65	5.65
CO11D1316W	11.6	65.0	0.48	10.0	0.617	79.14	-1.73	24.10	-11.75	2.05	5.64
LCH13-092	11.7	65.6	0.44	10.5	0.537	78.32	-1.29	24.25	-11.13	1.85	3.75
LCH13DH-20-87	13.4	65.6	0.49	11.8	0.540	77.81	-1.55	24.63	-10.73	1.81	1.38
LCI13DH-14-53W	11.6	67.4	0.54	10.8	0.541	78.38	-1.67	23.68	-11.21	2.02	2.56
LCH11-1117	11.5	67.2	0.41	10.7	0.527	78.54	-1.45	23.45	-9.86	1.72	2.91
LCH12-012	12.6	65.3	0.48	11.2	0.539	77.91	-1.49	25.71	-11.25	1.81	3.01
KS060084-M-4	12.5	64.3	0.45	11.5	0.583	78.55	-1.46	23.58	-10.09	1.55	3.77
KS060106-M-11	11.2	67.9	0.39	10.1	0.493	80.73	-1.81	21.90	-10.32	1.83	5.27
KS060143-K-2	11.9	68.6	0.44	11.1	0.554	78.20	-1.44	25.18	-10.69	1.56	2.16
KS060371-M-3	12.4	67.0	0.41	11.4	0.526	79.31	-1.60	23.62	-10.21	1.80	3.40
KS060476-M-6	13.1	66.1	0.47	11.8	0.513	78.84	-1.44	23.68	-10.70	1.78	3.03
TX10A001099	12.2	67.4	0.52	11.3	0.491	79.14	-1.38	22.66	-13.48	2.33	4.97
TX09V7315	13.1	63.9	0.50	12.0	0.490	77.35	-1.08	23.56	-12.82	2.35	4.82
TX09V7352	12.7	62.6	0.46	11.5	0.569	79.93	-1.08	19.78	-14.13	2.17	6.07
TX09V7446	13.3	63.7	0.64	11.7	0.633	78.83	-1.08	20.94	-14.51	2.17	5.76
TX11A001295	13.0	60.2	0.53	12.0	0.593	77.83	-1.27	23.29	-12.71	2.13	2.50
TX12M4004	12.5	67.0	0.43	11.3	0.641	77.37	-1.43	24.61	-10.79	1.84	1.40
TX12M4063	13.3	67.4	0.44	12.4	0.619	77.33	-1.13	25.28	-10.76	1.64	1.30
TX12M4065	13.3	67.2	0.42	11.8	0.580	77.86	-1.14	24.67	-10.20	1.61	1.77
OK09125	12.0	68.3	0.42	11.2	0.528	78.23	-1.46	24.40	-10.66	1.88	3.13
OK1059060	13.1	66.8	0.49	11.8	0.602	78.66	-1.57	25.03	-11.01	1.74	2.64
OK10126	12.7	65.4	0.47	11.6	0.453	78.09	-1.07	23.24	-10.95	1.76	3.02
NI13706	13.2	63.2	0.47	12.3	0.556	78.00	-1.11	23.53	-11.03	1.65	4.45
NE12429	12.4	66.5	0.73	11.2	0.460	74.95	-0.92	26.48	-9.59	1.88	2.34
NE12571	12.1	69.0	0.45	11.0	0.478	77.18	-1.06	24.67	-10.09	1.79	2.04
NE10507	12.3	65.6	0.48	11.1	0.531	77.11	-1.40	24.71	-10.46	1.94	2.52
LCH13DH-3-31	12.0	66.5	0.47	10.5	0.447	78.13	-1.74	25.39	-10.53	1.91	2.32
HV9W10-0091	12.6	67.4	0.44	11.4	0.507	78.38	-1.34	22.69	-9.01	1.52	2.13

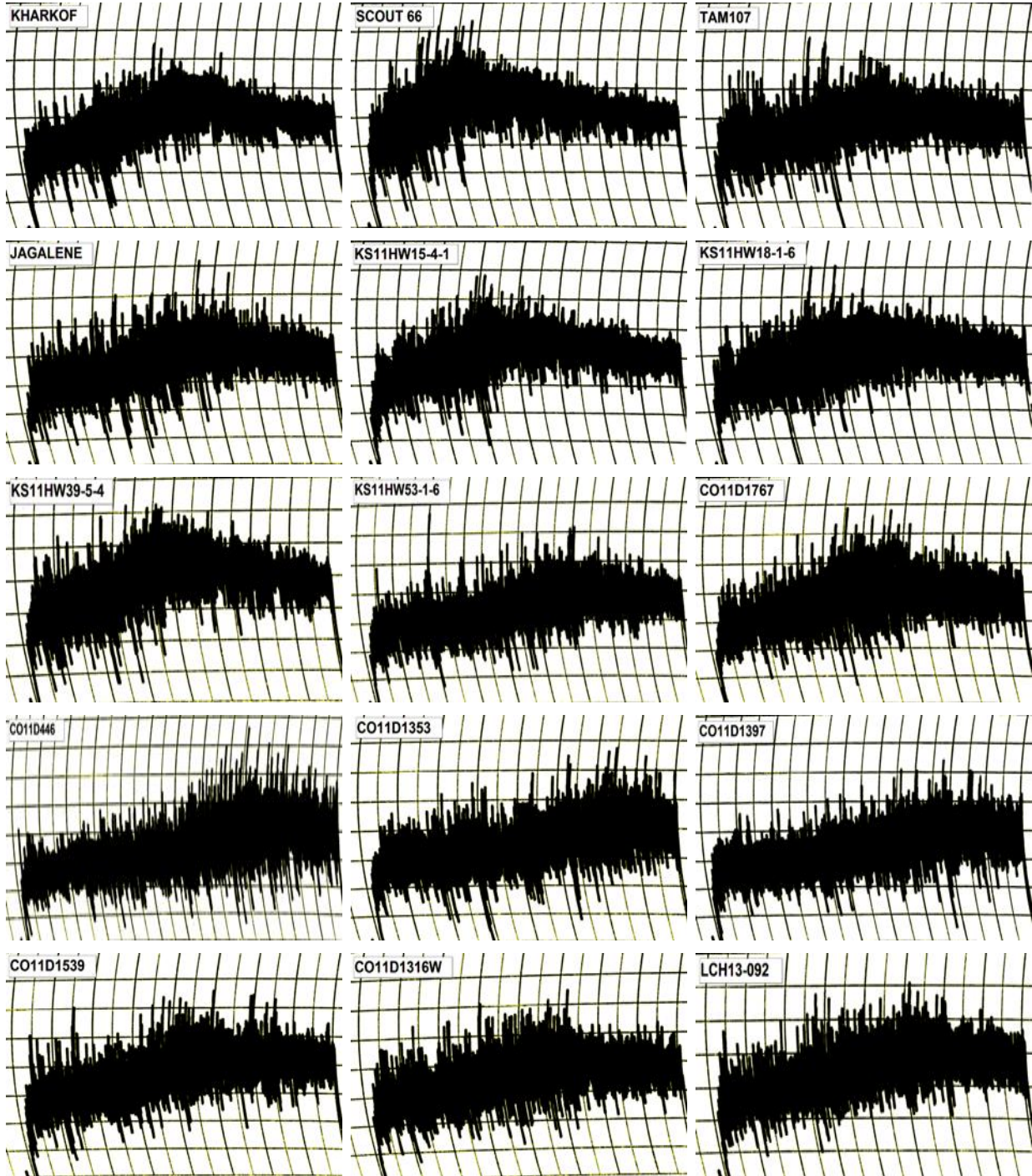
LINE	Wheat		Flour			Noodle Color					
	Protein	Milling Yield	Ash	Protein	PPO	L @ 0	a @ 0	b @ 0	Delta L 24 hrs	Delta a 24 hrs	Delta b 24 hrs
	(%)	(%)	(%)	(%)							
HV9W10-1002	12.3	64.5	0.39	11.4	0.567	76.71	-1.17	26.63	-10.04	1.61	1.21

2015 SRPN Intraregional Production Zone

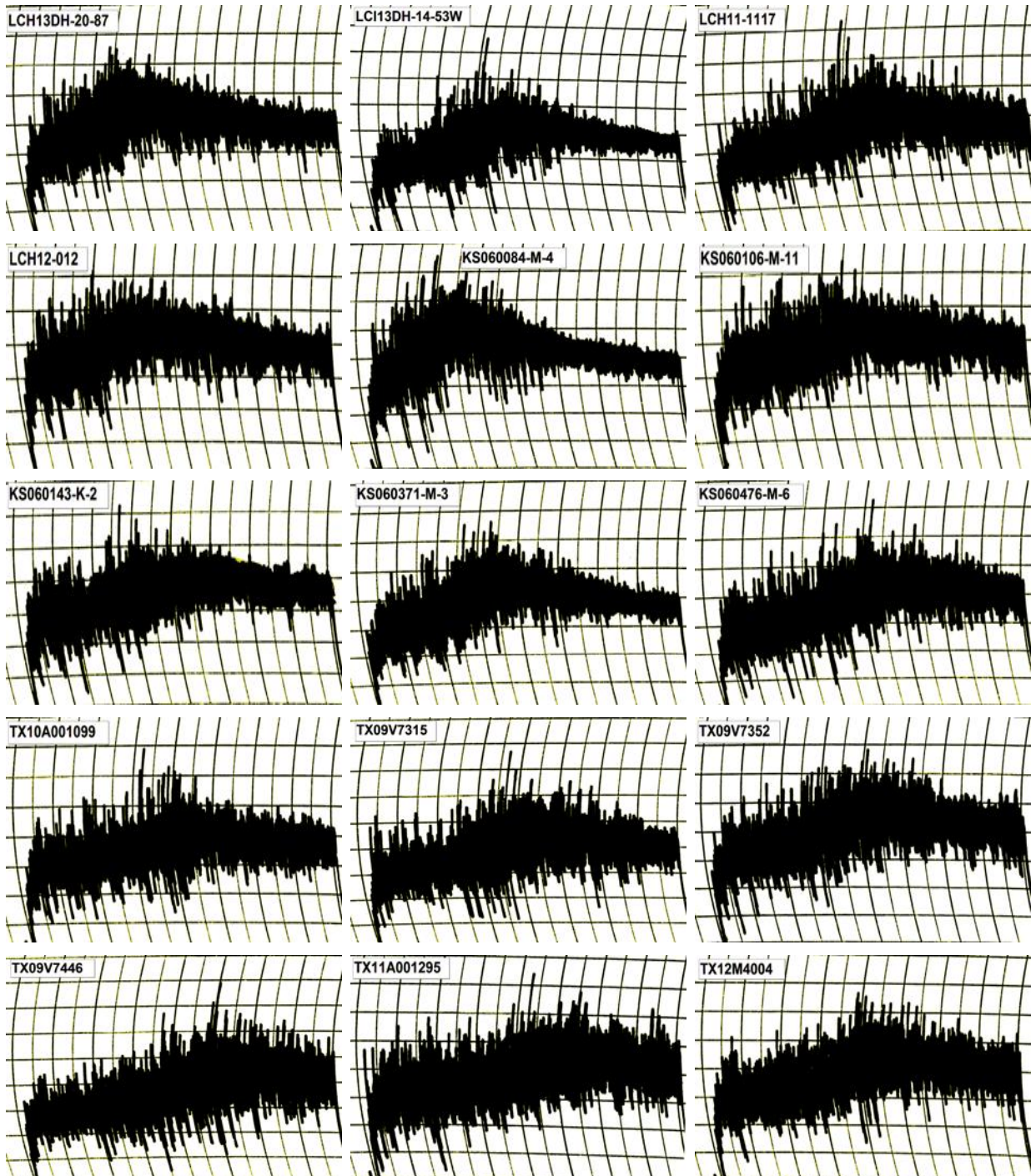
South Central Plains

	Flour Protein	Mixograph			
		Absorption	As-Is	Corrected	Tolerance
Line	(%)	(%)	(min)	(min)	
Kharkof	12.5	62.7	4.00	4.00	2
Scout 66	11.9	62.8	2.63	2.60	2
TAM107	11.1	62.5	4.25	3.81	4
Jagalene	11.3	61.8	4.50	4.11	4
KS11HW15-4-1	11.7	62.4	3.13	3.00	2
KS11HW18-1-6	10.8	60.8	3.88	3.30	4
KS11HW39-5-4	10.8	60.9	3.88	3.30	2
KS11HW53-1-6	10.6	60.7	5.63	4.71	3
CO11D1767	11.0	62.1	4.75	4.15	4
CO11D446	11.3	63.3	8.88	8.19	5
CO11D1353	10.5	61.9	6.50	5.30	5
CO11D1397	10.3	61.1	6.75	5.34	5
CO11D1539	10.4	61.3	4.50	3.64	4
CO11D1316W	10.0	61.6	4.75	3.59	4
LCH13-092	10.5	60.4	5.13	4.19	4
LCH13DH-20-87	11.8	63.7	2.63	2.57	2
LCI13DH-14-53W	10.8	62.0	3.63	3.10	1
LCH11-1117	10.7	61.8	4.00	3.37	4
LCH12-012	11.2	61.6	2.88	2.60	2
KS060084-M-4	11.5	63.2	2.50	2.36	1
KS060106-M-11	10.1	60.8	3.38	2.62	3
KS060143-K-2	11.1	59.4	3.38	3.01	2
KS060371-M-3	11.4	63.4	3.50	3.24	1
KS060476-M-6	11.8	63.6	4.25	4.13	4
TX10A001099	11.3	62.9	4.25	3.91	4
TX09V7315	12.0	64.0	4.38	4.38	3
TX09V7352	11.5	67.0	4.00	3.75	3
TX09V7446	11.7	65.0	5.50	5.32	5
TX11A001295	12.0	67.4	5.38	5.37	5
TX12M4004	11.3	63.7	4.75	4.33	4
TX12M4063	12.4	62.2	3.50	3.50	3
TX12M4065	11.8	62.6	3.75	3.67	3
OK09125	11.2	63.7	3.88	3.53	3
OK1059060	11.8	64.6	4.13	4.04	4
OK10126	11.6	64.8	4.88	4.65	3
NI13706	12.3	63.5	2.50	2.50	1
NE12429	11.2	63.0	2.88	2.60	3
NE12571	11.0	61.2	3.00	2.63	3
NE10507	11.1	62.4	5.00	4.46	5
LCH13DH-3-31	10.5	59.0	3.50	2.88	1
HV9W10-0091	11.4	62.9	3.63	3.35	3
HV9W10-1002	11.4	63.9	4.50	4.16	4

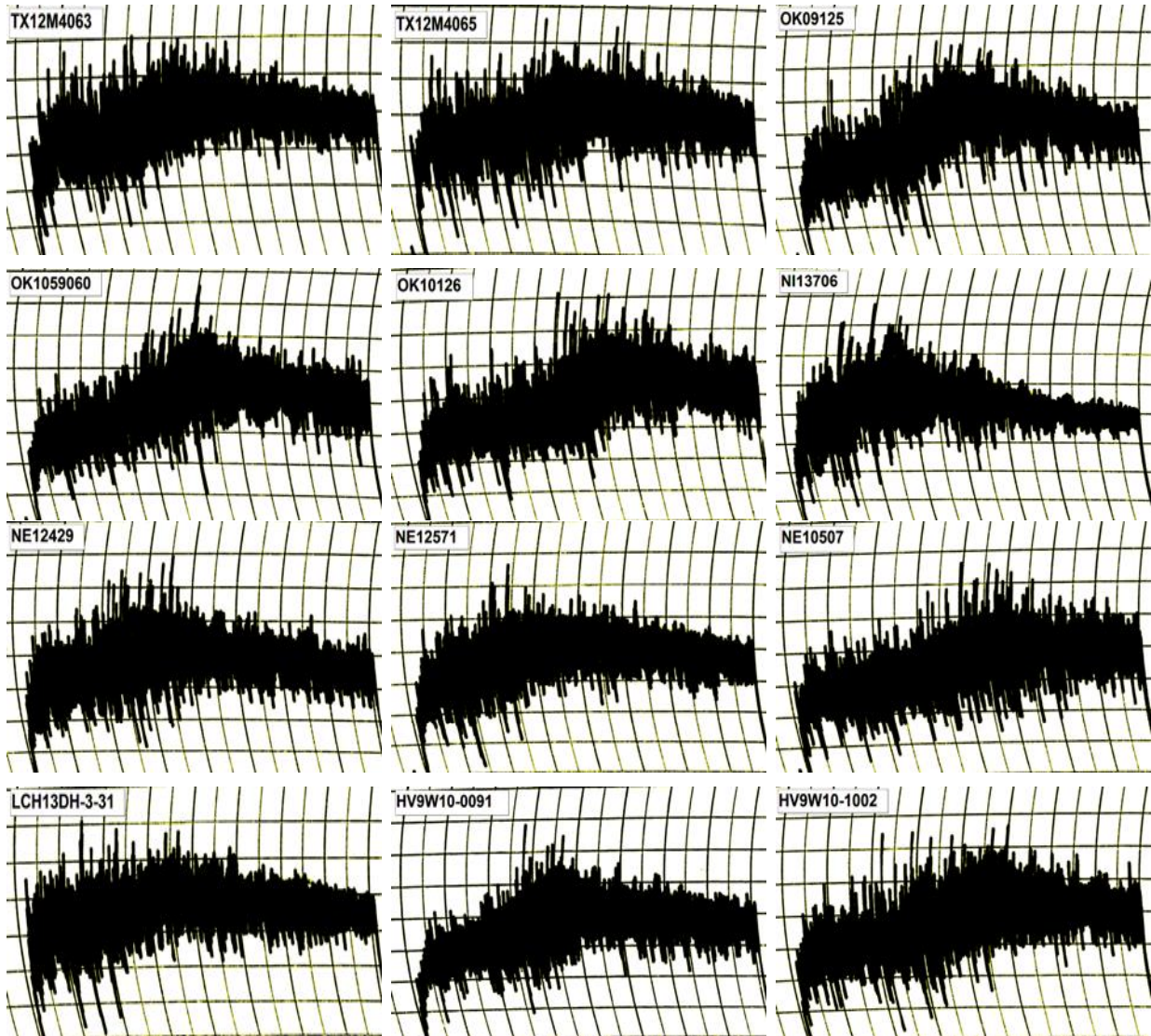
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Southern Central Plains

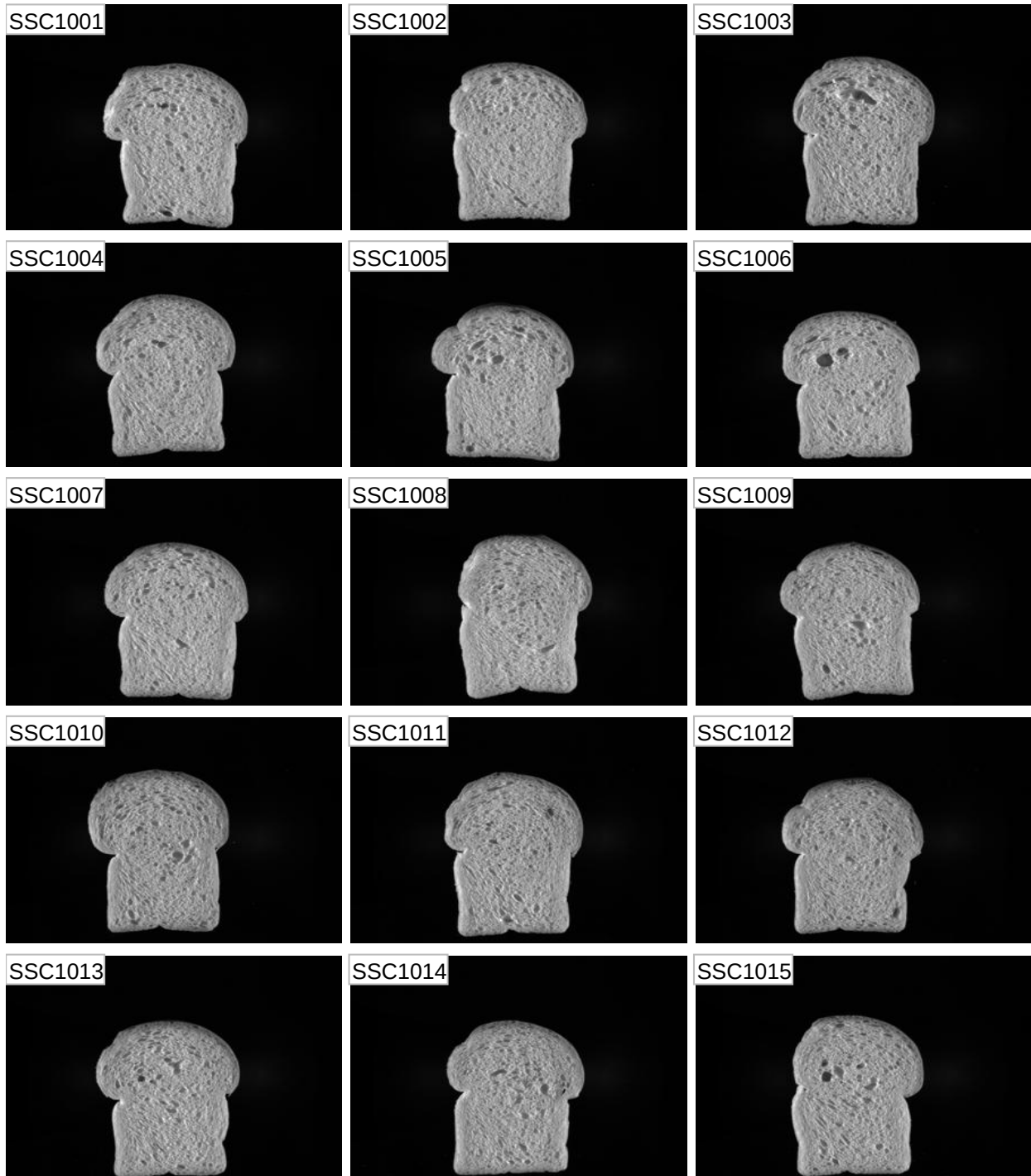
Line	RVA						
	Stirring Number (RVU)	Peak Viscosity (RVU)	Trough Viscosity (RVU)	Breakdown (RVU)	Final Viscosity (RVU)	Set back (RVU)	Peak Time (min)
Kharkof	145.00	222.75	152.67	70.08	280.08	127.42	6.27
Scout 66	90.42	163.42	88.17	75.25	182.08	93.92	5.87
TAM107	95.25	212.42	116.50	95.92	231.00	114.50	6.07
Jagalene	109.00	209.33	133.75	75.58	255.58	121.83	6.07
KS11HW15-4-1	125.33	243.92	160.58	83.33	290.58	130.00	6.20
KS11HW18-1-6	131.00	242.33	145.25	97.08	265.67	120.42	6.13
KS11HW39-5-4	123.58	230.50	135.08	95.42	250.92	115.83	6.07
KS11HW53-1-6	135.17	282.67	164.75	117.92	276.25	111.50	6.27
CO11D1767	110.50	242.08	155.33	86.75	291.00	135.67	6.13
CO11D446	114.33	215.75	122.50	93.25	239.92	117.42	5.87
CO11D1353	105.08	239.42	147.33	92.08	278.42	131.08	6.07
CO11D1397	101.58	208.25	119.67	88.58	241.50	121.83	5.93
CO11D1539	130.75	243.75	159.75	84.00	299.58	139.83	6.13
CO11D1316W	121.25	257.00	145.42	111.58	260.75	115.33	6.13
LCH13-092	102.08	226.50	141.17	85.33	267.08	125.92	6.07
LCH13DH-20-87	133.67	202.92	140.92	62.00	266.33	125.42	6.20
LCI13DH-14-53W	108.00	237.33	138.25	99.08	248.83	110.58	6.07
LCH11-1117	112.25	232.42	140.25	92.17	258.83	118.58	6.07
LCH12-012	112.33	237.50	162.50	75.00	293.08	130.58	6.27
KS060084-M-4	120.83	212.33	139.33	73.00	265.25	125.92	6.07
KS060106-M-11	145.50	240.50	166.75	73.75	284.33	117.58	6.33
KS060143-K-2	121.75	205.83	142.83	63.00	262.50	119.67	6.20
KS060371-M-3	98.67	181.75	104.50	77.25	209.42	104.92	5.80
KS060476-M-6	108.42	159.58	95.42	64.17	193.83	98.42	5.87
TX10A001099	117.58	237.92	129.67	108.25	228.17	98.50	6.07
TX09V7315	97.75	264.33	133.08	131.25	226.75	93.67	6.00
TX09V7352	114.08	248.92	128.25	120.67	224.08	95.83	6.13
TX09V7446	134.75	296.75	167.17	129.58	278.33	111.17	6.27
TX11A001295	137.92	258.67	171.17	87.50	300.83	129.67	6.27
TX12M4004	113.42	193.33	107.42	85.92	206.67	99.25	6.00
TX12M4063	137.50	217.92	150.67	67.25	272.83	122.17	6.27
TX12M4065	141.58	234.00	157.42	76.58	279.33	121.92	6.27
OK09125	105.67	230.00	154.50	75.50	280.75	126.25	6.20
OK1059060	106.83	220.42	151.17	69.25	274.92	123.75	6.20
OK10126	120.83	260.08	144.08	116.00	252.08	108.00	6.07
NI13706	142.25	221.50	152.33	69.17	276.67	124.33	6.27
NE12429	130.42	208.00	141.92	66.08	266.25	124.33	6.20
NE12571	126.67	217.17	144.58	72.58	274.42	129.83	6.07
NE10507	121.83	280.08	154.50	125.58	254.83	100.33	6.20
LCH13DH-3-31	129.50	207.58	144.67	62.92	270.58	125.92	6.13
HV9W10-0091	111.67	175.00	127.75	47.25	241.92	114.17	6.13
HV9W10-1002	113.67	224.33	140.67	83.67	260.67	120.00	6.13

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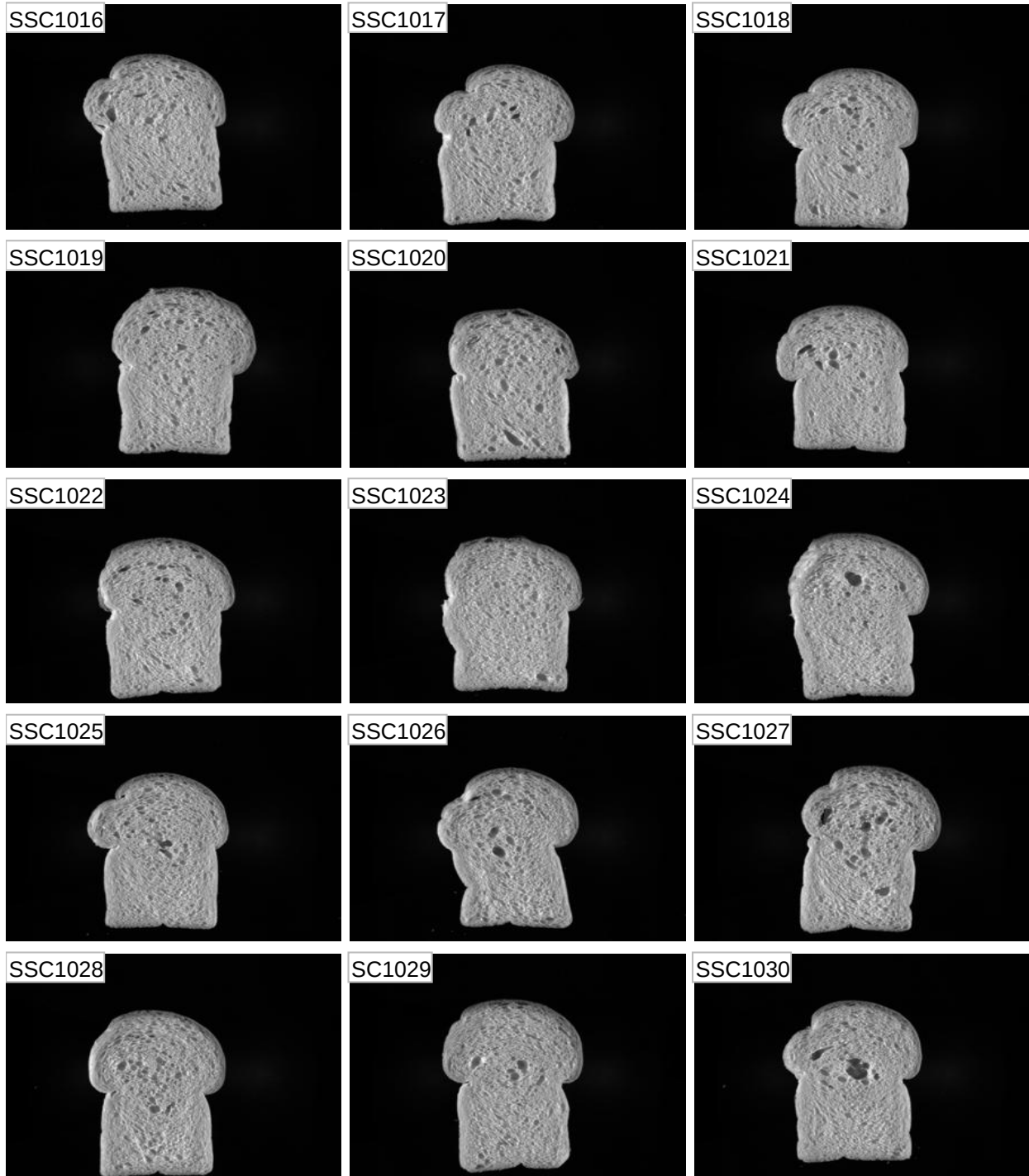
South Central Plains

Line	Flour		Mix Time		Dough					
	Protein	Water Abs.	As-is	Corrected	Weight	Proof Height	Crumb Grain	As-Rec'd.	Specific Volume	Loaf Volume Potential
	(%)	(%)	(min)	(min)	(g)	(cm)		(cc)	(cc/g)	(cc/%)
Kharkof	12.5	63.4	4.25	4.25	173.0	7.7	3.5	955	6.3	69
Scout 66	11.9	62.5	3.13	3.10	172.5	7.5	3.5	880	5.8	65
TAM107	11.1	63.7	4.38	3.93	173.1	7.7	2.5	970	6.5	82
Jagalene	11.3	63.7	5.00	4.57	173.6	7.4	3.5	950	6.3	78
KS11HW15-4-1	11.7	63.6	3.75	3.60	173.6	7.5	3.0	900	6.0	69
KS11HW18-1-6	10.8	62.0	4.13	3.51	171.8	6.9	3.0	875	5.8	73
KS11HW39-5-4	10.8	61.9	4.00	3.40	171.2	7.2	4.5	900	6.1	77
KS11HW53-1-6	10.6	63.4	8.00	6.69	172.7	7.8	4.0	900	6.0	78
CO11D1767	11.0	62.8	5.13	4.48	172.0	7.2	3.0	870	5.9	71
CO11D446	11.3	63.4	10.00	9.22	172.4	7.6	3.0	950	6.4	78
CO11D1353	10.5	62.6	6.50	5.30	172.2	7.7	3.0	900	6.0	79
CO11D1397	10.3	61.9	7.50	5.93	170.5	7.6	3.0	885	6.0	79
CO11D1539	10.4	62.5	5.13	4.15	171.7	7.6	3.0	885	5.9	78
CO11D1316W	10.0	62.4	5.25	3.97	172.2	7.3	3.5	870	5.8	80
LCH13-092	10.5	60.8	5.25	4.29	170.5	7.6	3.5	900	6.0	79
LCH13DH-20-87	11.8	61.8	3.00	2.93	171.5	7.3	2.5	910	6.1	69
LCI13DH-14-53W	10.8	61.3	3.50	2.99	170.8	7.3	2.5	890	5.9	75
LCH11-1117	10.7	61.8	4.75	4.01	171.4	7.5	3.5	925	6.2	80
LCH12-012	11.2	62.3	3.50	3.16	172.7	8.1	3.5	985	6.6	83
KS060084-M-4	11.5	62.8	2.25	2.12	172.8	7.3	1.5	835	5.5	63
KS060106-M-11	10.1	60.4	3.38	2.62	169.7	7.1	3.0	865	5.8	78
KS060143-K-2	11.1	58.3	3.38	3.01	167.7	7.5	2.5	865	5.9	70
KS060371-M-3	11.4	62.4	3.50	3.24	172.0	7.8	3.5	885	6.0	70
KS060476-M-6	11.8	63.8	4.88	4.74	173.0	8.1	3.0	950	6.4	74
TX10A001099	11.3	62.9	5.50	5.06	172.0	7.7	4.0	900	6.1	72
TX09V7315	12.0	65.4	4.75	4.75	175.0	7.9	3.5	975	6.5	75
TX09V7352	11.5	67.3	4.88	4.57	176.9	8.0	4.0	985	6.5	81
TX09V7446	11.7	66.5	7.13	6.89	175.5	8.0	5.5	985	6.5	78
TX11A001295	12.0	69.5	6.75	6.73	179.1	8.3	4.0	1020	6.7	80
TX12M4004	11.3	63.6	6.00	5.47	172.9	7.6	4.0	920	6.1	75
TX12M4063	12.4	61.6	4.00	4.00	171.5	7.7	3.5	910	6.2	65
TX12M4065	11.8	63.6	4.50	4.40	173.4	7.8	2.5	890	6.0	67
OK09125	11.2	63.8	4.13	3.75	173.6	7.9	4.0	910	6.1	74
OK1059060	11.8	64.7	4.75	4.64	174.8	7.9	4.5	915	6.1	70
OK10126	11.6	64.0	5.50	5.24	173.6	7.8	4.0	960	6.4	77
NI13706	12.3	62.4	2.63	2.63	172.4	7.8	2.5	905	6.1	65
NE12429	11.2	64.0	4.75	4.28	173.2	8.0	3.5	925	6.2	76
NE12571	11.0	60.6	3.50	3.06	169.6	7.8	2.0	890	6.0	74
NE10507	11.1	63.4	6.25	5.58	172.5	7.9	4.0	1000	6.8	86
LCH13DH-3-31	10.5	58.5	3.25	2.68	168.3	7.3	2.0	845	5.7	72
HV9W10-0091	11.4	62.1	3.75	3.46	172.2	7.3	2.0	850	5.6	66
HV9W10-1002	11.4	65.1	5.00	4.62	174.8	7.8	4.0	915	6.0	73

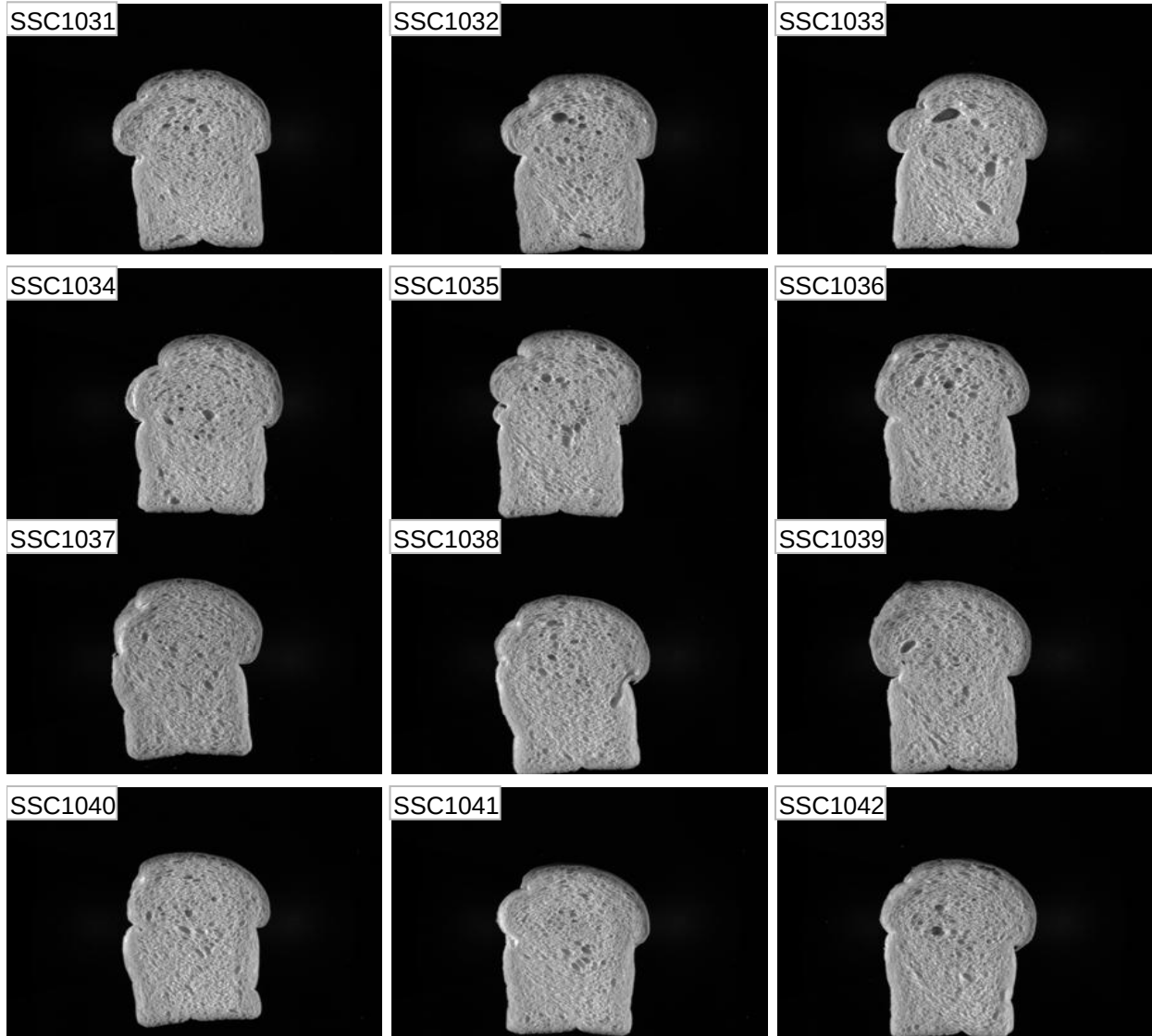
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Thank you for reviewing this report on milling and baking data of 2015 Regional Performance Nursery samples.
Please let me know if you have any comments on this report. I can be reached at (785) 776-2750 or by email,
Richard.chen@ars.usda.gov