

2009 Hard Winter Wheat Regional Performance Nursery Quality Report



Hard Winter Wheat Quality Laboratory

Dr. Bradford W. Seabourn and Dr. Yuanhong (Richard) Chen



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

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USDA/ARS

Hard Winter Wheat Quality Laboratory

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 were subdivided and variety-composited according to the following zones:

Northern Regional Performance Nursery (NRPN)

North Central Plains (NCP)

Ames, IA
North Platte, NE
St Paul, MN
Brookings, Dakota Lakes, Winner, SD

Northern Plains (NP)

Williston, ND
Mocassin, MT

Northern High Plains (NHP)

Alliance, Sidney, NE
Goodland, Palmer, KS
Archer, WY

Southern Regional Performance Nursery (SRPN)

North Central Plains (NCP)

Crawfordsville, IA
Salina, KS
Lincoln, NE
Brookings, Dakota Lakes, Winner, SD

Northern High Plains (NHP)

Akron, Burlington, Ft. Collins, Julesburg, CO
Colby, KS
Alliance, Sidney, NE
Farmington, NM
Archer, WY

South Central Plains (SCP)

Hays, Windfield, Wichita, KS
Goodwell-irr, Hobart, Lahoma, Stillwater, OK
Bushland-irr, Chillicothe, TX

Southern High Plains (SHP)

Clovis-dry, Clovis-irr, NM
Bushland-dry, TX

HWWQL Laboratory Analyses

About the HWWQL Quality Data ...

Milling, flour chemical, physical dough, breadmaking, noodlemaking properties and flour protein analysis of 2009 Hard Winter Wheat regional performance nurseries have been evaluated and analyzed in the 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: Physical data, Hardness data, Chemical and Mixograph data, Computerized Mixograph data, Breadmaking, and Noodlemaking properties. Results of flour protein analysis are located in last page of this report.

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

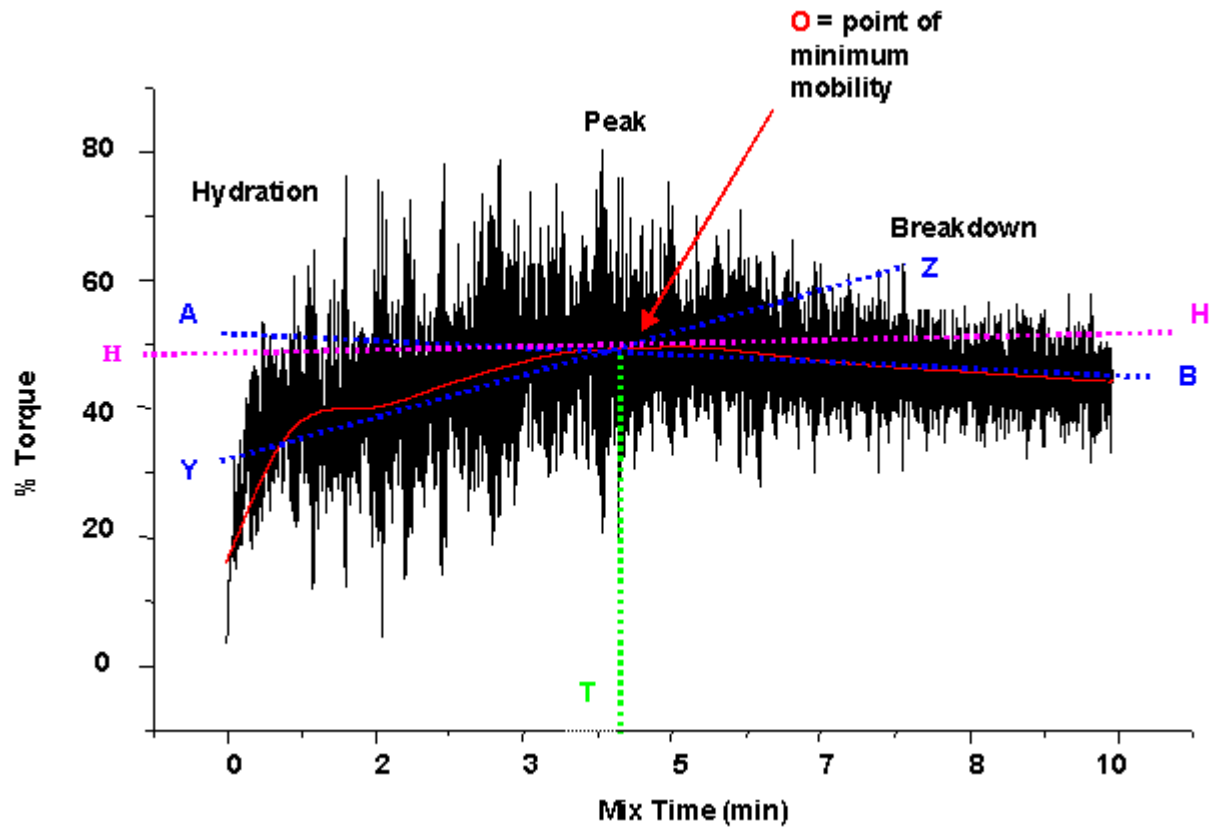
- Ash (FA) = flour ash content (%) on 14% mb. (AACC Method 08-01)
- Protein (FP) = flour protein content (%) on 14% mb. (AACC Method 46-30 or 39-11)
- Color (dry flour) = Minolta method
- PPO = polyphenol oxidase activity defined as a change of 0.001 absorbance unit (AU)/min/mL

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).

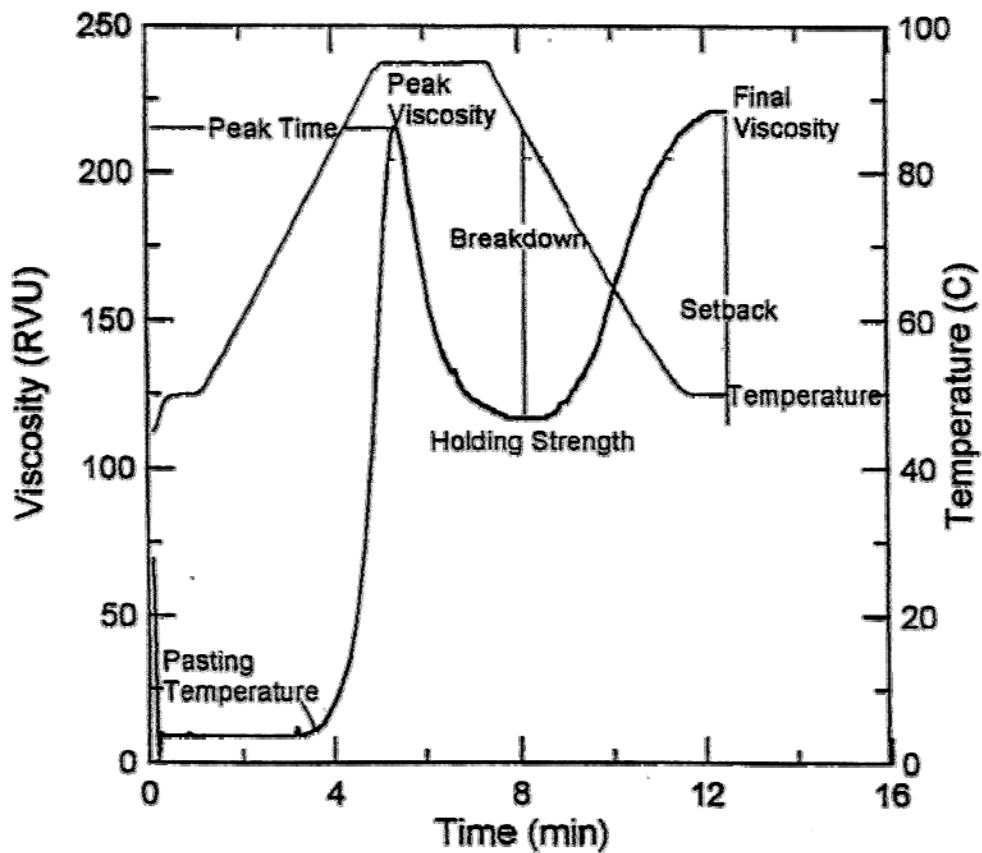
Mixogram Curve



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

Flour Protein Analysis

1. Determination of High Molecular Weight Glutenin Subunit (HMW-GS) composition

Sequential protein extraction:

- 100 mg flour + 1 ml 50 mM Tris-HCl buffer, pH 7.8, containing 100 mM KCl and 5 mM EDTA-vortex for 5 min, centrifuge for 5 min at 12,000 x g. Discard the supernatant (contains albumins and globulins).
- Repeat the procedure one more time to ensure complete removal of those proteins.
- Repeat the procedure two more times using water, to remove salt from the pellet. Discard the supernatants.
- Add 1 ml 50% 1-propanol to the pellet and vortex for 5 min, centrifuge for 5 min at 12,000 x g. Discard the supernatant (contains gliadins).
- Repeat the extraction with 50% 1-propanol one more time. Discard the supernatant
- Add 1 ml 50% 1-propanol containing 2% tris(2-carboxyethyl)phosphine (TCEP reducing agent) to the pellet and vortex for 30 min, centrifuge for 5 min at 12,000 x g. Collect the supernatant (contains the glutenin: HMW-GS and LMW-GS).
- Analyze protein in the supernatant using the Agilent 2100 Bioanalyzer (lab-on-a-chip).

2. Determination of HMW-GS to LMW-GS ratio

- Extract protein as described above.
- Alkylate 300 µl of protein extract with 20 µl 4-vinylpyridine for 15 min at 60°C.
- The resulting protein sample was analyzed by RP-HPLC (Agilent 1100 Series, Agilent Technologies, Palo Alto, CA).
- Inject 1 µl of protein sample into a Poroshell 300SB-C8, 2.1 x 75 mm, 5 µm particle size column (Agilent Technologies, Palo Alto, CA) kept at 65°C.
- Solvent flow rate was 0.7 ml/min and composed of a non-linear gradient of water (A) and acetonitrile (B), both containing 0.1% trifluoroacetic acid. The gradient was as follow: from 0 to 1 min., 23% B; from 1 to 3 min., the gradient increased from 23 to 30% B; from 3 to 11 min., increased from 30 to 44% B; from 11 to 12 min., the gradient decreased from 44 to 23% B and kept at 23% B until 13 min.
- Detection of protein peaks was carried out by a UV detector at 206 nm (Naeem and Sapirstein 2007).
- Determine areas of the curve corresponding the HMW-GS and LMW-GS by manual integration and calculate the ratio HMW-GS/LMW-GS.

3. Determination of Gliadin to Glutenin ratio

- Protein extraction (Gupta et al 1993):
- 100 mg flour + 1 ml 0.05M Sodium phosphate buffer, pH 6.9, containing 0.5% SDS (w/v)- sonicate for 15 s at power setting 10 W. Collect the supernatant (contains total protein).

- Filter the supernatant in a 0.45 µm filter and analyze by size-exclusion HPLC (SE-HPLC).
- SE-HPLC was conducted using a 300.0 x 7.8 mm BioSep S4000 column (Phenomenex, Torrance, CA), kept at 50°C, with a constant gradient composed of 50 mM Sodium phosphate buffer, pH 7.0, containing 1% SDS, flow rate of 1.0 ml/min during 20 min.
- The chromatograms were manually integrated. The area of the first peak corresponds to Glutenin and the area of the second peak to Gliadin. The ratio Glutenin/Gliadin was determined using the areas of the chromatograms.

4. Determination of the Percentage of Insoluble Polymeric Protein (%IPP)

- Protein extraction (Bean et al, 1998): 100 mg flour + 1 ml 50% 1-propanol- vortex for 5 min, centrifuge for 5 min at 12,000 x g. Discard supernatant.
- Repeat this procedure two more times and discard the supernatants (the supernatants contain the monomeric and soluble polymeric proteins).
- Lyophilize the pellet, which contains the insoluble polymeric proteins.
- Determine pellet protein content by Nitrogen combustion (LECO analysis).
- Insoluble polymeric protein percentage (%IPP) is calculated by multiplying nitrogen values by a conversion factor of 5.7 and dividing by total flour protein.

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.

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

Milling Lab: Laura McLaughlin, B.S.

Bake/Mixograph Lab: Margo Caley, B.S.; Zina Haden, B.S.; Susan Xiao, M.D.; Guixiang (Lucy) Lu, M.D.; Rachel Herrell, B.S.

NIR/SKCS Lab: Alicsa Mayer, M.S.

Analytical Lab: Kevin Fay, B.S.

Flour Protein Analysis: Michael Tilley, Ph.D.

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

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

**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

2009 NRPN Intraregional Production Zone

Entry	Selection No.	Pedigree	Source
1	Kharkof	Kharkof	check
2	Antelope	Antelope	check
3	Wesley	Wesley	check
4	Jerry	Jerry	check
5	NX05M4180-6	92201D5-2-29 X 99 waxy bulk	ARS-LNK
6	NX05M4499-1	Cimarron/RB//BaiHuo4/L910114/3/Ks87809-10/Arapahoe//P2737w	ARS-LNK
7	AP00x0100-51	W95-301/W98-151	Agripro North
8	NW04Y2188	MO8/REDLAND//KS91H184/3*RIO BLANCO	ARS-LNK
9	LE1911	KS92WGRC15/CDC Kestrel//CDC Falcon	AAFC
10	NE04490	NE95589/NE94632(=ABILENE/NORKAN//RAWHIDE)//NE95510 (=ABILEN	UNL
11	NE05548	NE97426 (=BRIGANTINA.2*ARAPAHOE)/NE98574 (=CO850267/RAWHID	UNL
12	NE05549	NI98414 (=NE90614/NE87612//NE87612)/WESLEY	UNL
13	NE06469	Unknown	UNL
14	NE06607	NE98466=(KS89H50-4/NE90518(=BRL//SXL/BENN))/Wesley	UNL
15	NI04420	NE96644(=ODESSKAYA P./CODY)//PAVON/*3SCOUT66/3/WAHOO SIB	UNL
16	NI04427	KS98HW22//W95-615W/N94L189	UNL
17	SD07W053	Wendy/SD00W073//KS01HW54-4	SDSU
18	SD07126	SD92107-2/SD99W042	SDSU
19	SD07W084	SD92107-5/Falcon//Jagalene	SDSU
20	SD07165	SD97250/SD99W066//Avalanche	SDSU
21	SD05118-1	Wesley/NE93613	SDSU
22	CA9W07-817	Falcon/Jerry	WestBred, Fargo
23	CA9W07-818	Jerry/Falcon	WestBred, Fargo
24	CA9W07-819	Jerry/Falcon	WestBred, Fargo
25	NE06436	Wesley/OK98699=(TAM 200/HBB313E//2158)	UNL



Hard Winter Wheat Quality Report 2009 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	43.5	Very Poor	70.8	62.2	Very Good	100.0		2,8,
Antelope	55.9	Poor	91.1	54.7	Good	87.9		16,
Wesley	59.5	Good	97.0	37.0	Poor	59.5		14,15,
Jerry	53.1	Poor	86.5	57.2	Very Good	91.9		3,
NX05M4180-6	38.2	Very Poor	62.3	26.5	Very Poor	42.6	1AL	6,8,9,10,11,15,16,19,21,
NX05M4499-1	36.0	Very Poor	58.8	26.8	Very Poor	43.1		6,8,14,15,16,21,
SY Gold	60.4	Very Good	98.5	56.4	Very Good	90.7		
NW04Y2188	52.4	Poor	85.3	51.7	Good	83.1		16,17,
LE1911	54.1	Poor	88.3	30.9	Very Poor	49.7		16,18,
NE04490	56.7	Average	92.4	36.0	Poor	58.0		5,16,
NE05548	61.3	Very Good	100.0	56.9	Very Good	91.4		20,
NE05549	54.5	Poor	88.9	38.3	Poor	61.6		
NE06469	57.5	Good	93.8	39.8	Average	64.0		
NE06607	58.9	Good	95.9	51.7	Good	83.1		14,
NI04420	59.6	Very Good	97.2	38.3	Poor	61.6		
NI04427	56.8	Average	92.5	42.8	Average	68.9	1BL	5,15,
SD07W053	58.6	Good	95.5	50.9	Good	81.9	1BL	16,
SD07126	56.0	Average	91.3	39.9	Average	64.2		16,
SD07W084	59.6	Very Good	97.2	43.6	Good	70.1		
SD07165	56.8	Good	92.5	32.6	Very Poor	52.4		14,
SD05118-1	56.7	Average	92.5	42.0	Average	67.6		13,14,15,
CA9W07-817	56.0	Average	91.3	58.6	Very Good	94.3		
CA9W07-818	48.3	Very Poor	78.7	41.1	Average	66.1		1,2,4,
CA9W07-819	52.4	Very Poor	85.3	38.9	Poor	62.5		5,
NE06436	60.9	Very Good	99.3	32.3	Very Poor	51.9		14,18,20,

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.

2009 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	59.1	12.0	0.4	28.9	8.0	2.57	0.31	46 18	MIXED	25--30--20--25--03	
Antelope	59.6	11.8	0.4	32.9	9.1	2.68	0.32	51 17	MIXED	13--29--28--30--03	
Wesley	58.2	11.6	0.4	33.4	8.7	2.74	0.32	57 16	HARD	07--20--29--44--02	
Jerry	58.7	12.1	0.5	33.1	9.8	2.63	0.34	54 17	MIXED	13--20--30--37--03	
NX05M4180-6	59.2	12.6	0.4	32.1	8.1	2.69	0.32	32 18	SOFT	61--21--09--09--04	
NX05M4499-1	57.9	11.9	0.4	32.1	8.4	2.58	0.34	27 21	SOFT	69--13--09--09--04	
AP00x0100-51	58.7	12.0	0.4	35.8	8.4	2.80	0.29	62 17	HARD	04--15--22--59--01	
NW04Y2188	57.6	11.8	0.4	30.9	8.4	2.64	0.31	49 16	MIXED	17--26--30--27--03	
LE1911	59.2	11.9	0.4	29.9	8.0	2.57	0.29	57 18	HARD	10--17--25--48--02	
NE04490	59.5	12.1	0.5	32.8	9.3	2.73	0.38	58 15	HARD	04--17--31--48--01	
NE05548	58.7	12.1	0.4	32.3	8.1	2.67	0.34	58 15	HARD	04--16--35--45--01	
NE05549	58.1	12.1	0.4	32.8	9.4	2.69	0.33	59 16	HARD	05--16--31--48--01	
NE06469	58.7	11.3	0.5	34.3	9.5	2.76	0.33	60 16	HARD	03--17--30--50--01	
NE06607	58.3	12.0	0.4	32.2	9.3	2.70	0.35	56 15	HARD	05--20--37--38--01	
NI04420	60.0	12.3	0.4	34.6	8.9	2.83	0.33	59 17	HARD	05--19--26--50--01	
NI04427	61.4	12.1	0.5	31.0	9.6	2.67	0.37	61 17	HARD	03--14--32--51--01	
SD07W053	60.2	11.9	0.5	29.9	8.1	2.60	0.31	64 16	HARD	03--10--23--64--01	
SD07126	59.6	12.0	0.4	32.6	8.7	2.73	0.33	65 16	HARD	02--09--24--65--01	
SD07W084	59.8	12.0	0.4	31.8	8.4	2.64	0.32	59 16	HARD	04--14--34--48--01	
SD07165	59.9	12.1	0.4	32.5	8.8	2.72	0.33	55 17	HARD	08--25--29--38--02	
SD05118-1	59.9	12.0	0.5	31.1	9.1	2.67	0.35	59 17	HARD	06--17--30--47--02	
CA9W07-817	59.5	12.0	0.4	30.2	8.7	2.58	0.31	62 15	HARD	03--12--26--59--01	
CA9W07-818	38.6	12.2	0.5	28.8	7.6	2.54	0.30	55 16	HARD	07--20--34--39--02	
CA9W07-819	57.9	12.1	0.4	29.8	8.4	2.63	0.37	63 16	HARD	02--13--28--57--01	
NE06436	59.1	12.3	0.4	33.9	8.5	2.76	0.33	60 15	HARD	04--14--26--56--01	

2009 NRPN Intraregional Production Zone

North Central Plains

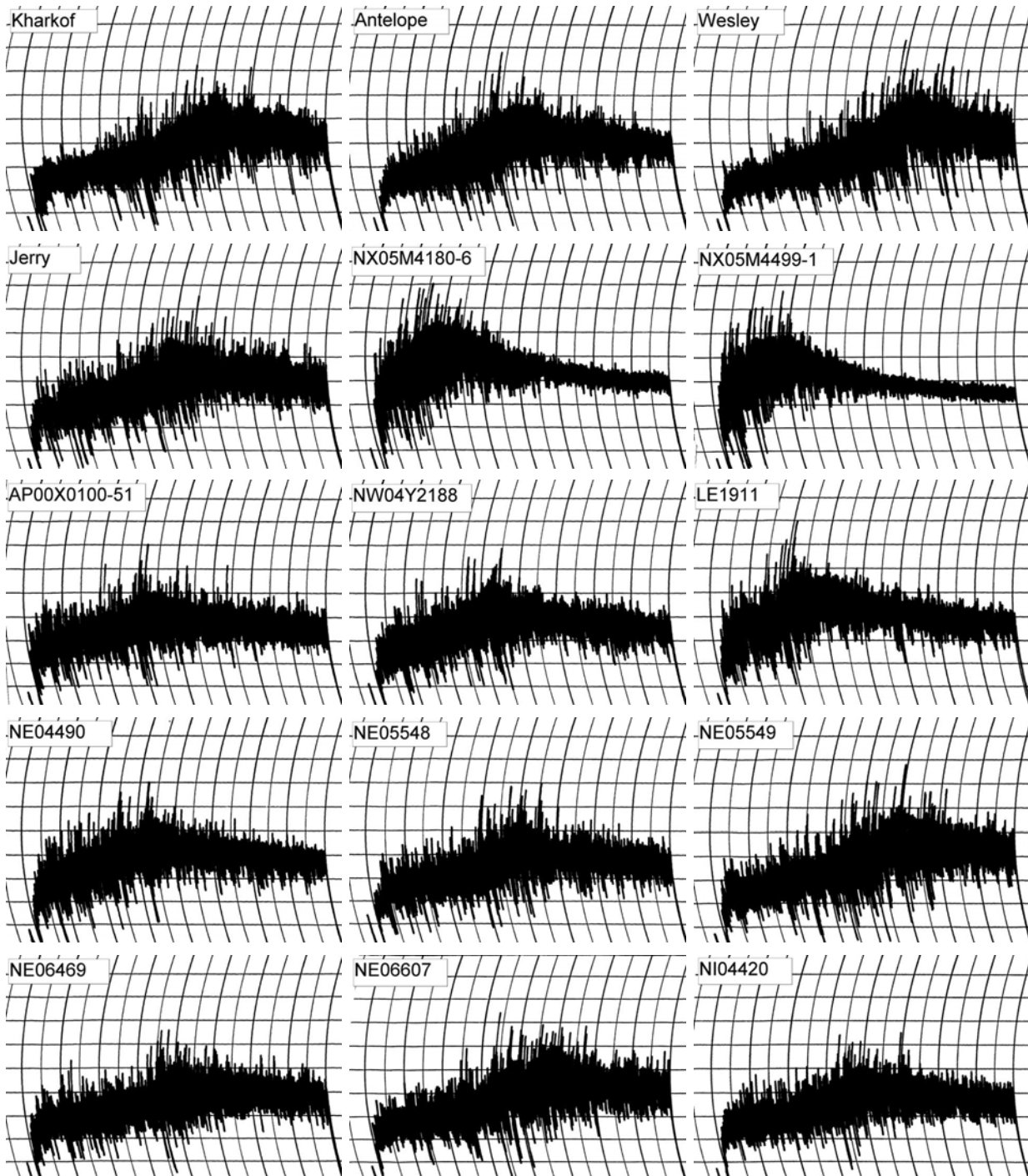
LINE	Wheat		Flour			Noodle Color					
	Protein	Milling Yield	Ash	Protein	PPO	L @ 0	a @ 0	b @ 0	Delta L 24 hrs	Delta a 24 hrs	Delta b 24 hrs
	(%)	(%)	(%)	(%)							
Kharkof	15.3	63.5	0.38	13.9	0.579	82.32	-2.02	21.41	-10.74	0.56	2.43
Antelope	13.2	68.9	0.35	11.7	0.510	81.09	-1.68	20.74	-8.79	0.49	2.29
Wesley	13.9	70.1	0.33	12.8	0.646	82.19	-2.28	20.65	-10.54	0.95	1.73
Jerry	13.6	68.6	0.39	12.3	0.546	81.65	-2.21	22.67	-9.77	0.78	2.65
NX05M4180-6	12.7	61.1	0.46	11.1	0.494	83.47	-2.69	21.42	-13.29	1.17	5.82
NX05M4499-1	13.6	60.6	0.34	11.6	0.327	81.82	-2.09	20.59	-10.57	0.57	3.64
AP00x0100-51	13.5	69.1	0.34	11.7	0.491	80.37	-1.47	19.97	-10.11	0.39	4.58
NW04Y2188	13.2	67.4	0.34	11.9	0.590	82.37	-1.81	19.58	-11.23	0.71	3.04
LE1911	13.2	68.5	0.39	11.8	0.679	82.20	-2.19	20.93	-9.71	0.83	1.92
NE04490	13.4	68.9	0.37	11.6	0.737	80.42	-1.76	21.86	-11.62	0.96	1.61
NE05548	13.5	72.0	0.42	12.2	0.562	81.55	-1.56	20.73	-12.62	0.75	4.06
NE05549	13.3	69.0	0.41	11.8	0.689	81.95	-1.87	19.93	-10.93	0.86	2.40
NE06469	13.1	69.3	0.38	12.0	0.708	81.63	-1.63	19.09	-11.62	0.52	5.14
NE06607	13.1	71.0	0.36	11.9	0.642	81.76	-1.79	18.15	-11.99	0.80	5.03
NI04420	13.2	70.1	0.40	11.9	0.596	82.27	-2.45	21.03	-11.60	1.10	3.59
NI04427	13.5	69.0	0.37	12.3	0.670	81.04	-2.26	22.79	-10.24	0.50	3.20
SD07W053	14.6	68.6	0.34	13.0	0.806	81.03	-2.54	23.72	-9.51	0.85	1.32
SD07126	14.1	67.4	0.39	12.8	0.704	81.57	-2.81	23.39	-10.78	0.85	2.45
SD07W084	14.0	70.2	0.38	12.5	0.826	81.47	-2.23	21.49	-12.72	0.97	2.81
SD07165	12.7	69.0	0.37	11.6	0.619	83.02	-3.36	22.99	-9.87	1.67	1.99
SD05118-1	12.6	69.4	0.36	11.4	0.643	83.53	-2.47	19.70	-11.77	0.80	4.28
CA9W07-817	13.8	68.5	0.39	12.4	0.662	82.47	-2.48	22.67	-10.31	0.77	1.84
CA9W07-818	13.3	66.9	0.37	12.4	0.659	81.88	-2.56	22.45	-12.65	1.43	3.46
CA9W07-819	13.1	67.7	0.39	11.8	0.670	82.06	-2.56	22.27	-10.35	1.15	1.57
NE06436	14.0	70.9	0.42	12.8	0.713	81.77	-2.04	20.40	-10.01	0.79	2.48

2009 NRPN Intraregional Production Zone

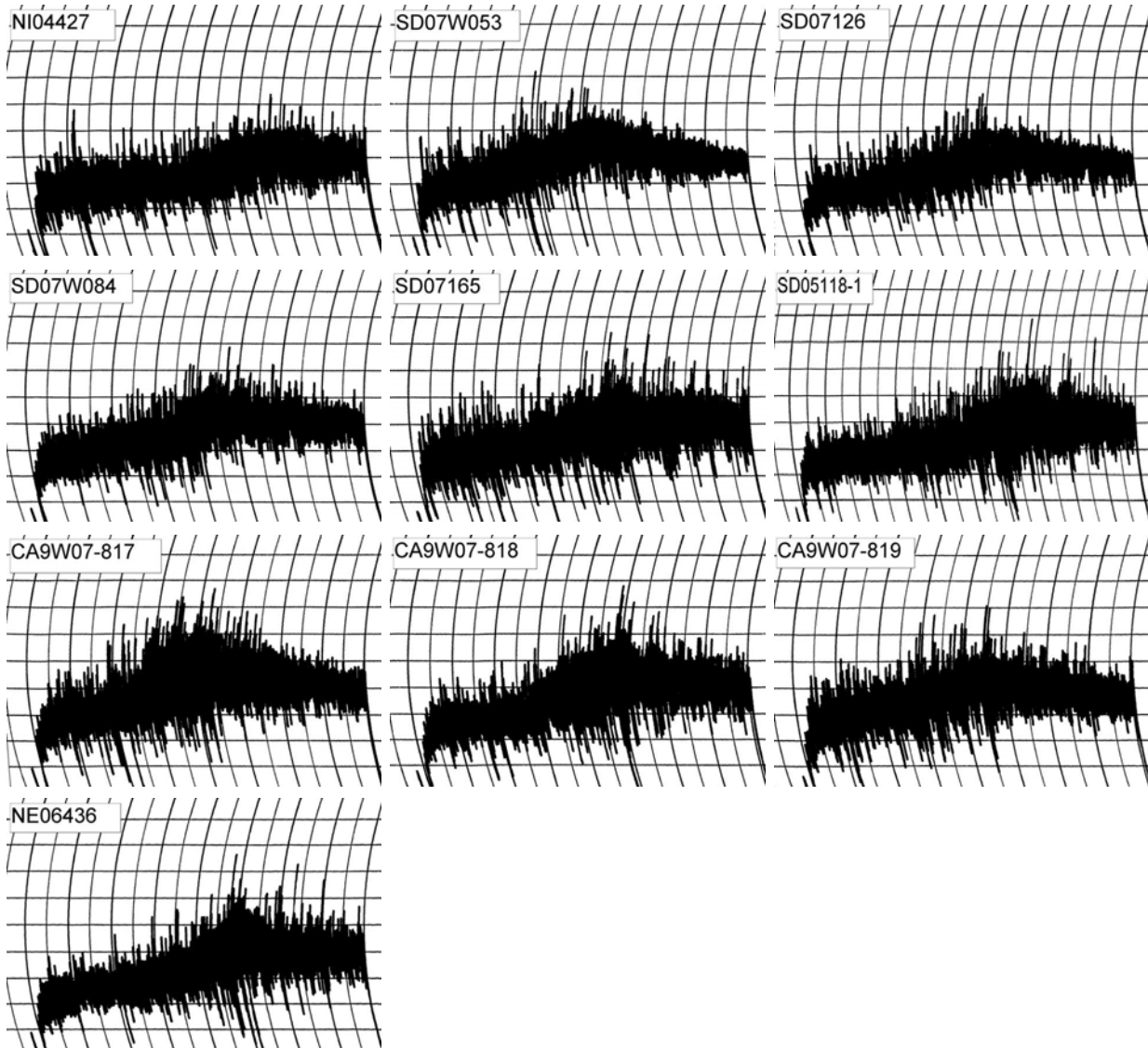
North Central Plains

	Flour Protein	Mixograph			
		Absorption	As-Is	Corrected	Tolerance
Line	(%)	(%)	(min)	(min)	
Kharkof	13.9	65.1	5.13	5.13	4
Antelope	11.7	62.5	4.13	4.00	2
Wesley	12.8	64.3	5.50	5.50	5
Jerry	12.3	64.4	4.00	4.00	4
NX05M4180-6	11.1	63.5	2.00	1.79	0
NX05M4499-1	11.6	61.4	1.88	1.80	0
AP00x0100-51	11.7	62.5	3.50	3.38	4
NW04Y2188	11.9	62.7	3.50	3.45	2
LE1911	11.8	62.6	2.50	2.44	2
NE04490	11.6	62.3	3.38	3.23	2
NE05548	12.2	63.3	4.13	4.13	4
NE05549	11.8	62.6	5.00	4.87	5
NE06469	12.0	62.0	4.13	4.13	4
NE06607	11.9	62.7	5.00	4.93	5
NI04420	11.9	61.8	4.00	3.96	3
NI04427	12.3	61.9	6.38	6.38	4
SD07W053	13.0	62.1	4.38	4.38	1
SD07126	12.8	61.9	4.38	4.38	2
SD07W084	12.5	63.8	4.50	4.50	4
SD07165	11.6	61.3	5.00	4.77	5
SD05118-1	11.4	60.8	7.00	6.47	5
CA9W07-817	12.4	63.7	4.13	4.13	4
CA9W07-818	12.4	63.6	5.00	5.00	5
CA9W07-819	11.8	62.7	4.38	4.29	3
NE06436	12.8	63.2	5.13	5.13	4

2009 NRPN Intraregional Production Zone Northern Central Plains



2009 NRPN Intraregional Production Zone Northern Central Plains



2009 NRPN Intraregional Production Zone

North Central Plains

Line	RVA							
	Stirring Number	Peak Viscosity	Trough Viscosity	Breakdown	Final Viscosity	Set back	Peak Time	Pasting Temp
	(RVU)	(RVU)	(RVU)	(RVU)	(RVU)	(RVU)	(min)	(Deg. C)
Kharkof	149.00	246.25	167.00	79.25	279.08	112.08	6.47	86.45
Antelope	127.92	191.00	112.00	79.00	207.08	95.08	6.07	84.80
Wesley	126.25	218.17	143.92	74.25	261.25	117.33	6.27	68.55
Jerry	136.92	215.75	146.75	69.00	265.08	118.33	6.27	86.50
NX05M4180-6	95.17	107.67	57.50	50.17	92.33	34.83	4.00	69.45
NX05M4499-1	90.25	210.42	112.75	97.67	201.17	88.42	6.27	70.15
AP00x0100-51	121.50	221.92	144.92	77.00	258.17	113.25	6.27	86.45
NW04Y2188	130.17	249.83	170.00	79.83	296.83	126.83	6.40	86.50
LE1911	135.33	267.58	174.83	92.75	294.17	119.33	6.40	69.50
NE04490	120.25	222.42	150.83	71.58	276.08	125.25	6.20	85.80
NE05548	143.08	234.75	168.33	66.42	290.00	121.67	6.40	86.40
NE05549	137.67	240.08	154.83	85.25	270.25	115.42	6.33	86.45
NE06469	119.08	238.25	145.50	92.75	261.42	115.92	6.27	85.65
NE06607	112.75	253.58	152.17	101.42	248.42	96.25	6.40	67.75
NI04420	124.58	219.00	148.42	70.58	260.08	111.67	6.33	67.80
NI04427	128.58	234.75	170.00	64.75	294.08	124.08	6.40	86.40
SD07W053	113.67	205.17	130.92	74.25	250.08	119.17	6.13	84.80
SD07126	131.17	223.08	142.83	80.25	252.08	109.25	6.33	86.50
SD07W084	139.00	248.42	161.42	87.00	275.92	114.50	6.33	85.70
SD07165	137.50	269.08	174.42	94.67	285.92	111.50	6.40	86.55
SD05118-1	113.17	226.33	144.83	81.50	266.50	121.67	6.13	85.60
CA9W07-817	139.83	226.67	143.17	83.50	250.17	107.00	6.33	87.35
CA9W07-818	129.42	235.83	156.92	78.92	280.75	123.83	6.20	86.50
CA9W07-819	126.75	253.67	162.83	90.83	279.33	116.50	6.33	86.40
NE06436	128.67	238.33	149.00	89.33	263.75	114.75	6.27	86.40

2009 NRPN Intraregional Production Zone

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	13.9	63.9	6.00	6.00	173.1	8.1	4.0	1025	6.9	67
Antelope	11.7	60.5	4.88	4.72	170.1	7.7	4.0	910	6.2	70
Wesley	12.8	62.9	9.25	9.25	171.2	7.8	5.5	995	6.7	71
Jerry	12.3	63.4	6.25	6.25	172.1	7.7	4.0	925	6.1	67
NX05M4180-6	11.1	60.9	2.88	2.58	170.8	7.5	0.0	850	5.7	67
NX05M4499-1	11.6	59.3	2.25	2.15	168.7	7.7	1.0	895	6.2	69
AP00x0100-51	11.7	61.5	5.13	4.95	170.7	7.4	4.0	900	6.0	69
NW04Y2188	11.9	59.5	3.88	3.83	166.9	7.8	4.0	920	6.3	70
LE1911	11.8	59.3	3.13	3.05	168.8	7.2	3.5	915	6.3	70
NE04490	11.6	60.6	3.75	3.59	170.1	7.4	3.5	915	6.2	71
NE05548	12.2	61.5	4.75	4.75	170.8	7.8	4.0	895	6.0	65
NE05549	11.8	61.4	6.50	6.33	170.5	7.7	4.5	945	6.3	73
NE06469	12.0	59.6	5.38	5.37	168.8	7.6	3.8	925	6.3	70
NE06607	11.9	61.9	7.88	7.76	171.1	7.4	5.0	910	6.2	69
NI04420	11.9	60.6	6.00	5.95	169.7	7.7	3.2	930	6.3	71
NI04427	12.3	61.7	7.13	7.13	170.4	7.5	3.0	940	6.3	69
SD07W053	13.0	60.7	4.75	4.75	170.7	7.6	3.0	960	6.4	66
SD07126	12.8	59.8	5.00	5.00	169.3	7.6	3.5	950	6.4	66
SD07W084	12.5	61.5	5.63	5.63	170.6	7.6	3.8	975	6.6	71
SD07165	11.6	60.8	8.00	7.63	170.0	7.6	4.8	955	6.4	76
SD05118-1	11.4	60.6	11.00	10.16	175.4	7.5	4.0	895	6.0	71
CA9W07-817	12.4	62.6	5.25	5.25	169.0	7.4	4.0	925	6.2	66
CA9W07-818	12.4	61.5	6.50	6.50	170.7	7.7	3.8	985	6.7	73
CA9W07-819	11.8	60.6	5.50	5.38	170.1	7.5	3.5	925	6.3	71
NE06436	12.8	60.5	7.50	7.50	169.9	7.2	3.2	935	6.4	65



Hard Winter Wheat Quality Report 2009 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
Kharkof	51.8	Very Poor	76.8	58.2	Very Good	97.2		2,8,10,16,
Antelope	60.6	Very Poor	89.8	50.8	Average	84.8		13,16,
Wesley	67.5	Very Good	100.0	56.4	Good	94.1		
Jerry	60.7	Poor	90.0	41.8	Average	69.8		
NX05M4180-6	34.8	Very Poor	51.6	19.2	Very Poor	32.1	1AL	1,6,8,9,10,11,13,15,16,17,19,2
NX05M4499-1	47.3	Very Poor	70.0	15.8	Very Poor	26.4		4,6,8,10,12,13,15,16,17,19,20,;
SY Gold	63.5	Average	94.2	34.0	Poor	56.7		17,18,
NW04Y2188	59.9	Very Poor	88.8	48.4	Average	80.8		16,
LE1911	61.6	Poor	91.2	27.8	Very Poor	46.3		12,14,15,16,18,21,
NE04490	60.7	Poor	89.9	29.3	Very Poor	48.9		5,16,
NE05548	61.0	Poor	90.4	49.8	Good	83.1		
NE05549	61.8	Average	91.6	59.9	Very Good	100.0		3,9,
NE06469	63.8	Good	94.6	53.2	Good	88.8		16,
NE06607	65.5	Very Good	97.0	39.4	Poor	65.7		
NI04420	62.8	Average	93.0	53.1	Good	88.7		5,16,
NI04427	62.6	Average	92.7	34.1	Poor	56.8	1BL	16,
SD07W053	66.2	Very Good	98.1	30.7	Very Poor	51.2	1BL	2,16,
SD07126	64.0	Good	94.8	42.9	Average	71.6		16,
SD07W084	64.0	Good	94.9	59.0	Very Good	98.4		
SD07165	64.9	Very Good	96.2	36.7	Poor	61.2		
SD05118-1	63.7	Good	94.4	49.2	Average	82.1		
CA9W07-817	63.7	Good	94.4	40.6	Poor	67.8		
CA9W07-818	61.0	Poor	90.4	51.4	Good	85.7		2,4,
CA9W07-819	63.6	Average	94.2	57.7	Very Good	96.3		
NE06436	64.7	Very Good	95.9	57.0	Very Good	95.1		18,

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.

2009 NRPN Intraregional Production Zone

Northern High Plains

LINE	Wt/Bu (lb)	SKCS Average Kernel						Hardness			
		Moisture		Weight		Diameter		SKCS	Class	Distribution	
		(%)	(sd)	(mg)	(sd)	(mm)	(sd)				
								(sd)			
Kharkof	61.0	13.4	0.4	31.7	6.6	2.66	0.25	44 17	MIXED	27--34--23--16--03	
Antelope	60.3	13.1	0.5	36.2	7.8	2.82	0.31	50 15	MIXED	11--28--36--25--03	
Wesley	60.1	12.7	0.4	37.8	7.6	2.90	0.32	57 15	HARD	05--20--33--42--01	
Jerry	59.5	13.2	0.4	37.4	8.8	2.79	0.30	58 16	HARD	07--19--24--50--02	
NX05M4180-6	56.8	13.5	0.5	32.1	7.5	2.68	0.32	40 20	MIXED	43--20--21--16--03	
NX05M4499-1	59.1	13.5	0.4	34.5	7.2	2.65	0.30	26 18	SOFT	68--19--08--05--05	
AP00x0100-51	60.7	13.0	0.4	34.6	7.4	2.77	0.29	69 17	HARD	02--05--18--75--01	
NW04Y2188	58.9	13.3	0.5	34.6	7.7	2.78	0.29	51 15	HARD	10--28--35--27--02	
LE1911	61.4	13.2	0.4	33.6	8.0	2.68	0.29	59 15	HARD	03--18--30--49--01	
NE04490	61.3	12.8	0.5	35.4	8.6	2.82	0.37	65 16	HARD	02--09--25--64--01	
NE05548	60.3	12.1	0.4	35.1	8.7	2.73	0.32	61 15	HARD	02--17--27--54--01	
NE05549	60.1	12.6	0.4	33.8	9.1	2.74	0.34	64 14	HARD	02--08--26--64--01	
NE06469	60.6	12.8	0.5	36.6	8.4	2.83	0.32	61 16	HARD	04--15--22--59--01	
NE06607	59.8	12.1	0.4	35.7	7.9	2.81	0.32	58 15	HARD	05--16--29--50--01	
NI04420	61.8	12.3	0.4	37.9	8.8	2.93	0.36	60 17	HARD	05--17--28--50--01	
NI04427	62.9	12.3	0.5	34.4	8.7	2.83	0.35	64 16	HARD	02--11--25--62--01	
SD07W053	61.8	12.0	0.5	31.3	6.9	2.67	0.28	65 14	HARD	01--08--24--67--01	
SD07126	62.0	10.1	0.5	34.7	7.6	2.84	0.33	71 14	HARD	01--04--11--84--01	
SD07W084	60.7	10.2	0.5	34.1	7.6	2.74	0.29	62 14	HARD	03--10--29--58--01	
SD07165	61.6	10.9	0.4	34.9	7.2	2.82	0.29	59 16	HARD	05--17--26--52--01	
SD05118-1	61.3	11.0	0.4	33.9	7.8	2.77	0.30	66 15	HARD	03--06--21--70--01	
CA9W07-817	61.6	10.8	0.4	33.2	7.8	2.73	0.32	66 15	HARD	02--08--21--69--01	
CA9W07-818	60.5	11.0	0.3	31.2	7.2	2.64	0.29	63 15	HARD	02--12--27--59--01	
CA9W07-819	60.1	11.0	0.4	32.8	8.0	2.76	0.34	69 14	HARD	02--02--21--75--01	
NE06436	60.5	11.0	0.4	34.8	8.8	2.81	0.35	64 17	HARD	03--13--23--61--01	

2009 NRPN Intraregional Production Zone

Northern High Plains

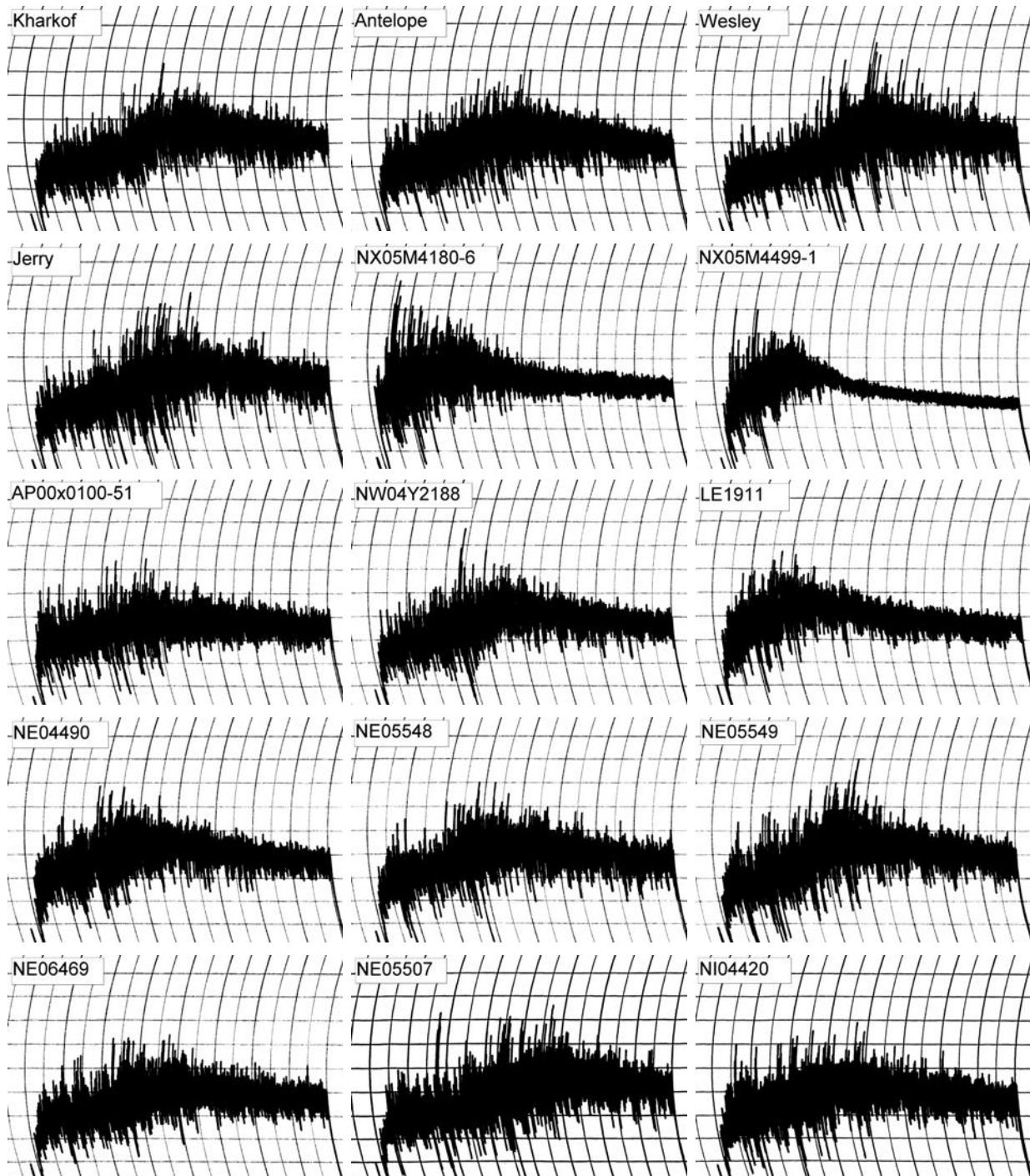
LINE	Wheat		Flour			Noodle Color					
	Protein	Milling Yield	Ash	Protein	PPO	L @ 0	a @ 0	b @ 0	Delta L 24 hrs	Delta a 24 hrs	Delta b 24 hrs
	(%)	(%)	(%)	(%)							
Kharkof	14.0	65.0	0.39	12.4	0.432	83.06	-2.36	19.79	-11.81	0.57	4.91
Antelope	11.5	68.5	0.36	10.5	0.471	82.18	-2.57	20.99	-10.58	1.26	2.21
Wesley	12.6	71.5	0.36	11.5	0.492	82.33	-2.54	20.15	-10.03	0.77	2.80
Jerry	12.7	69.7	0.39	11.8	0.415	81.51	-2.80	23.17	-11.12	1.23	3.15
NX05M4180-6	11.5	60.3	0.45	10.3	0.307	85.10	-3.51	21.29	-10.92	1.02	6.30
NX05M4499-1	12.7	64.3	0.39	11.0	0.316	82.17	-3.25	22.47	-12.02	1.18	4.41
AP00x0100-51	12.3	68.7	0.34	10.9	0.470	81.02	-2.61	22.58	-10.14	0.92	3.43
NW04Y2188	12.7	68.9	0.35	11.8	0.571	82.04	-2.50	21.28	-11.81	1.06	1.73
LE1911	12.1	68.8	0.37	11.2	0.634	82.57	-3.13	22.01	-9.46	1.33	2.15
NE04490	12.2	68.4	0.37	11.0	0.567	80.86	-2.60	22.40	-11.52	1.31	1.30
NE05548	12.9	69.8	0.41	11.7	0.519	81.71	-2.60	22.96	-11.79	1.20	0.97
NE05549	12.4	71.3	0.46	11.3	0.552	81.22	-2.77	22.25	-12.08	2.67	0.53
NE06469	12.2	70.4	0.38	10.9	0.526	81.25	-2.54	22.05	-11.48	1.39	3.04
NE06607	12.2	71.6	0.38	11.0	0.430	83.06	-2.58	19.08	-12.21	1.04	5.03
NI04420	12.0	70.0	0.40	11.0	0.467	81.97	-2.68	21.57	-11.78	1.97	1.30
NI04427	12.4	68.9	0.38	11.2	0.572	82.13	-2.53	22.14	-11.53	0.57	4.13
SD07W053	14.1	70.4	0.40	12.8	0.564	80.08	-2.58	23.92	-11.18	1.21	1.33
SD07126	13.8	68.3	0.41	12.9	0.627	80.47	-2.97	26.52	-12.35	1.55	-0.53
SD07W084	13.1	69.4	0.37	12.0	0.623	81.52	-2.41	21.65	-13.58	1.33	1.02
SD07165	12.0	69.9	0.38	11.0	0.482	88.78	-3.04	21.72	-17.80	1.10	3.69
SD05118-1	12.6	69.1	0.37	11.4	0.480	82.64	-2.58	20.58	-12.39	1.08	4.30
CA9W07-817	13.2	69.6	0.39	12.2	0.518	81.15	-2.97	24.61	-10.04	1.48	1.09
CA9W07-818	12.9	69.3	0.41	12.0	0.514	82.28	-2.87	23.20	-12.89	1.53	3.05
CA9W07-819	13.1	70.3	0.41	12.0	0.535	81.36	-2.55	22.47	-12.49	1.48	2.32
NE06436	12.6	72.8	0.41	11.5	0.286	83.11	-2.25	19.02	-13.47	1.08	5.58

2009 NRPN Intraregional Production Zone

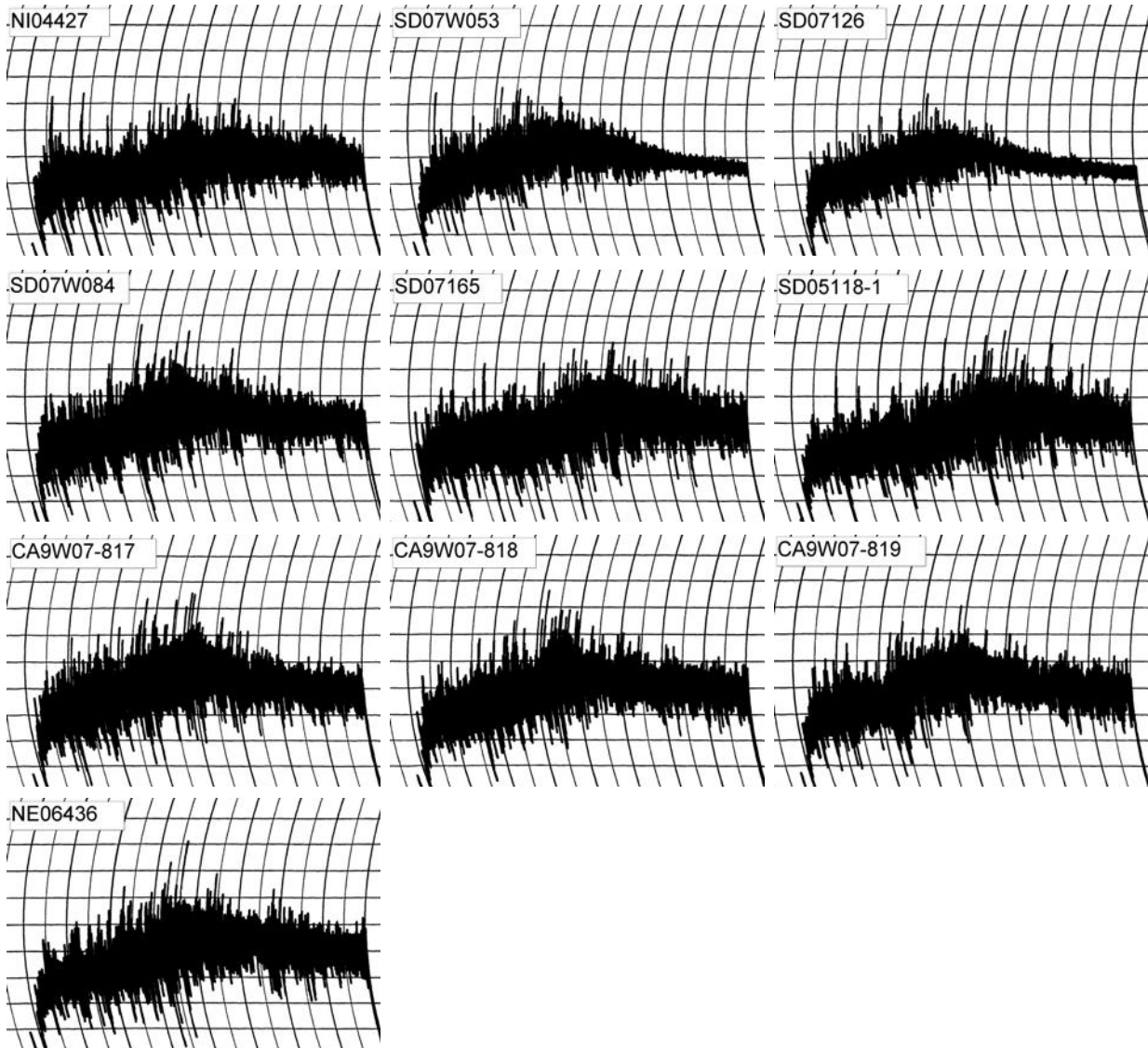
Northern High Plains

	Flour Protein	Mixograph			
		Absorption	As-Is	Corrected	Tolerance
Line	(%)	(%)	(min)	(min)	
Kharkof	12.4	63.5	4.38	4.38	2
Antelope	10.5	59.5	3.88	3.19	2
Wesley	11.5	62.1	4.50	4.24	3
Jerry	11.8	62.6	3.63	3.56	3
NX05M4180-6	10.3	60.1	2.25	1.79	0
NX05M4499-1	11.0	60.2	2.00	1.76	0
AP00x0100-51	10.9	61.0	3.38	2.91	3
NW04Y2188	11.8	62.6	3.50	3.42	2
LE1911	11.2	61.6	1.88	1.69	1
NE04490	11.0	61.2	2.75	2.41	2
NE05548	11.7	62.4	3.38	3.27	3
NE05549	11.3	61.7	3.50	3.19	3
NE06469	10.9	61.1	3.75	3.24	2
NE06607	11.0	62.2	4.88	4.28	4
NI04420	11.0	61.2	3.25	2.85	2
NI04427	11.2	61.7	4.00	3.63	2
SD07W053	12.8	62.7	3.13	3.13	0
SD07126	12.9	62.9	3.50	3.50	0
SD07W084	12.0	63.0	3.50	3.50	3
SD07165	11.0	62.2	4.75	4.15	4
SD05118-1	11.4	61.9	4.75	4.41	4
CA9W07-817	12.2	64.2	4.00	4.00	3
CA9W07-818	12.0	62.9	3.50	3.48	3
CA9W07-819	12.0	62.9	3.88	3.88	3
NE06436	11.5	62.2	3.63	3.43	4

2009 NRPN Intraregional Production Zone Northern High Plains



2009 NRPN Intraregional Production Zone Northern High Plains



2009 NRPN Intraregional Production Zone

Northern High Plains

Line	RVA							
	Stirring Number	Peak Viscosity	Trough Viscosity	Breakdown	Final Viscosity	Set back	Peak Time	Pasting Temp
	(RVU)	(RVU)	(RVU)	(RVU)	(RVU)	(RVU)	(min)	(Deg. C)
Kharkof	157.67	232.25	165.50	66.75	284.00	118.50	6.40	86.50
Antelope	136.50	198.83	124.67	74.17	225.92	101.25	6.20	86.50
Wesley	122.17	211.08	138.92	72.17	258.58	119.67	6.20	67.00
Jerry	144.17	211.42	152.50	58.92	277.33	124.83	6.27	86.55
NX05M4180-6	95.33	115.75	60.58	55.17	96.42	35.83	4.00	68.60
NX05M4499-1	82.58	198.42	107.75	90.67	191.83	84.08	6.33	69.40
AP00x0100-51	135.58	217.83	146.50	71.33	263.50	117.00	6.27	86.50
NW04Y2188	135.50	235.58	172.08	63.50	292.25	120.17	6.47	87.35
LE1911	140.00	260.83	183.00	77.83	299.33	116.33	6.53	69.45
NE04490	129.50	222.33	157.58	64.75	285.67	128.08	6.27	86.40
NE05548	155.75	234.92	172.67	62.25	301.17	128.50	6.40	86.55
NE05549	144.25	226.75	154.42	72.33	272.33	117.92	6.33	67.75
NE06469	149.92	233.25	155.42	77.83	277.50	122.08	6.33	86.45
NE06607	113.42	262.50	159.75	102.75	261.25	101.50	6.33	66.15
NI04420	133.42	201.33	138.83	62.50	248.00	109.17	6.33	67.05
NI04427	137.08	231.58	173.08	58.50	309.00	135.92	6.33	86.60
SD07W053	120.75	211.00	141.75	69.25	262.33	120.58	6.27	85.65
SD07126	145.42	225.50	158.67	66.83	277.83	119.17	6.40	67.75
SD07W084	147.75	258.25	172.92	85.33	294.75	121.83	6.40	86.45
SD07165	145.92	271.42	185.50	85.92	301.33	115.83	6.53	67.65
SD05118-1	128.92	218.75	156.08	62.67	285.17	129.08	6.27	67.70
CA9W07-817	144.25	207.58	159.08	48.50	275.42	116.33	6.40	88.25
CA9W07-818	144.75	230.50	161.25	69.25	289.42	128.17	6.27	66.95
CA9W07-819	147.58	242.75	165.08	77.67	284.08	119.00	6.40	67.05
NE06436	135.17	228.50	140.42	88.08	254.92	114.50	6.20	67.75

2009 NRPN Intraregional Production Zone

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	12.4	61.8	5.00	5.00	171.3	7.6	4.0	950	6.4	69
Antelope	10.5	60.3	4.88	4.01	169.9	7.8	4.0	855	5.8	73
Wesley	11.5	60.4	6.00	5.65	169.4	7.8	5.0	915	6.2	72
Jerry	11.8	61.2	4.75	4.65	170.6	7.6	3.5	910	6.1	69
NX05M4180-6	10.3	57.0	3.75	2.99	166.3	7.6	0.0	740	5.1	59
NX05M4499-1	11.0	56.4	2.88	2.53	166.5	7.7	1.5	750	5.2	56
AP00x0100-51	10.9	60.4	4.75	4.10	166.9	7.3	2.8	820	5.5	66
NW04Y2188	11.8	59.3	3.50	3.42	168.6	7.5	4.0	890	6.1	67
LE1911	11.2	57.4	2.50	2.25	167.1	7.2	2.0	885	6.0	71
NE04490	11.0	58.5	3.00	2.63	167.8	7.6	3.5	905	6.2	75
NE05548	11.7	59.7	3.75	3.63	169.5	7.8	4.0	885	6.0	67
NE05549	11.3	60.0	4.75	4.32	169.4	7.7	5.0	905	6.2	73
NE06469	10.9	60.4	4.50	3.89	169.7	7.8	4.0	900	6.1	76
NE06607	11.0	61.6	5.50	4.82	170.7	7.6	3.8	925	6.3	78
NI04420	11.0	60.4	4.38	3.84	169.8	7.8	4.0	925	6.3	78
NI04427	11.2	61.5	6.13	5.56	170.1	7.5	3.2	870	5.8	69
SD07W053	12.8	58.4	3.13	3.13	169.2	7.7	2.5	905	6.1	62
SD07126	12.9	58.5	3.00	3.00	167.9	7.6	3.0	935	6.3	64
SD07W084	12.0	61.5	4.63	4.63	171.2	7.7	4.0	955	6.4	72
SD07165	11.0	62.5	6.75	5.90	171.6	7.7	4.5	925	6.2	78
SD05118-1	11.4	62.3	7.00	6.51	171.4	7.5	4.0	900	6.0	71
CA9W07-817	12.2	62.4	4.00	4.00	171.8	7.5	3.8	910	6.1	67
CA9W07-818	12.0	62.3	4.50	4.48	171.6	7.5	3.0	905	6.0	67
CA9W07-819	12.0	60.2	4.63	4.63	169.6	7.7	4.0	945	6.4	72
NE06436	11.5	62.0	4.63	4.37	172.1	7.3	4.0	895	6.0	70



Hard Winter Wheat Quality Report 2009 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	52.6	Very Poor	79.0	45.6	Average	72.9		
Antelope	58.7	Poor	88.1	41.5	Average	66.4		10,
Wesley	66.6	Very Good	100.0	39.1	Poor	62.5		14,
Jerry	65.0	Very Good	97.6	57.2	Very Good	91.4		
NX05M4180-6	38.3	Very Poor	57.5	25.8	Very Poor	41.2	1AL	1,8,9,11,12,13,15,16,21,
NX05M4499-1	42.8	Very Poor	64.3	17.1	Very Poor	27.3		6,8,10,12,14,15,16,17,19,21,
SY Gold	65.1	Very Good	97.7	49.5	Very Good	79.1		18,
NW04Y2188	60.1	Average	90.1	26.2	Very Poor	42.0		16,
LE1911	59.8	Poor	89.7	21.2	Very Poor	33.8		12,14,15,16,18,19,
NE04490	61.0	Average	91.6	39.5	Poor	63.2		12,16,
NE05548	64.2	Good	96.4	55.1	Very Good	88.1		
NE05549	58.2	Very Poor	87.4	56.0	Very Good	89.6		3,
NE06469	64.9	Very Good	97.4	50.6	Good	80.9		19,
NE06607	63.6	Good	95.4	46.4	Good	74.2		
NI04420	62.6	Good	93.9	42.2	Average	67.5		16,
NI04427	60.5	Average	90.8	49.3	Good	78.9	1BL	2,13,
SD07W053	61.7	Good	92.6	36.9	Poor	59.1	1BL	12,16,21,
SD07126	54.5	Very Poor	81.7	42.8	Average	68.5		16,21,
SD07W084	61.6	Good	92.4	62.5	Very Good	100.0		
SD07165	58.9	Poor	88.4	42.1	Poor	67.3		
SD05118-1	61.5	Average	92.3	45.3	Good	72.4		14,15,
CA9W07-817	60.6	Average	90.9	41.8	Poor	66.8		
CA9W07-818	59.1	Poor	88.7	45.4	Average	72.6		
CA9W07-819	59.8	Poor	89.8	46.1	Good	73.8		
NE06436	65.8	Very Good	98.8	34.7	Very Poor	55.4		5,9,14,

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.

2009 NRPN Intraregional Production Zone

Northern Plains

LINE	Wt/Bu (lb)	SKCS Average Kernel						Hardness			
		Moisture		Weight		Diameter		SKCS	Class	Distribution	
		(%)	(sd)	(mg)	(sd)	(mm)	(sd)				
								(sd)			
Kharkof	62.3	11.1	0.7	29.9	6.6	2.61	0.26	49 19	MIXED	20--26--29--25--03	
Antelope	62.9	10.4	0.7	32.7	8.9	2.69	0.32	59 17	HARD	06--16--25--53--02	
Wesley	62.6	10.7	0.7	36.1	8.5	2.82	0.31	63 18	HARD	06--13--20--61--02	
Jerry	61.9	11.2	0.6	33.2	8.1	2.65	0.31	66 16	HARD	02--09--19--70--01	
NX05M4180-6	59.2	11.2	0.7	30.4	8.9	2.64	0.33	42 17	MIXED	30--33--24--13--03	
NX05M4499-1	61.4	10.7	0.7	33.1	7.9	2.57	0.33	29 19	SOFT	62--21--09--08--04	
AP00x0100-51	62.7	10.4	0.8	31.8	7.6	2.66	0.27	78 16	HARD	00--02--10--88--01	
NW04Y2188	62.1	10.4	0.6	30.5	7.5	2.62	0.29	60 17	HARD	06--17--26--51--02	
LE1911	62.0	10.7	0.6	30.3	8.7	2.55	0.30	65 17	HARD	03--09--24--64--01	
NE04490	63.4	10.3	0.9	34.1	9.1	2.75	0.35	70 17	HARD	02--07--16--75--01	
NE05548	61.9	10.2	0.7	33.0	7.9	2.68	0.32	65 15	HARD	02--08--26--64--01	
NE05549	62.5	10.5	0.7	34.1	9.5	2.72	0.34	66 18	HARD	03--11--22--64--01	
NE06469	62.6	10.7	0.7	34.4	8.7	2.74	0.31	70 16	HARD	02--07--14--77--01	
NE06607	61.3	10.3	0.7	32.9	8.7	2.66	0.29	66 17	HARD	03--09--19--69--01	
NI04420	63.7	10.5	0.7	35.8	9.1	2.87	0.35	73 19	HARD	01--07--19--73--01	
NI04427	63.6	10.1	0.8	28.6	7.6	2.62	0.30	71 17	HARD	01--06--14--79--01	
SD07W053	62.8	10.0	0.8	29.5	7.2	2.59	0.27	71 16	HARD	00--06--18--76--01	
SD07126	61.5	10.4	0.5	31.6	9.0	2.68	0.33	70 15	HARD	01--04--17--78--01	
SD07W084	62.6	10.1	0.8	31.5	7.7	2.62	0.28	72 17	HARD	01--05--16--78--01	
SD07165	63.3	10.5	0.8	31.5	8.8	2.69	0.33	67 18	HARD	03--09--24--64--01	
SD05118-1	63.0	10.1	0.6	30.8	7.9	2.65	0.32	73 18	HARD	02--06--14--78--01	
CA9W07-817	62.4	10.6	0.6	30.6	8.2	2.58	0.29	69 16	HARD	01--03--21--75--01	
CA9W07-818	63.4	10.3	0.7	29.9	7.4	2.57	0.29	67 16	HARD	02--08--23--67--01	
CA9W07-819	61.6	10.4	0.7	31.7	8.6	2.66	0.33	75 17	HARD	01--05--13--81--01	
NE06436	62.8	10.7	0.5	34.1	8.8	2.79	0.36	73 17	HARD	00--06--13--81--01	

2009 NRPN Intraregional Production Zone

Northern Plains

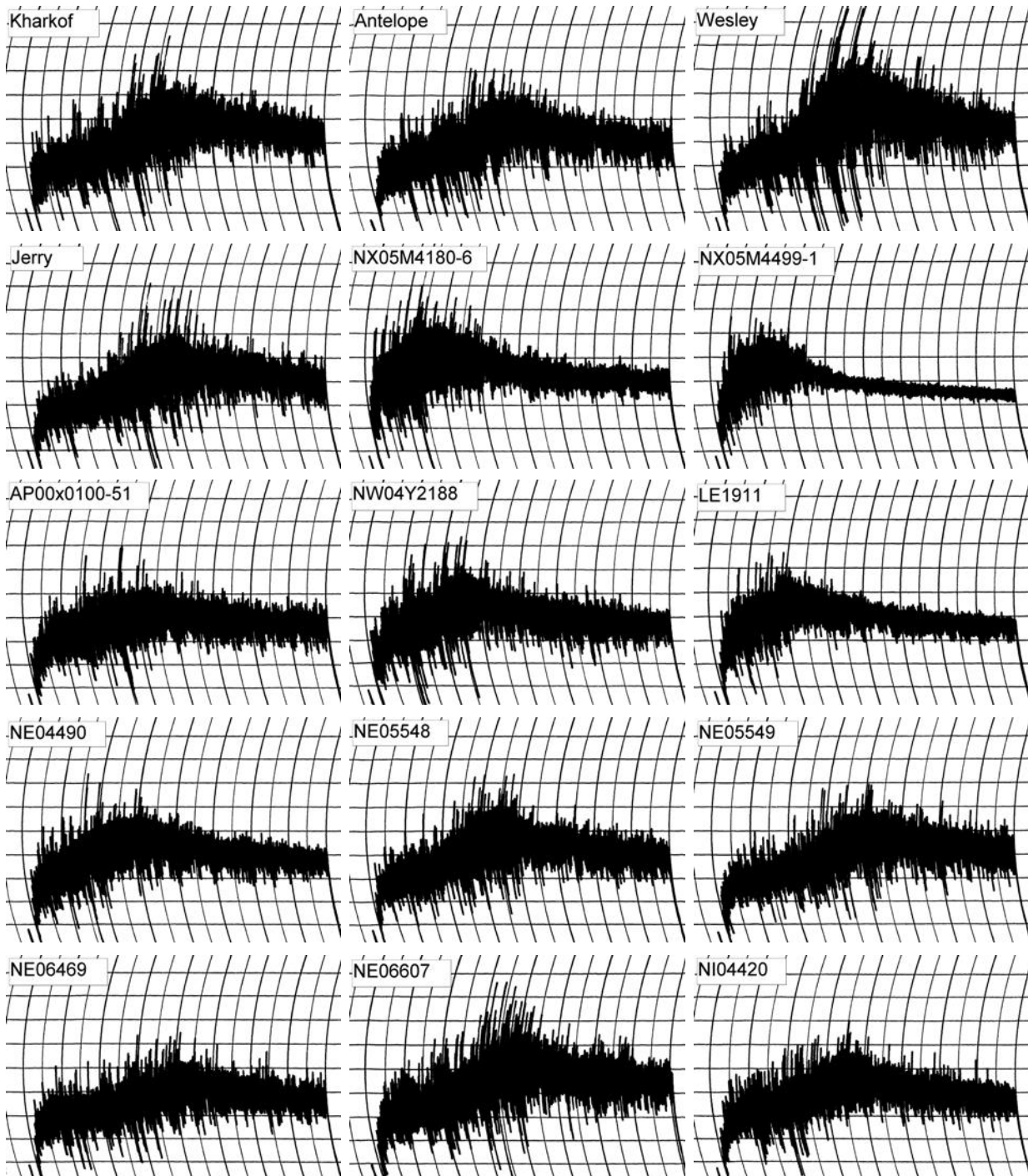
LINE	Wheat		Flour			Noodle Color					
	Protein	Milling Yield	Ash	Protein	PPO	L @ 0	a @ 0	b @ 0	Delta L 24 hrs	Delta a 24 hrs	Delta b 24 hrs
	(%)	(%)	(%)	(%)							
Kharkof	14.7	64.6	0.33	13.9	0.602	81.83	-2.38	22.47	-10.25	0.86	1.90
Antelope	13.7	67.2	0.32	11.7	0.616	83.00	-1.98	20.41	-9.98	0.44	4.58
Wesley	14.4	70.9	0.32	12.8	0.711	81.76	-1.92	20.53	-10.68	0.52	3.09
Jerry	13.2	70.0	0.32	12.3	0.531	83.44	-2.77	24.53	-10.66	1.11	1.99
NX05M4180-6	12.1	60.6	0.38	11.1	0.493	85.21	-3.33	23.59	-13.50	0.80	8.37
NX05M4499-1	13.3	60.4	0.29	11.6	0.312	83.49	-2.94	22.81	-9.54	1.01	3.10
AP00x0100-51	13.4	67.1	0.26	11.7	0.509	54.92	-2.25	23.79	16.33	0.80	2.86
NW04Y2188	13.1	67.4	0.27	11.9	0.584	82.87	-2.33	21.79	-10.27	1.10	1.69
LE1911	12.5	68.6	0.32	11.8	0.721	84.21	-2.15	19.08	-13.34	1.29	5.43
NE04490	13.2	66.5	0.28	11.6	0.855	81.18	-2.19	22.17	-10.86	1.16	1.89
NE05548	13.9	69.3	0.32	12.2	0.638	82.15	-1.90	21.54	-12.42	0.82	3.17
NE05549	13.1	66.7	0.30	11.8	0.660	82.66	-2.22	21.20	-11.72	1.03	2.98
NE06469	12.2	68.8	0.30	12.0	0.649	82.43	-2.48	23.03	-10.62	0.97	3.41
NE06607	13.4	69.9	0.31	11.9	0.686	83.20	-1.82	18.06	-13.36	0.55	5.24
NI04420	13.6	67.8	0.33	11.9	0.589	81.96	-2.07	21.68	-11.06	0.62	3.36
NI04427	13.2	66.3	0.29	12.3	0.623	82.31	-2.68	24.25	-10.64	0.64	2.93
SD07W053	14.1	66.4	0.30	13.0	0.867	81.24	-2.51	24.32	-11.55	1.15	0.68
SD07126	13.8	64.1	0.32	12.8	0.673	82.66	-2.98	26.30	-12.25	1.03	2.10
SD07W084	14.0	66.0	0.25	12.5	0.894	81.73	-2.11	22.35	-11.91	1.02	1.78
SD07165	12.8	66.8	0.30	11.6	0.607	83.35	-2.83	22.69	-11.72	1.11	3.07
SD05118-1	12.3	67.2	0.28	11.4	0.616	83.53	-2.30	20.05	-11.73	0.85	4.85
CA9W07-817	13.9	66.9	0.30	12.4	0.591	82.94	-2.34	22.52	-11.89	0.91	3.58
CA9W07-818	13.6	65.5	0.31	12.4	0.632	82.93	-2.28	21.64	-12.19	0.71	5.09
CA9W07-819	13.3	67.6	0.34	11.8	0.590	82.46	-2.37	22.40	-11.58	0.99	2.51
NE06436	13.1	70.2	0.35	12.8	0.691	82.90	-2.15	20.97	-10.00	1.10	2.77

2009 NRPN Intraregional Production Zone

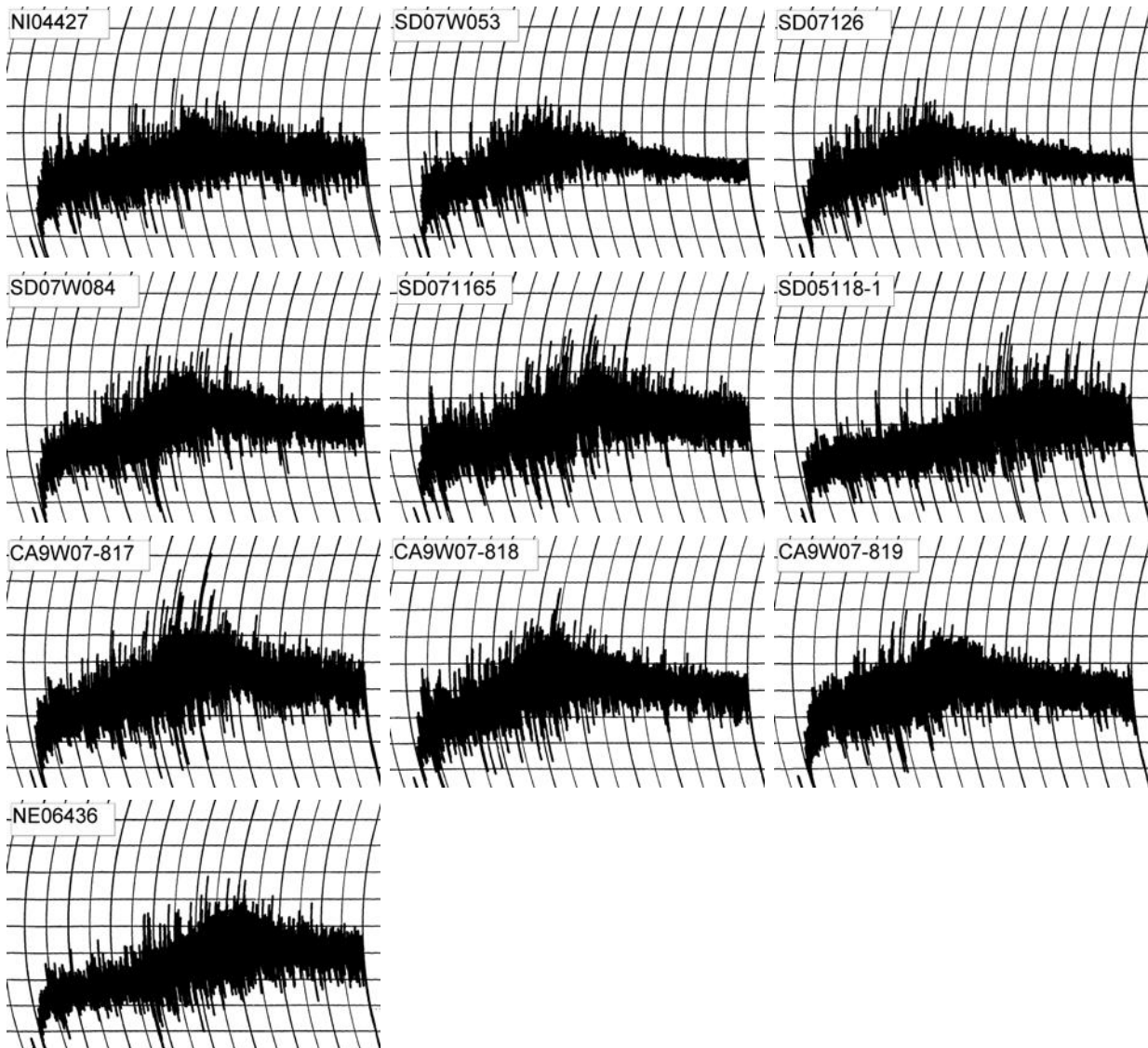
Northern Plains

	Flour Protein	Mixograph			
		Absorption	As-Is	Corrected	Tolerance
Line	(%)	(%)	(min)	(min)	
Kharkof	13.9	64.1	4.00	4.00	3
Antelope	11.7	62.5	3.63	3.51	3
Wesley	12.8	64.3	3.88	3.88	3
Jerry	12.3	63.4	4.00	4.00	3
NX05M4180-6	11.1	61.5	1.88	1.69	1
NX05M4499-1	11.6	62.4	1.38	1.32	0
AP00x0100-51	11.7	62.5	3.25	3.13	3
NW04Y2188	11.9	61.7	2.50	2.47	2
LE1911	11.8	61.6	2.00	1.95	1
NE04490	11.6	62.3	2.75	2.63	1
NE05548	12.2	63.3	3.50	3.50	3
NE05549	11.8	62.6	4.00	3.89	4
NE06469	12.0	62.0	4.00	4.00	3
NE06607	11.9	63.7	3.88	3.82	4
NI04420	11.9	62.8	3.50	3.47	2
NI04427	12.3	61.4	4.38	4.38	3
SD07W053	13.0	62.6	3.13	3.13	0
SD07126	12.8	62.4	3.25	3.25	1
SD07W084	12.5	63.8	3.88	3.88	3
SD07165	11.6	62.3	4.50	4.29	4
SD05118-1	11.4	62.8	6.00	5.54	5
CA9W07-817	12.4	63.7	4.00	4.00	4
CA9W07-818	12.4	63.6	3.50	3.50	3
CA9W07-819	11.8	62.7	3.75	3.67	3
NE06436	12.8	64.2	5.00	5.00	4

2009 NRPN Intraregional Production Zone Northern Plains



2009 NRPN Intraregional Production Zone Northern Plains



2009 NRPN Intraregional Production Zone

Northern Plains

Line	RVA							
	Stirring Number	Peak Viscosity	Trough Viscosity	Breakdown	Final Viscosity	Set back	Peak Time	Pasting Temp
	(RVU)	(RVU)	(RVU)	(RVU)	(RVU)	(RVU)	(min)	(Deg. C)
Kharkof	142.00	235.08	163.75	71.33	280.25	116.50	6.40	86.45
Antelope	131.92	206.75	140.83	65.92	247.92	107.08	6.27	86.40
Wesley	124.00	203.58	144.42	59.17	266.50	122.08	6.20	86.40
Jerry	126.17	204.92	147.33	57.58	269.42	122.08	6.20	85.70
NX05M4180-6	89.50	125.00	65.00	60.00	100.33	35.33	4.07	68.65
NX05M4499-1	88.58	216.83	122.50	94.33	210.67	88.17	6.33	70.25
AP00x0100-51	130.75	213.75	156.17	57.58	268.50	112.33	6.40	86.50
NW04Y2188	114.50	233.08	163.42	69.67	292.58	129.17	6.27	85.70
LE1911	116.17	254.92	170.17	84.75	293.92	123.75	6.27	86.60
NE04490	124.08	221.67	163.08	58.58	289.00	125.92	6.33	86.55
NE05548	133.92	231.17	171.17	60.00	295.17	124.00	6.40	86.45
NE05549	130.75	217.83	150.67	67.17	267.83	117.17	6.27	86.45
NE06469	125.67	216.50	143.08	73.42	258.92	115.83	6.20	86.45
NE06607	109.42	257.67	155.42	102.25	250.83	95.42	6.40	67.80
NI04420	116.33	191.42	134.17	57.25	242.83	108.67	6.20	67.75
NI04427	135.25	227.00	167.67	59.33	298.17	130.50	6.27	86.55
SD07W053	105.00	180.00	111.17	68.83	215.17	104.00	6.07	84.65
SD07126	132.08	243.50	168.25	75.25	292.33	124.08	6.40	86.50
SD07W084	132.42	254.75	174.67	80.08	297.42	122.75	6.40	68.60
SD07165	133.25	272.25	178.42	93.83	298.25	119.83	6.40	86.45
SD05118-1	118.33	217.00	152.58	64.42	282.42	129.83	6.20	85.65
CA9W07-817	132.75	212.17	156.75	55.42	276.92	120.17	6.27	87.40
CA9W07-818	121.42	234.17	167.50	66.67	293.25	125.75	6.27	86.40
CA9W07-819	129.75	245.00	167.42	77.58	288.33	120.92	6.33	67.80
NE06436	121.50	226.50	146.92	79.58	262.83	115.92	6.20	67.75

2009 NRPN Intraregional Production Zone

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	13.9	63.4	5.50	5.50	172.6	8.0	4.5	950	6.3	60
Antelope	11.7	63.5	4.63	4.48	172.8	7.6	4.5	880	5.8	66
Wesley	12.8	64.9	7.25	7.25	174.3	7.8	4.5	920	6.1	63
Jerry	12.3	63.4	5.25	5.25	172.4	7.6	4.0	895	5.9	64
NX05M4180-6	11.1	58.9	3.25	2.92	168.4	7.5	0.0	860	5.8	68
NX05M4499-1	11.6	58.3	2.00	1.91	163.7	7.2	0.5	805	5.5	58
AP00x0100-51	11.7	61.5	4.00	3.86	171.0	7.0	4.0	850	5.7	63
NW04Y2188	11.9	60.5	3.00	2.96	170.4	7.2	3.5	830	5.5	60
LE1911	11.8	59.3	2.50	2.44	168.7	7.0	2.5	820	5.6	59
NE04490	11.6	59.6	3.25	3.11	169.3	7.5	3.0	880	6.0	67
NE05548	12.2	61.5	4.25	4.25	170.9	7.7	4.0	905	6.1	66
NE05549	11.8	62.4	5.63	5.48	171.8	7.8	4.0	900	6.1	68
NE06469	12.0	63.6	5.75	5.74	172.5	7.2	4.0	825	5.4	58
NE06607	11.9	63.9	5.50	5.42	173.5	7.6	4.8	960	6.4	74
NI04420	11.9	63.6	4.13	4.09	173.1	7.7	3.8	940	6.2	72
NI04427	12.3	61.7	5.13	5.13	171.3	7.4	3.0	905	6.1	65
SD07W053	13.0	59.7	3.13	3.13	168.8	7.7	2.0	910	6.1	61
SD07126	12.8	61.8	4.25	4.25	170.5	7.5	2.0	910	6.0	62
SD07W084	12.5	63.5	5.00	5.00	173.0	7.7	4.0	965	6.4	70
SD07165	11.6	63.8	6.25	5.96	173.1	7.9	4.9	960	6.4	77
SD05118-1	11.4	62.6	9.00	8.31	170.6	7.5	4.0	905	6.0	72
CA9W07-817	12.4	64.6	6.00	6.00	173.5	7.5	4.5	895	5.9	63
CA9W07-818	12.4	63.5	4.88	4.88	175.3	7.9	3.8	925	6.1	67
CA9W07-819	11.8	63.6	5.00	4.89	173.0	7.7	3.2	945	6.3	73
NE06436	12.8	64.5	7.38	7.38	173.3	7.3	4.8	890	5.9	60

Southern Regional Performance Nursery

2009 SRPN Intraregional Production Zone

Entry	Selection No.	Pedigree	Source
1	Kharkof	Kharkof	check
2	Scout 66	Scout 66	check
3	TAM-107	TAM-107	check
4	Trego	Trego	check
5	KS05HW136-3	KS98HW518(93HW91/93HW255)//KS98H245(IKE/TA2460//*3T200)/TREG	KSU-HAYS
6	KS06HW46-3	KS98HW220-5-1(ARLIN/YUMA)/KS01HW162(TGO/BTY SIB)	KSU-HAYS
7	T163	93WGRC27/T811	Trio
8	T164	93WGRC27/T811	Trio
9	T165	TAM-107/T21	Trio
10	T166	T81/KS93U206	Trio
11	KS970093-8-9-#1-1	HBK1064-3/KS84063-9-39-3-4W//X960103	KSU-Man
12	KS06O3A~57-1	OVERLEY*3/AMADINA	KSU-Man
13	KS06O3A~58-1	OVERLEY*3/AMADINA	KSU-Man
14	KS020056TM~4-1	KS920709-B-5-2-2/TX00C5008	KSU-Man
15	OK05128	KS94U275/OK94P549 F4:11	OSU
16	OK04525	FFR525W/Hickok//Coronado F4:12	OSU
17	OK04111	2174*2/Jagger F4:12	OSU
18	OK04315	N563/OK94P597 F4:12	OSU
19	OK05212	OK95616-1/Hickok//Betty F4:11	OSU
20	NE05403	IN92823A1-1-4-5/NE92458	UNL
21	NE05426	W95-091 (=KS85-663-8-9//WI81-133/THUNDERBIRD)/AKRON	UNL
22	NE05496	KS95HW62-6 (=KS87H325/RIO BLANCO)/Hallam	UNL
23	NE06545	KS92-946-B-15-1=(ABI86*3414/JAG//K92)/Alliance	UNL
24	NE05430	IN92823A1-1-4-5/NE92458	UNL
25	CO03W054-2	KS96HW94//Trego/CO960293	CSU
26	CO03064-2	CO970547/Prowers 99	CSU
27	TX01V5134RC-3	TAM-200/JAGGER	Texas A&M
28	TX04V075080	JAGGER/TX93V5722//TX95D8905	Texas A&M
29	TX05A001614	X96V057/TX95V6214	Texas A&M
30	TX05A001639	X96V079/KS84W063-9-39	Texas A&M
31	TX05A001828	TX99U8618/Cutter	Texas A&M
32	TX05A001822	2145/X940786-6-7	Texas A&M
33	TX06A001263	TX97V3006/TX98V6239	Texas A&M
34	TX05A001398	NE93407/TX86V1115/4/T107//TX78V3620/Ctk78/3/TX87V1233	Texas A&M
35	CO04393	Stanton/CO950043	CSU
36	CO04499	Above/Stanton	CSU
37	AP00x0100-51	W95-301/W98-151	AgriPro North
38	Jackpot	W98-232/KS96WGRC38	AgriPro South
39	AP05T2413	(KS95U522/TX95VA0011)F1/Jagger	AgriPro South
40	AP06TA4520	Mason /Jagger	AgriPro South
41	AP06T3832	HBK0935-29-15/KS90W077-2-2/VBF0589-1	AgriPro South
42	NW04Y2188	MO8/REDLAND//KS91H184/3*RIO BLANCO	ARS-LNK
43	HV9W04-1186W	XH1881/98HW423	Westbred, Haven
44	HV9W04-1594R	KS89180B-2-1-1/CMBW91M02959T//JGR	Westbred, Haven
45	HV9W03-1596R	B1397-1/WGRC33	Westbred, Haven
46	HV9W05-1125R	00KSULR-73/G980039	Westbred, Haven



Hard Winter Wheat Quality Report 2009 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	44.7	Very Poor	67.6	46.4	Average	63.9		2,4,8,10,
Scout66	63.9	Very Good	96.6	47.6	Average	65.6		
TAM 107	59.7	Average	90.2	61.3	Very Good	84.5	1AL	5,
Trego	63.0	Very Good	95.4	36.4	Very Poor	50.1		16,
Tiger	61.0	Good	92.3	36.2	Very Poor	49.9		14,15,
KS06HW46-3	66.1	Very Good	100.0	48.7	Average	67.1		
T163	57.7	Poor	87.3	31.9	Very Poor	43.9		14,
T164	58.6	Average	88.7	33.5	Very Poor	46.2	1AL	14,15,
T165	60.9	Average	92.1	51.3	Good	70.7	1AL	11,
T166	60.9	Good	92.1	37.5	Poor	51.6	1AL	16,19,
KS970093-8-9-#1-1	64.1	Very Good	97.0	48.7	Average	67.1		12,16,17,19,
KS06O3A~57-1	62.3	Good	94.3	42.1	Poor	58.0		15,
KS06O3A~58-1	59.8	Average	90.5	41.5	Poor	57.1	1BL	16,20,
KS020056TM~4-1	57.4	Poor	86.9	41.0	Poor	56.5		15,
OK05128	58.5	Average	88.6	55.6	Good	76.7		14,15,
OK04525	56.4	Poor	85.3	58.2	Very Good	80.2		2,5,
OK04111	61.6	Good	93.2	58.0	Very Good	80.0		9,16,
OK04315	60.2	Average	91.0	39.9	Poor	55.0		16,
OK05212	57.8	Average	87.4	54.7	Good	75.3		4,16,18,20,
NE05403	56.1	Very Poor	84.9	40.4	Poor	55.7		2,4,16,
NE05426	61.6	Good	93.1	43.2	Poor	59.5		14,15,21,
NE05496	61.2	Good	92.5	28.8	Very Poor	39.6		14,15,18,
NE06545	57.9	Average	87.6	28.3	Very Poor	38.9		6,11,15,17,19,
NE05430	61.2	Good	92.5	42.9	Poor	59.2		
Snowmass	56.0	Very Poor	84.8	33.3	Very Poor	45.9		3,5,14,15,
CO03064-2	53.9	Very Poor	81.6	49.4	Average	68.1		2,4,14,15,
TX01V5134RC-3	57.4	Poor	86.9	47.6	Average	65.5	1AL	9,10,
TX04V075080	54.6	Very Poor	82.7	72.6	Very Good	100.0		8,
TX05A001614	55.3	Very Poor	83.7	55.0	Good	75.8	1BL	8,
TX05A001639	57.3	Poor	86.7	60.6	Very Good	83.5		9,

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 2009 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
TX05A001828	65.9	Very Good	99.7	59.5	Very Good	82.0		15,
TX05A001822	65.0	Very Good	98.3	60.7	Very Good	83.6		
TX06A001263	56.8	Poor	86.0	55.6	Good	76.6	1AL	15,
TX05A001398	59.9	Average	90.7	49.9	Average	68.7		15,
CO04393	63.5	Very Good	96.1	58.1	Very Good	80.1		15,
CO04499	61.5	Good	93.0	38.6	Poor	53.2		15,
SY Gold	61.2	Good	92.7	35.8	Very Poor	49.4		17,18,19,
Jackpot	62.6	Very Good	94.7	44.3	Average	61.1		16,
AP05T2413	57.4	Poor	86.8	72.5	Very Good	99.9	1AL	16,
AP06TA4520	54.4	Very Poor	82.3	57.7	Good	79.5		
Greer	55.2	Very Poor	83.5	36.9	Very Poor	50.9		1,3,9,14,15,
NW04Y2188	54.4	Very Poor	82.3	53.3	Good	73.4		16,
HV9W04-1186W	63.1	Very Good	95.4	33.7	Very Poor	46.4		12,13,16,17,
HV9W04-1594R	51.2	Very Poor	77.5	54.2	Good	74.7	1BL	1,4,10,
HV9W03-1596R	56.6	Poor	85.6	57.1	Good	78.7		
HV9W05-1125R	57.6	Poor	87.1	43.3	Average	59.7		16,

2009 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	59.4	12.6	0.6	29.8	8.2	2.59	0.29	42 19	MIXED	33--29--20--18--03	
Scout 66	60.2	11.6	0.5	35.1	8.4	2.76	0.29	56 17	HARD	08--22--26--44--02	
TAM-107	59.5	11.9	0.5	36.4	9.4	2.79	0.36	60 15	HARD	03--15--29--53--01	
Trego	61.2	12.1	0.6	36.1	8.7	2.80	0.32	59 16	HARD	06--13--30--51--02	
KS05HW136-3	60.3	12.1	0.5	35.5	8.9	2.76	0.30	56 16	HARD	08--18--31--43--02	
KS06HW46-3	62.0	12.2	0.4	37.3	7.9	2.88	0.28	68 15	HARD	01--05--21--73--01	
T163	58.9	11.9	0.5	34.1	9.0	2.78	0.33	58 16	HARD	03--19--35--43--01	
T164	58.3	12.1	0.5	36.0	8.4	2.83	0.33	53 17	MIXED	12--24--31--33--03	
T165	60.1	12.2	0.5	34.2	8.5	2.76	0.33	66 19	HARD	04--07--20--69--01	
T166	60.0	12.2	0.5	35.4	8.9	2.77	0.34	66 14	HARD	03--06--23--68--01	
KS970093-8-9-#1-1	58.7	12.2	0.4	34.8	7.8	2.78	0.29	59 15	HARD	03--17--31--49--01	
KS06O3A~57-1	58.5	12.2	0.5	37.2	8.4	2.94	0.31	56 15	HARD	08--16--35--41--02	
KS06O3A~58-1	59.5	12.2	0.6	39.3	9.3	2.92	0.34	70 15	HARD	00--04--20--76--01	
KS020056TM~4-1	59.0	12.0	0.5	33.3	9.0	2.76	0.33	71 17	HARD	00--06--18--76--01	
OK05128	59.8	11.9	0.5	34.7	8.7	2.81	0.34	59 17	HARD	05--18--30--47--01	
OK04525	59.8	12.0	0.4	30.7	9.0	2.70	0.37	74 16	HARD	01--02--15--82--01	
OK04111	60.0	12.1	0.5	35.6	8.1	2.88	0.31	75 16	HARD	01--02--14--83--01	
OK04315	60.4	12.0	0.5	35.5	7.9	2.81	0.30	68 17	HARD	03--07--14--76--01	
OK05212	59.8	12.0	0.5	32.0	8.2	2.61	0.30	60 16	HARD	04--15--35--46--01	
NE05403	59.7	12.2	0.5	30.4	8.2	2.66	0.34	58 16	HARD	06--19--29--46--02	
NE05426	59.7	12.1	0.5	34.3	8.6	2.77	0.32	64 14	HARD	01--09--28--62--01	
NE05496	59.2	12.2	0.6	33.6	9.1	2.73	0.33	58 15	HARD	04--19--34--43--01	
NE06545	58.3	12.5	0.5	35.5	8.5	2.79	0.35	40 18	MIXED	39--25--24--12--03	
NE05430	60.1	12.1	0.5	32.5	8.1	2.74	0.28	58 16	HARD	05--18--29--48--01	
CO03W054-2	59.4	12.4	0.5	34.8	9.9	2.82	0.37	75 17	HARD	01--05--13--81--01	
CO03064-2	58.3	12.4	0.5	30.2	8.9	2.63	0.33	66 18	HARD	03--11--22--64--01	
TX01V5134RC-3	60.7	12.3	0.5	35.1	9.0	2.84	0.35	75 17	HARD	00--04--16--80--01	
TX04V075080	59.5	12.3	0.6	38.3	9.4	2.84	0.31	57 15	HARD	04--20--32--44--01	
TX05A001614	59.6	12.5	0.5	35.0	8.6	2.83	0.34	66 15	HARD	01--07--29--63--01	
TX05A001639	58.8	12.2	0.5	34.9	8.7	2.82	0.29	69 17	HARD	01--05--22--72--01	
TX05A001828	60.5	12.4	0.5	36.0	7.7	2.83	0.26	63 14	HARD	01--12--32--55--01	
TX05A001822	60.4	12.3	0.5	36.1	7.1	2.85	0.29	53 15	HARD	08--22--38--32--02	
TX06A001263	59.3	12.8	0.4	31.6	9.2	2.69	0.34	74 16	HARD	00--02--15--83--01	
TX05A001398	60.3	12.3	0.6	31.8	8.6	2.72	0.31	61 16	HARD	03--17--25--55--01	
CO04393	60.0	12.2	0.5	34.5	7.8	2.81	0.29	55 17	HARD	06--25--30--39--02	
CO04499	60.2	12.3	0.5	35.4	8.5	2.77	0.31	60 16	HARD	05--12--30--53--01	
AP00x0100-51	59.9	12.1	0.6	36.6	9.0	2.85	0.31	68 15	HARD	01--05--23--71--01	
Jackpot	59.4	12.2	0.5	37.8	8.9	2.87	0.33	64 14	HARD	02--08--25--65--01	
AP05T2413	59.3	12.2	0.5	36.9	9.1	2.84	0.32	62 14	HARD	02--09--30--59--01	
AP06TA4520	59.2	12.3	0.5	33.9	9.3	2.72	0.34	68 20	HARD	03--12--19--66--01	
AP06T3832	57.0	12.6	0.5	32.4	9.7	2.69	0.36	61 17	HARD	04--15--29--52--01	
NW04Y2188	58.3	12.2	0.5	33.3	8.8	2.72	0.30	44 16	MIXED	25--31--30--14--03	
HV9W04-1186W	59.1	12.4	0.5	35.2	8.7	2.77	0.31	63 17	HARD	04--11--27--58--01	
HV9W04-1594R	58.0	12.2	0.5	32.1	8.8	2.65	0.34	46 15	MIXED	17--34--29--20--03	
HV9W03-1596R	58.9	12.2	0.5	33.0	9.1	2.74	0.34	64 17	HARD	02--12--24--62--01	

LINE	Wt/Bu (lb)	SKCS Average Kernel						Hardness			
		Moisture		Weight		Diameter		SKCS		Class	Distribution
		(%)	(sd)	(mg)	(sd)	(mm)	(sd)	(sd)			
HV9W05-1125R	59.1	12.5	0.6	32.6	8.3	2.67	0.29	67	17	HARD	02--08--22--68--01

2009 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	15.3	64.3	0.36	13.4	0.567	80.70	-2.08	21.54	-10.82	1.03	2.51
Scout 66	14.1	71.3	0.34	12.7	0.665	80.78	-1.67	19.90	-11.60	0.84	4.44
TAM-107	13.4	68.9	0.35	12.0	0.672	80.48	-2.16	23.39	-11.45	1.34	2.33
Trego	13.4	69.3	0.33	11.8	0.659	81.13	-1.88	20.23	-11.07	1.84	1.15
KS05HW136-3	13.3	69.5	0.36	11.7	0.244	82.07	-1.97	19.65	-9.72	1.33	2.34
KS06HW46-3	13.6	68.8	0.37	12.1	0.810	82.32	-2.11	19.46	-13.14	1.24	4.00
T163	13.2	68.5	0.34	11.6	0.698	82.51	-1.82	19.44	-12.63	1.29	3.93
T164	13.3	69.3	0.35	11.9	0.682	81.21	-2.00	21.54	-11.78	1.79	1.96
T165	12.6	69.9	0.35	11.4	0.649	80.52	-2.25	22.77	-10.20	1.69	0.42
T166	12.9	67.9	0.34	11.5	0.648	81.23	-1.97	21.68	-10.75	1.52	2.43
KS970093-8-9-#1-1	13.5	70.7	0.34	11.9	0.623	80.70	-1.94	22.43	-9.93	1.33	1.43
KS06O3A~57-1	14.7	70.1	0.37	13.4	0.637	79.93	-1.72	22.25	-11.02	1.43	1.33
KS06O3A~58-1	14.3	67.2	0.38	13.4	0.563	80.18	-1.58	22.20	-11.97	1.46	2.97
KS020056TM~4-1	14.1	67.7	0.36	12.7	0.662	80.72	-1.33	19.91	-11.65	1.62	3.02
OK05128	14.0	68.1	0.32	12.2	0.307	81.32	-1.65	20.15	-11.17	1.16	3.28
OK04525	14.4	68.0	0.40	13.0	0.250	81.23	-1.97	22.30	-11.33	1.35	3.33
OK04111	14.0	68.1	0.41	12.7	0.652	81.26	-2.18	22.17	-10.01	1.05	2.45
OK04315	14.4	67.4	0.36	12.9	0.609	81.11	-1.91	20.55	-10.14	0.63	3.27
OK05212	14.0	67.6	0.31	13.0	0.590	82.21	-1.71	19.49	-10.78	0.71	3.50
NE05403	13.9	68.2	0.36	12.5	0.626	81.04	-2.24	22.49	-11.87	0.90	2.70
NE05426	14.1	68.4	0.32	12.7	0.582	80.79	-1.61	21.04	-10.38	0.67	2.79
NE05496	13.4	70.4	0.34	11.9	0.714	82.01	-2.21	21.54	-11.99	0.92	4.10
NE06545	12.5	71.8	0.39	10.9	0.652	83.03	-2.56	21.23	-13.02	0.68	6.70
NE05430	13.5	69.7	0.36	12.0	0.653	81.65	-2.66	23.71	-12.08	1.79	0.97
CO03W054-2	13.2	67.5	0.39	11.8	0.742	83.04	-2.30	20.98	-14.02	1.34	3.51
CO03064-2	13.1	68.4	0.37	11.5	0.703	82.31	-1.53	18.64	-11.40	1.03	4.32
TX01V5134RC-3	14.9	67.2	0.43	12.8	0.692	80.55	-1.82	21.98	-12.72	1.33	3.62
TX04V075080	15.2	65.6	0.38	13.8	0.782	80.42	-1.50	20.58	-15.84	1.67	1.31
TX05A001614	14.0	65.8	0.41	12.8	0.614	80.21	-1.73	22.57	-11.77	1.43	1.48
TX05A001639	13.6	67.9	0.42	12.5	0.712	80.20	-1.94	22.42	-13.12	1.67	2.48
TX05A001828	13.4	69.7	0.36	12.0	0.673	80.76	-2.00	21.93	-11.58	0.83	2.85
TX05A001822	13.7	69.8	0.34	12.4	0.613	81.31	-2.25	22.71	-12.27	0.80	3.14
TX06A001263	14.1	67.7	0.38	12.4	0.788	81.65	-1.99	21.22	-13.43	0.88	3.66
TX05A001398	13.7	69.1	0.33	12.1	0.745	81.11	-2.07	21.88	-10.35	0.56	2.98
CO04393	13.5	70.1	0.30	12.1	0.757	83.62	-1.87	19.04	-13.76	0.60	6.34
CO04499	13.9	69.0	0.33	12.2	0.663	81.31	-2.41	23.25	-10.17	0.78	3.23
AP00x0100-51	13.7	67.8	0.34	12.1	0.589	81.58	-1.79	20.21	-12.72	1.30	4.06
Jackpot	13.9	69.3	0.38	12.7	0.628	80.52	-1.50	20.66	-11.82	1.03	2.60
AP05T2413	15.4	66.5	0.38	13.9	0.592	80.66	-1.78	21.46	-13.62	1.09	3.17
AP06TA4520	13.7	68.2	0.39	12.2	0.603	81.13	-2.02	22.60	-11.53	0.99	2.76
AP06T3832	13.5	70.7	0.42	12.0	0.648	80.64	-1.81	20.59	-12.47	1.31	2.93
NW04Y2188	13.8	68.2	0.34	12.3	0.618	80.83	-1.66	20.78	-13.50	1.96	0.49

LINE	Wheat		Flour			Noodle Color					
	Protein	Milling	Ash	Protein	PPO	L @ 0	a @ 0	b @ 0	Delta L	Delta a	Delta b
	(%)	Yield							24 hrs	24 hrs	24 hrs
	(%)	(%)	(%)	(%)							
HV9W04-1186W	13.0	71.1	0.35	11.7	0.671	81.99	-2.39	22.05	-8.93	1.70	0.44
HV9W04-1594R	14.0	67.7	0.41	12.1	0.580	80.09	-1.86	22.80	-11.40	1.67	1.80
HV9W03-1596R	14.1	68.4	0.37	12.7	0.633	79.38	-1.74	22.40	-10.28	1.69	0.16
HV9W05-1125R	14.6	68.5	0.39	12.8	0.729	80.22	-2.15	22.72	-11.26	1.80	0.64

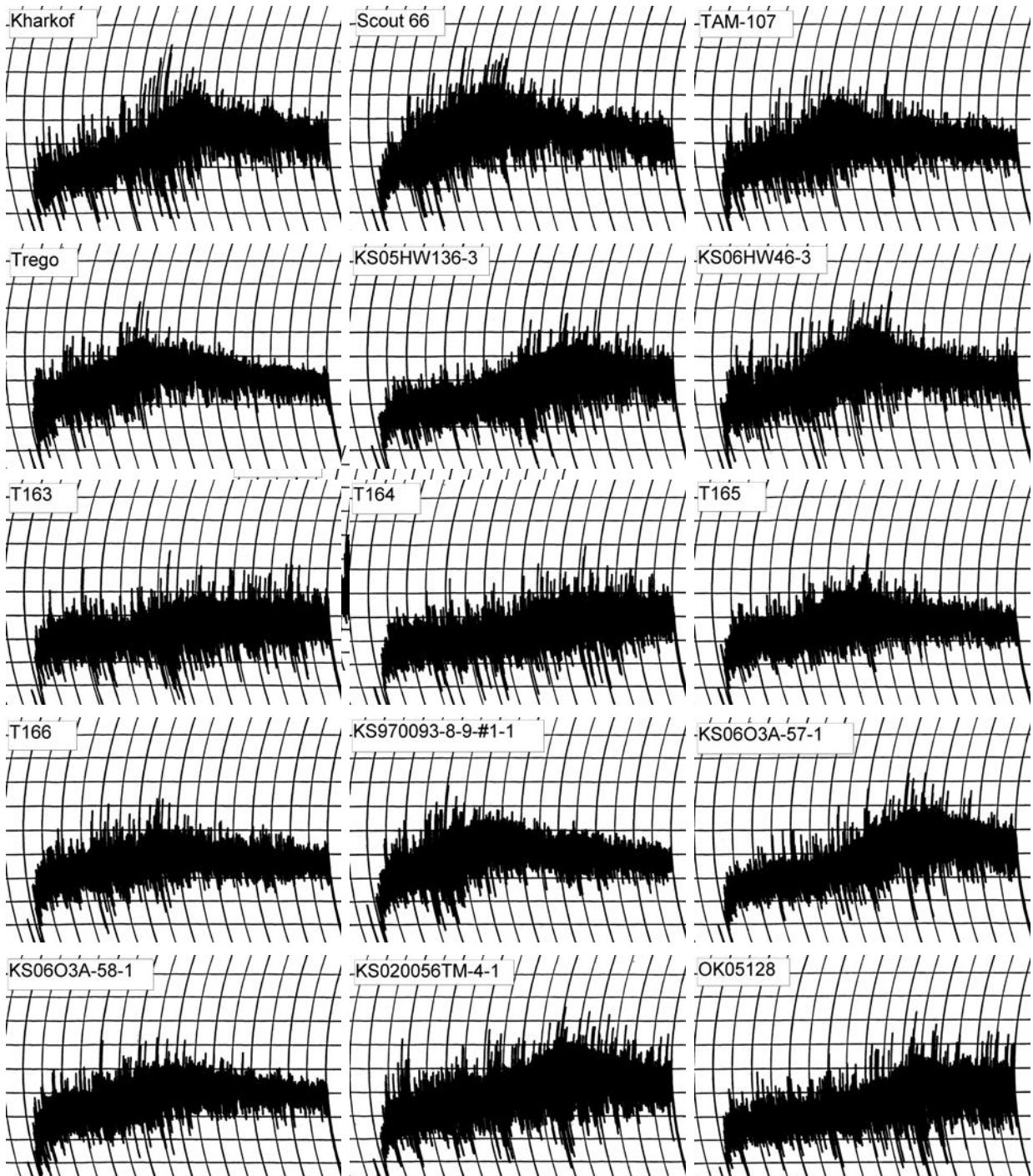
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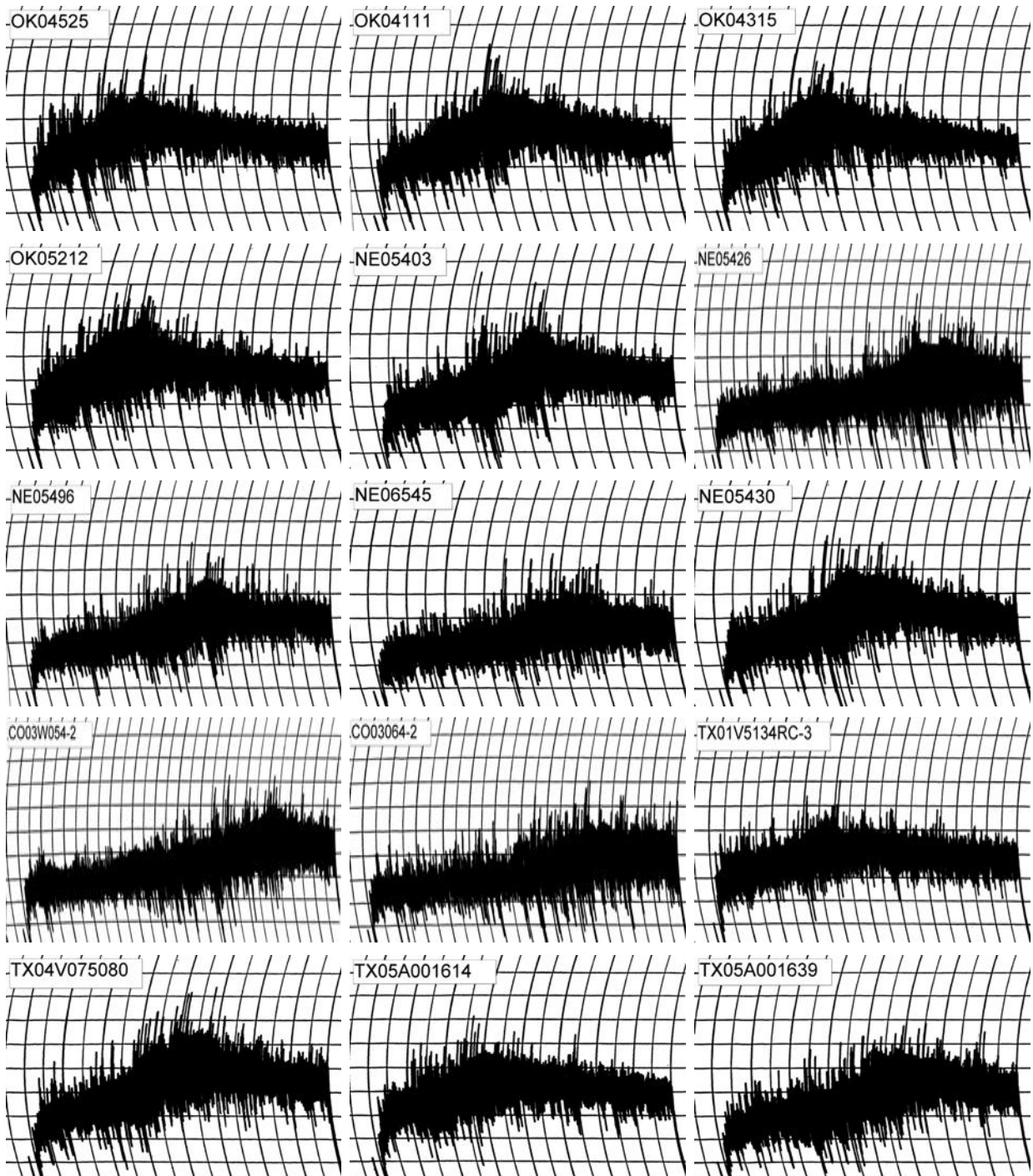
	Flour Protein	Mixograph			
		Absorption	As-Is	Corrected	Tolerance
Line	(%)	(%)	(min)	(min)	
Kharkof	13.4	65.3	4.38	4.38	4
Scout 66	12.7	64.2	3.13	3.13	3
TAM-107	12.0	62.9	3.38	3.37	4
Trego	11.8	62.6	3.13	3.05	2
KS05HW136-3	11.7	62.5	5.50	5.31	5
KS06HW46-3	12.1	63.1	4.00	4.00	4
T163	11.6	61.2	4.63	4.38	5
T164	11.9	61.8	5.88	5.84	5
T165	11.4	61.9	4.00	3.70	3
T166	11.5	62.0	3.50	3.28	2
KS970093-8-9-#1-1	11.9	62.9	3.25	3.23	2
KS06O3A~57-1	13.4	64.3	5.63	5.63	5
KS06O3A~58-1	13.4	63.8	3.88	3.88	2
KS020056TM~4-1	12.7	64.1	5.38	5.38	5
OK05128	12.2	63.3	5.50	5.50	6
OK04525	13.0	64.5	3.00	3.00	4
OK04111	12.7	64.1	3.50	3.50	2
OK04315	12.9	64.5	2.88	2.88	2
OK05212	13.0	64.6	3.00	3.00	2
NE05403	12.5	63.7	4.38	4.38	2
NE05426	12.7	65.1	9.13	9.13	6
NE05496	11.9	62.8	6.00	5.96	4
NE06545	10.9	61.0	5.63	4.87	4
NE05430	12.0	62.9	3.63	3.62	4
CO03W054-2	11.8	62.6	1.25	1.02	6
CO03064-2	11.5	62.1	8.75	8.25	6
TX01V5134RC-3	12.8	64.3	3.88	3.88	4
TX04V075080	13.8	66.0	4.50	4.50	4
TX05A001614	12.8	62.8	3.13	3.13	3
TX05A001639	12.5	63.7	4.75	4.75	4
TX05A001828	12.0	61.0	5.50	5.50	4
TX05A001822	12.4	62.6	5.13	5.13	4
TX06A001263	12.4	62.6	6.00	6.00	4
TX05A001398	12.1	61.1	5.38	5.38	3
CO04393	12.1	62.0	6.50	6.50	5
CO04499	12.2	62.3	5.63	5.63	5
AP00x0100-51	12.1	61.1	4.63	4.63	3
Jackpot	12.7	62.5	4.50	4.50	2
AP05T2413	13.9	65.0	3.13	3.13	2
AP06TA4520	12.2	63.4	4.00	4.00	4
AP06T3832	12.0	61.9	5.50	5.49	4
NW04Y2188	12.3	63.5	3.38	3.38	1

	Flour Protein	Mixograph			
		Absorption	As-Is	Corrected	Tolerance
Line	(%)	(%)	(min)	(min)	
HV9W04-1186W	11.7	58.9	4.38	4.20	1
HV9W04-1594R	12.1	62.1	4.63	4.63	3
HV9W03-1596R	12.7	64.1	5.00	5.00	3
HV9W05-1125R	12.8	64.3	3.75	3.75	2

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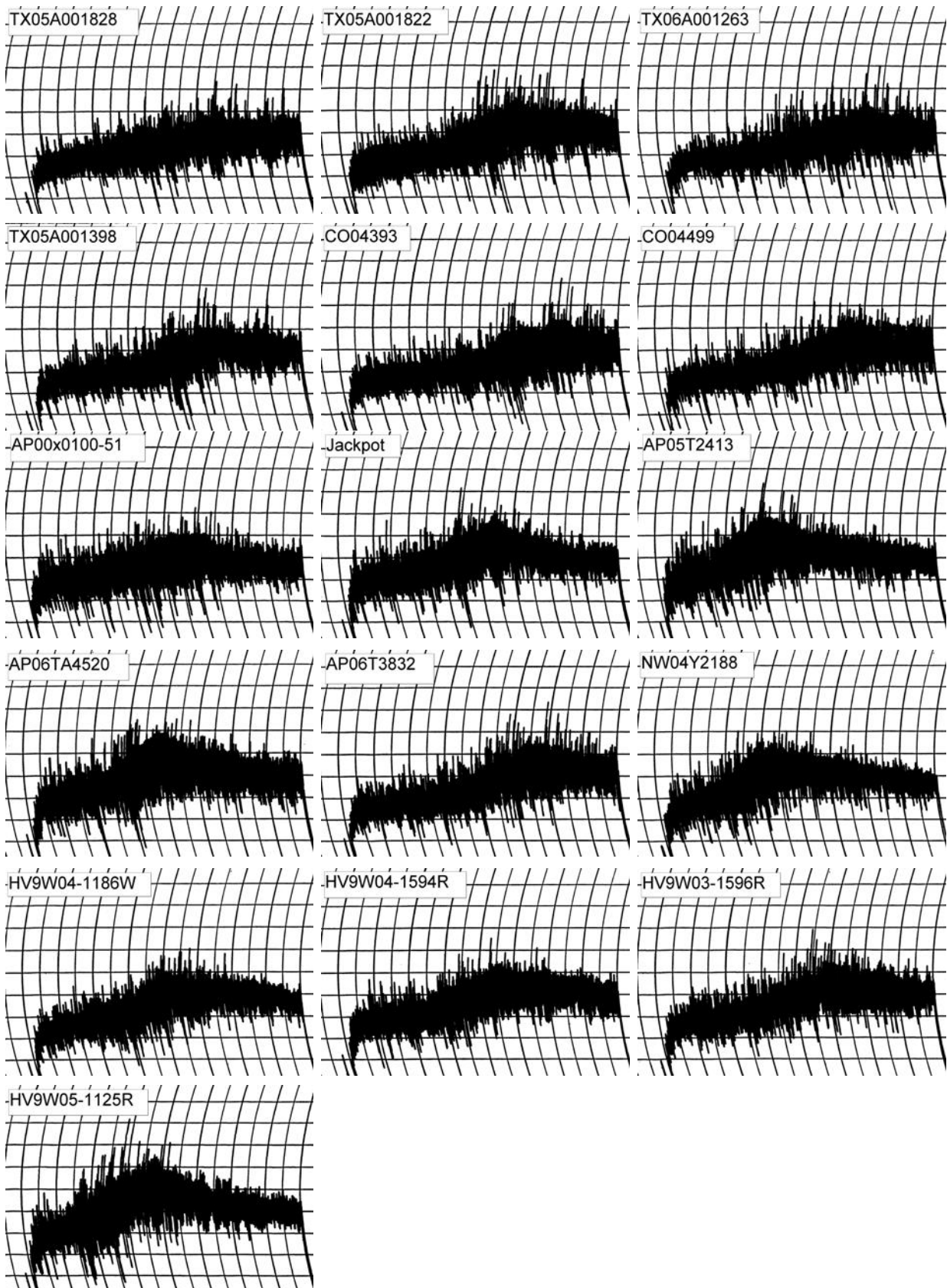


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Line	RVA							
	Stirring Number	Peak Viscosity	Trough Viscosity	Breakdown	Final Viscosity	Set back	Peak Time	Pasting Temp
	(RVU)	(RVU)	(RVU)	(RVU)	(RVU)	(RVU)	(min)	(Deg. C)
Kharkof	148.17	240.83	164.33	76.50	279.75	115.42	6.40	86.50
Scout 66	132.67	225.67	147.58	78.08	262.08	114.50	6.20	85.65
TAM-107	137.83	276.33	181.92	94.42	303.42	121.50	6.47	67.75
Trego	124.00	271.08	155.50	115.58	255.92	100.42	6.40	68.55
KS05HW136-3	84.33	167.08	60.50	106.58	124.75	64.25	5.67	67.75
KS06HW46-3	123.50	267.17	156.00	111.17	253.00	97.00	6.33	66.85
T163	131.00	287.58	182.17	105.42	299.58	117.42	6.40	69.45
T164	135.00	283.42	181.50	101.92	300.25	118.75	6.40	84.75
T165	125.25	263.67	168.42	95.25	293.67	125.25	6.27	68.55
T166	129.92	271.42	174.83	96.58	293.00	118.17	6.40	68.55
KS970093-8-9-#1-1	170.58	266.08	189.83	76.25	301.25	111.42	6.53	86.55
KS06O3A~57-1	129.08	259.17	169.67	89.50	286.42	116.75	6.33	86.55
KS06O3A~58-1	130.75	238.58	151.75	86.83	267.92	116.17	6.27	66.05
KS020056TM~4-1	147.00	231.58	149.50	82.08	258.33	108.83	6.27	67.80
OK05128	134.50	278.33	181.50	96.83	299.67	118.17	6.40	67.85
OK04525	139.92	253.92	161.58	92.33	270.42	108.83	6.40	67.90
OK04111	113.92	237.42	145.17	92.25	251.67	106.50	6.20	67.80
OK04315	115.42	229.50	145.42	84.08	261.83	116.42	6.13	67.00
OK05212	116.50	246.67	154.08	92.58	263.75	109.67	6.27	67.75
NE05403	127.58	273.33	173.75	99.58	281.50	107.75	6.47	69.55
NE05426	123.33	231.08	138.67	92.42	244.75	106.08	6.13	84.10
NE05496	122.58	276.58	152.00	124.58	250.33	98.33	6.27	67.75
NE06545	127.50	267.58	169.75	97.83	288.17	118.42	6.27	84.85
NE05430	151.33	263.67	178.50	85.17	287.00	108.50	6.47	86.40
CO03W054-2	125.08	235.58	153.25	82.33	265.42	112.17	6.33	86.50
CO03064-2	130.25	226.67	147.33	79.33	271.83	124.50	6.13	84.85
TX01V5134RC-3	143.17	234.25	153.58	80.67	271.33	117.75	6.27	84.75
TX04V075080	109.67	247.92	130.25	117.67	221.58	91.33	6.27	67.75
TX05A001614	150.00	272.42	170.33	102.08	269.25	98.92	6.40	67.70
TX05A001639	119.58	216.67	129.92	86.75	227.83	97.92	6.13	84.10
TX05A001828	126.00	257.58	152.83	104.75	244.67	91.83	6.40	69.45
TX05A001822	125.50	241.33	168.25	73.08	289.25	121.00	6.33	86.55
TX06A001263	110.75	267.67	149.92	117.75	253.58	103.67	6.33	67.70
TX05A001398	129.67	244.83	151.00	93.83	256.67	105.67	6.27	84.90
CO04393	125.25	274.25	169.25	105.00	279.25	110.00	6.40	69.35
CO04499	129.83	270.58	167.75	102.83	272.33	104.58	6.40	69.35
AP00x0100-51	124.92	222.17	150.17	72.00	266.08	115.92	6.20	86.50
Jackpot	145.58	265.42	178.00	87.42	293.67	115.67	6.47	67.75
AP05T2413	125.58	249.08	165.17	83.92	285.33	120.17	6.40	67.75
AP06TA4520	119.83	203.58	134.92	68.67	247.42	112.50	6.20	67.85
AP06T3832	133.00	255.08	157.17	97.92	274.58	117.42	6.27	86.40
NW04Y2188	130.00	223.00	141.83	81.17	255.33	113.50	6.20	84.95
HV9W04-1186W	104.17	206.83	111.75	95.08	206.50	94.75	6.07	84.80
HV9W04-1594R	136.33	213.92	136.75	77.17	241.17	104.42	6.20	86.55
HV9W03-1596R	130.75	232.58	150.00	82.58	261.58	111.58	6.33	86.50
HV9W05-1125R	124.75	233.42	157.17	76.25	275.08	117.92	6.27	67.80

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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	13.4	64.0	6.00	6.00	172.8	7.7	4.5	975	6.5	65
Scout 66	12.7	64.2	4.25	4.25	173.5	7.9	3.5	995	6.6	71
TAM-107	12.0	62.5	5.13	5.12	171.8	7.6	4.0	970	6.5	75
Trego	11.8	61.4	3.75	3.66	170.5	7.3	3.5	915	6.1	70
KS05HW136-3	11.7	62.3	7.88	7.61	170.9	7.6	4.5	995	6.7	80
KS06HW46-3	12.1	63.2	5.00	5.00	172.4	7.7	4.5	980	6.6	75
T163	11.6	62.4	8.88	8.41	170.9	7.3	3.8	900	6.1	70
T164	11.9	62.2	7.63	7.57	171.1	7.4	3.5	950	6.5	73
T165	11.4	61.1	4.13	3.82	170.1	7.5	3.0	950	6.5	77
T166	11.5	61.6	4.63	4.34	170.9	7.2	3.5	875	5.9	68
KS970093-8-9-#1-1	11.9	60.3	3.75	3.72	169.2	7.4	4.0	875	6.0	64
KS06O3A~57-1	13.4	65.2	7.00	7.00	174.2	7.7	4.5	985	6.6	66
KS06O3A~58-1	13.4	63.3	5.13	5.13	172.4	7.5	3.8	880	5.9	56
KS020056TM~4-1	12.7	66.3	6.63	6.63	175.2	7.5	3.5	925	6.1	64
OK05128	12.2	63.3	8.13	8.13	171.9	7.5	5.0	950	6.4	70
OK04525	13.0	63.2	4.38	4.38	172.2	7.5	4.0	915	6.1	62
OK04111	12.7	63.3	4.13	4.13	172.8	7.5	4.0	945	6.3	66
OK04315	12.9	63.4	3.75	3.75	172.3	7.5	3.8	935	6.2	64
OK05212	13.0	64.3	4.00	4.00	173.5	7.0	4.0	900	5.9	60
NE05403	12.5	63.2	6.00	6.00	172.6	7.5	3.8	940	6.3	67
NE05426	12.7	64.2	11.63	11.63	171.8	7.5	2.0	975	6.5	70
NE05496	11.9	61.0	7.50	7.45	170.5	7.1	2.5	890	6.0	66
NE06545	10.9	60.3	7.13	6.17	168.7	7.2	3.5	855	5.8	70
NE05430	12.0	63.0	5.88	5.87	171.5	7.6	4.5	925	6.2	70
CO03W054-2	11.8	62.2	13.75	13.47	170.3	7.8	3.5	920	6.2	70
CO03064-2	11.5	62.5	12.00	11.32	170.1	7.4	4.0	950	6.5	76
TX01V5134RC-3	12.8	62.9	5.00	5.00	171.5	7.6	4.5	945	6.3	66
TX04V075080	13.8	66.2	5.38	5.38	174.6	7.8	5.0	1015	6.7	66
TX05A001614	12.8	62.1	4.13	4.13	171.6	7.5	4.0	915	6.2	63
TX05A001639	12.5	64.0	6.75	6.75	173.1	7.5	5.0	950	6.3	69
TX05A001828	12.0	61.0	5.63	5.63	170.9	7.5	5.0	955	6.5	72
TX05A001822	12.4	61.7	6.75	6.75	170.9	7.8	5.0	1005	6.8	75
TX06A001263	12.4	62.3	6.75	6.75	171.2	7.7	4.0	1015	6.9	76
TX05A001398	12.1	61.5	6.88	6.88	170.7	7.5	4.0	955	6.5	72
CO04393	12.1	62.2	7.13	7.13	170.8	7.5	5.0	1000	6.8	77
CO04499	12.2	62.5	6.50	6.50	171.7	7.4	3.8	960	6.5	72
AP00x0100-51	12.1	60.3	5.25	5.25	169.1	7.0	4.2	870	5.9	62
Jackpot	12.7	62.4	4.63	4.63	172.1	7.8	3.8	970	6.5	69
AP05T2413	13.9	65.0	4.50	4.50	174.4	8.0	5.0	1050	7.0	69
AP06TA4520	12.2	62.6	4.25	4.25	171.8	7.5	4.0	905	6.1	65
AP06T3832	12.0	62.8	7.38	7.37	171.6	7.5	4.8	985	6.6	76
NW04Y2188	12.3	61.3	4.25	4.25	170.5	7.6	4.0	905	6.1	65
HV9W04-1186W	11.7	57.7	5.25	5.04	167.2	7.2	4.2	895	6.1	69
HV9W04-1594R	12.1	62.8	5.63	5.63	172.3	7.7	4.0	900	6.0	66

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/%)
HV9W03-1596R	12.7	62.9	5.50	5.50	172.1	7.7	4.0	945	6.3	67
HV9W05-1125R	12.8	63.5	4.25	4.25	172.8	7.4	3.5	915	6.1	62



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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	47.4	Very Poor	73.9	57.7	Very Good	94.1		4,8,16,20,
Scout66	57.8	Good	90.1	57.7	Very Good	94.2		16,
TAM 107	56.5	Very Good	88.1	37.8	Poor	61.7	1AL	16,
Trego	60.5	Good	94.3	29.3	Very Poor	47.8		16,
Tiger	57.8	Average	90.1	58.4	Very Good	95.4		
KS06HW46-3	57.8	Average	90.2	39.5	Average	64.5		3,16,
T163	57.2	Average	89.1	33.4	Very Poor	54.5		
T164	55.3	Poor	86.2	39.3	Poor	64.1	1AL	
T165	58.0	Good	90.4	49.4	Good	80.7	1AL	16,
T166	60.6	Very Good	94.4	29.4	Very Poor	48.0	1AL	16,18,
KS970093-8-9-#1-1	58.1	Good	90.5	37.8	Average	61.6		12,15,16,17,
KS06O3A~57-1	61.6	Very Good	96.1	61.3	Very Good	100.0		16,
KS06O3A~58-1	54.6	Poor	85.2	46.7	Good	76.3	1BL	3,16,20,
KS020056TM~4-1	53.6	Very Poor	83.6	45.0	Average	73.4		1,2,16,
OK05128	54.3	Very Poor	84.6	36.7	Poor	59.8		
OK04525	53.8	Very Poor	83.9	27.8	Very Poor	45.4		9,10,12,16,17,20,
OK04111	53.7	Very Poor	83.7	35.5	Poor	58.0		9,10,16,
OK04315	54.9	Poor	85.6	45.9	Good	74.9		16,20,
OK05212	56.8	Average	88.5	44.9	Good	73.3		4,15,16,18,
NE05403	52.0	Very Poor	81.1	51.7	Very Good	84.3		2,4,16,
NE05426	58.0	Good	90.4	44.9	Good	73.3		14,15,
NE05496	57.2	Average	89.2	36.6	Poor	59.7		
NE06545	52.9	Very Poor	82.5	53.6	Very Good	87.4		5,
NE05430	57.5	Average	89.6	37.4	Poor	61.0		16,
Snowmass	58.2	Good	90.7	34.6	Very Poor	56.5		5,11,14,15,
CO03064-2	56.4	Average	88.0	20.0	Very Poor	32.6		11,13,14,15,17,18,19,
TX01V5134RC-3	59.9	Good	93.4	50.3	Very Good	82.0	1AL	10,16,
TX04V075080	52.7	Very Poor	82.1	43.5	Average	71.0		3,8,
TX05A001614	55.0	Poor	85.7	34.8	Poor	56.8	1BL	16,
TX05A001639	56.1	Poor	87.5	44.7	Average	72.9		

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.



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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
TX05A001828	61.2	Very Good	95.3	50.0	Good	81.5		19,
TX05A001822	58.0	Good	90.5	61.2	Very Good	99.9		
TX06A001263	56.9	Average	88.7	45.2	Good	73.7	1AL	
TX05A001398	61.1	Very Good	95.2	54.9	Very Good	89.7		16,
CO04393	61.9	Very Good	96.5	32.0	Very Poor	52.2		
CO04499	63.9	Very Good	99.6	40.2	Average	65.5		
SY Gold	62.9	Very Good	98.1	47.1	Good	76.9		16,
Jackpot	64.2	Very Good	100.0	34.0	Very Poor	55.4		16,
AP05T2413	55.8	Poor	87.0	45.8	Good	74.8	1AL	15,16,
AP06TA4520	54.5	Very Poor	85.0	35.4	Poor	57.8		5,
Greer	55.4	Poor	86.4	41.2	Average	67.3		9,
NW04Y2188	55.1	Poor	85.9	30.5	Very Poor	49.8		1,16,
HV9W04-1186W	60.8	Very Good	94.8	36.2	Poor	59.1		10,16,
HV9W04-1594R	53.9	Very Poor	83.9	43.7	Average	71.4	1BL	9,10,16,
HV9W03-1596R	58.6	Good	91.4	43.3	Average	70.7		13,16,
HV9W05-1125R	56.3	Poor	87.8	32.4	Very Poor	52.8		4,16,

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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	60.0	11.8	0.5	30.3	7.2	2.61	0.26	47 18	MIXED	24--31--21--24--03	
Scout 66	60.1	11.4	0.5	34.0	8.4	2.74	0.32	60 16	HARD	06--16--26--52--02	
TAM-107	60.7	11.3	0.6	34.5	8.9	2.74	0.35	67 18	HARD	03--11--16--70--01	
Trego	62.2	11.4	0.6	34.2	8.9	2.78	0.33	68 16	HARD	02--07--17--74--01	
KS05HW136-3	60.9	11.3	0.6	34.1	8.8	2.74	0.32	64 16	HARD	03--10--22--65--01	
KS06HW46-3	62.8	11.3	0.5	33.4	9.9	2.75	0.35	74 16	HARD	00--04--15--81--01	
T163	60.3	11.1	0.5	34.8	7.9	2.84	0.30	60 17	HARD	04--17--28--51--01	
T164	59.8	11.2	0.6	34.9	9.0	2.82	0.32	61 16	HARD	04--11--28--57--01	
T165	61.7	11.1	0.5	32.8	8.8	2.74	0.35	72 19	HARD	03--04--16--77--01	
T166	61.6	10.9	0.6	35.4	8.8	2.78	0.36	72 15	HARD	00--02--16--82--01	
KS970093-8-9-#1-1	61.1	11.0	0.5	31.4	8.8	2.68	0.33	65 17	HARD	02--08--25--65--01	
KS06O3A~57-1	60.4	11.0	0.5	35.2	8.2	2.88	0.31	58 16	HARD	05--18--32--45--01	
KS06O3A~58-1	60.1	10.9	0.5	35.0	9.5	2.83	0.36	74 16	HARD	00--03--13--84--01	
KS020056TM~4-1	59.4	10.5	0.6	28.9	7.9	2.63	0.32	74 16	HARD	00--03--15--82--01	
OK05128	61.3	10.7	0.5	31.3	8.8	2.71	0.35	67 17	HARD	03--06--25--66--01	
OK04525	60.9	11.4	0.5	31.8	8.6	2.74	0.37	74 19	HARD	02--05--13--80--01	
OK04111	60.0	11.7	0.5	31.5	8.4	2.78	0.34	76 17	HARD	00--04--12--84--01	
OK04315	61.4	11.4	0.5	33.2	8.6	2.74	0.34	72 18	HARD	02--05--15--78--01	
OK05212	60.2	11.5	0.5	31.1	8.3	2.62	0.34	63 16	HARD	03--10--24--63--01	
NE05403	60.0	11.8	0.5	27.1	7.7	2.56	0.32	63 17	HARD	04--13--25--58--01	
NE05426	60.8	10.1	0.6	32.4	8.4	2.74	0.34	70 16	HARD	00--08--19--73--01	
NE05496	60.4	10.4	0.6	32.6	9.1	2.75	0.35	68 16	HARD	02--06--21--71--01	
NE06545	60.1	10.9	0.7	32.9	9.3	2.73	0.38	50 19	MIXED	22--22--26--30--03	
NE05430	61.1	10.2	0.6	29.8	8.2	2.65	0.34	66 16	HARD	02--10--21--67--01	
CO03W054-2	61.4	10.5	0.4	34.6	9.4	2.85	0.40	77 16	HARD	01--03--10--86--01	
CO03064-2	60.1	10.9	0.4	32.7	8.6	2.68	0.33	69 16	HARD	02--08--19--71--01	
TX01V5134RC-3	62.2	10.7	0.5	31.5	8.2	2.76	0.35	82 15	HARD	00--02--04--94--01	
TX04V075080	60.4	10.5	0.6	34.5	9.6	2.77	0.33	64 16	HARD	02--11--25--62--01	
TX05A001614	60.9	11.0	0.5	33.1	8.6	2.78	0.37	70 18	HARD	02--06--18--74--01	
TX05A001639	59.8	10.9	0.6	32.6	8.8	2.77	0.35	73 17	HARD	02--04--16--78--01	
TX05A001828	61.8	11.7	0.5	35.2	8.8	2.83	0.33	68 16	HARD	02--09--14--75--01	
TX05A001822	61.5	11.3	0.5	33.1	8.9	2.75	0.34	57 17	HARD	07--19--30--44--02	
TX06A001263	60.8	12.0	0.5	31.9	8.9	2.74	0.35	75 15	HARD	00--03--13--84--01	
TX05A001398	61.5	11.3	0.5	31.7	7.7	2.75	0.29	67 16	HARD	01--09--22--68--01	
CO04393	61.2	11.5	0.5	35.0	8.8	2.84	0.37	59 18	HARD	07--17--25--51--02	
CO04499	61.6	11.4	0.6	37.6	8.4	2.88	0.36	64 17	HARD	03--11--22--64--01	
AP00x0100-51	61.5	11.2	0.5	33.2	8.0	2.74	0.30	73 17	HARD	00--05--14--81--01	
Jackpot	60.7	11.3	0.5	37.9	8.6	2.93	0.31	65 15	HARD	01--10--21--68--01	
AP05T2413	60.4	11.1	0.5	36.8	9.2	2.90	0.34	67 15	HARD	01--08--22--69--01	
AP06TA4520	60.1	11.2	0.6	34.4	9.4	2.76	0.38	73 19	HARD	04--05--13--78--01	
AP06T3832	59.6	11.7	0.5	32.7	9.2	2.68	0.35	63 18	HARD	06--11--23--60--02	
NW04Y2188	59.0	11.5	0.5	31.4	8.0	2.66	0.32	54 16	HARD	08--24--34--34--02	
HV9W04-1186W	60.4	11.3	0.5	31.8	8.1	2.68	0.32	55 17	HARD	10--17--35--38--02	
HV9W04-1594R	61.3	11.8	0.6	29.8	8.3	2.65	0.37	80 19	HARD	01--03--10--86--01	
HV9W03-1596R	60.9	11.5	0.5	34.3	8.4	2.84	0.36	68 16	HARD	01--07--20--72--01	

LINE	Wt/Bu (lb)	SKCS Average Kernel						Hardness			
		Moisture		Weight		Diameter		SKCS		Class	Distribution
		(%)	(sd)	(mg)	(sd)	(mm)	(sd)	(sd)			
HV9W05-1125R	61.0	11.7	0.6	30.2	8.1	2.62	0.30	67	19	HARD	02--13--21--64--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	14.1	64.1	0.40	12.8	0.494	80.71	-1.88	23.26	-11.29	2.33	-1.58
Scout 66	13.6	67.5	0.34	12.3	0.505	80.77	-1.45	21.08	-10.92	1.95	-0.88
TAM-107	12.7	67.4	0.38	11.4	0.593	79.91	-1.94	24.80	-10.88	2.13	-0.87
Trego	13.3	67.4	0.34	11.7	0.615	80.32	-2.00	23.04	-9.67	1.80	0.43
KS05HW136-3	12.7	67.4	0.38	11.5	0.221	81.44	-1.80	20.77	-9.85	1.37	2.63
KS06HW46-3	13.2	66.3	0.38	11.7	0.669	82.41	-1.93	21.48	-12.23	1.02	2.16
T163	12.3	66.8	0.37	11.1	0.533	80.99	-1.85	21.91	-10.53	1.63	1.58
T164	13.6	66.6	0.38	12.1	0.529	80.52	-1.80	22.57	-11.33	1.74	0.62
T165	12.0	67.7	0.37	11.0	0.500	80.82	-2.10	23.52	-10.20	1.24	1.42
T166	12.3	67.3	0.39	11.1	0.541	80.30	-1.99	24.02	-11.13	1.33	2.53
KS970093-8-9-#1-1	12.9	68.6	0.39	11.5	0.525	80.98	-2.04	24.22	-10.31	1.04	2.23
KS06O3A~57-1	13.8	69.1	0.37	12.8	0.494	81.36	-1.93	23.01	-11.33	1.31	2.26
KS06O3A~58-1	14.3	65.9	0.43	13.1	0.422	80.05	-1.78	24.57	-11.08	1.42	1.43
KS020056TM~4-1	13.8	65.8	0.40	12.6	0.470	80.34	-1.47	22.45	-11.27	1.33	2.52
OK05128	12.7	66.0	0.36	11.6	0.254	81.76	-1.60	21.47	-9.88	1.04	3.58
OK04525	13.3	67.0	0.45	11.8	0.195	79.53	-1.87	24.01	-8.80	1.71	1.24
OK04111	13.0	66.3	0.48	11.9	0.537	82.40	-1.84	21.41	-13.00	1.88	3.71
OK04315	13.8	65.7	0.40	12.5	0.467	81.34	-1.92	22.90	-11.59	1.72	1.33
OK05212	13.3	67.5	0.35	12.2	0.501	81.10	-1.80	22.25	-8.28	2.17	-1.73
NE05403	12.7	66.5	0.40	11.7	0.525	81.92	-2.12	22.64	-10.65	1.61	1.36
NE05426	13.2	66.9	0.36	12.0	0.467	81.21	-1.48	21.15	-11.29	0.73	3.26
NE05496	12.5	67.9	0.38	11.2	0.642	81.80	-1.85	21.93	-11.61	0.78	3.99
NE06545	12.4	68.2	0.33	10.8	0.507	82.40	-1.98	23.16	-11.95	0.81	3.41
NE05430	12.2	68.4	0.40	11.4	0.517	80.78	-2.39	24.48	-9.80	1.18	0.85
CO03W054-2	11.6	67.0	0.39	10.4	0.640	83.15	-2.58	23.19	-12.18	1.18	2.26
CO03064-2	11.6	66.9	0.37	9.9	0.521	83.65	-1.56	19.09	-11.35	0.91	4.61
TX01V5134RC-3	13.0	66.5	0.41	11.2	0.555	82.06	-1.86	21.78	-13.27	1.36	4.52
TX04V075080	13.7	64.9	0.37	12.4	0.623	81.90	-1.68	21.07	-14.00	1.51	2.92
TX05A001614	12.6	66.4	0.40	11.6	0.443	81.13	-2.17	24.40	-10.60	1.06	3.27
TX05A001639	12.9	67.6	0.42	11.6	0.557	81.51	-1.84	22.26	-12.62	0.72	4.99
TX05A001828	12.1	67.9	0.36	10.8	0.512	82.20	-2.06	21.57	-10.13	0.74	3.64
TX05A001822	12.4	68.4	0.36	11.0	0.461	81.87	-2.41	24.16	-9.32	0.91	2.58
TX06A001263	12.4	66.4	0.39	11.1	0.590	82.40	-1.75	20.79	-12.62	0.66	5.33
TX05A001398	12.1	68.0	0.36	10.8	0.491	81.24	-1.83	21.82	-10.16	0.63	3.48
CO04393	12.1	70.7	0.36	10.8	0.607	81.19	-2.13	23.26	-10.03	1.22	2.86
CO04499	12.0	69.6	0.37	10.5	0.541	81.42	-2.43	24.33	-9.28	0.97	2.57
AP00x0100-51	12.4	68.7	0.36	10.9	0.412	80.68	-1.58	22.61	-10.17	0.76	3.63
Jackpot	12.6	69.5	0.39	11.4	0.513	81.22	-1.48	21.17	-11.37	0.74	4.23
AP05T2413	13.8	65.4	0.40	12.4	0.434	79.96	-1.86	23.38	-11.86	1.37	3.33
AP06TA4520	12.8	67.5	0.40	11.2	0.474	80.98	-2.04	23.72	-11.15	1.17	3.32
AP06T3832	12.4	69.7	0.43	10.9	0.611	81.96	-1.74	20.70	-13.41	1.25	4.62
NW04Y2188	13.3	67.7	0.35	12.1	0.517	82.67	-1.93	21.61	-12.98	1.31	1.39

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
	(%)	(%)	(%)	(%)							
HV9W04-1186W	13.5	71.3	0.39	11.0	0.559	83.78	-2.60	21.85	-12.25	2.30	0.80
HV9W04-1594R	12.2	66.5	0.43	10.8	0.362	81.52	-2.02	23.28	-11.80	1.55	1.81
HV9W03-1596R	12.0	67.3	0.39	10.6	0.539	81.47	-1.84	22.68	-11.48	1.22	3.10
HV9W05-1125R	12.5	68.0	0.40	11.4	0.570	81.05	-2.25	23.77	-10.90	2.25	-0.30

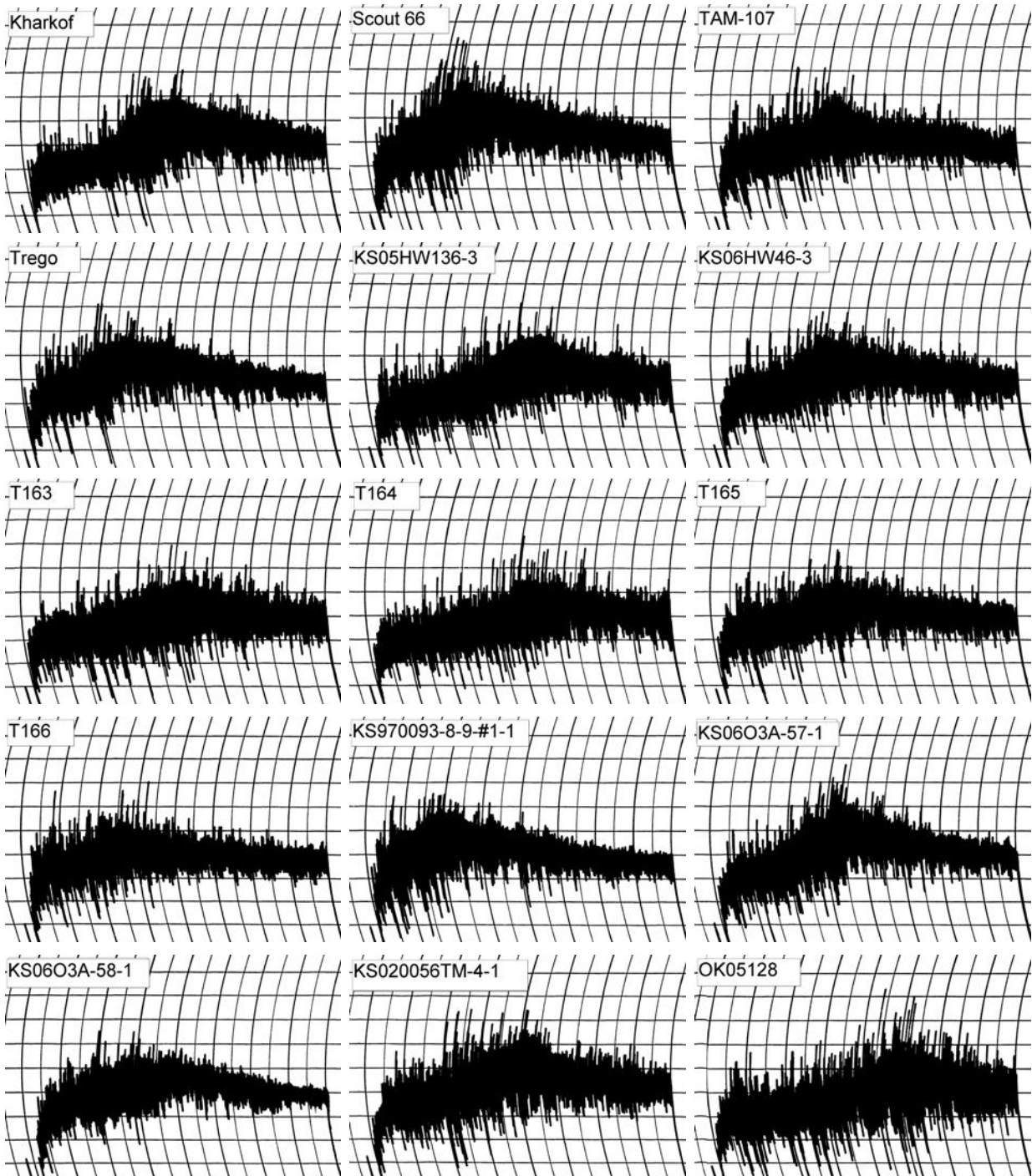
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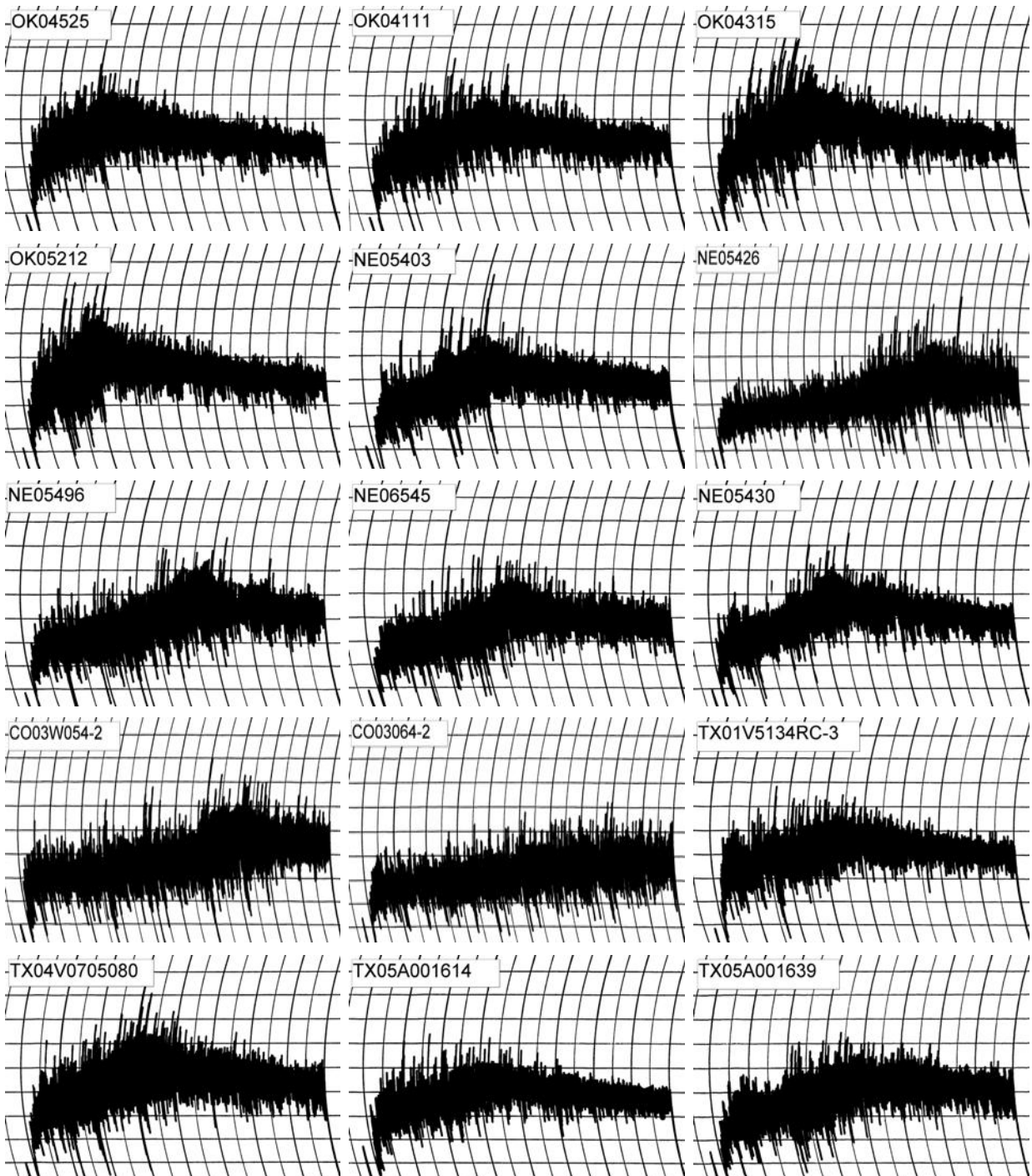
	Flour Protein	Mixograph			
		Absorption	As-Is	Corrected	Tolerance
Line	(%)	(%)	(min)	(min)	
Kharkof	12.8	63.4	3.75	3.75	2
Scout 66	12.3	63.4	2.50	2.50	2
TAM-107	11.4	61.9	3.38	3.12	2
Trego	11.7	62.5	2.75	2.67	1
KS05HW136-3	11.5	62.1	4.50	4.22	4
KS06HW46-3	11.7	63.4	3.25	3.11	2
T163	11.1	61.3	4.38	3.89	4
T164	12.1	63.0	4.63	4.63	4
T165	11.0	61.3	3.38	2.99	2
T166	11.1	61.4	2.63	2.34	2
KS970093-8-9-#1-1	11.5	62.1	2.13	2.00	1
KS06O3A~57-1	12.8	64.2	3.38	3.38	1
KS06O3A~58-1	13.1	62.8	3.25	3.25	0
KS020056TM~4-1	12.6	63.8	4.38	4.38	2
OK05128	11.6	62.2	5.13	4.86	5
OK04525	11.8	62.7	2.38	2.33	2
OK04111	11.9	62.8	3.00	2.97	2
OK04315	12.5	63.7	2.50	2.50	2
OK05212	12.2	63.3	1.88	1.88	2
NE05403	11.7	61.5	3.13	3.03	2
NE05426	12.0	64.2	7.38	7.34	4
NE05496	11.2	61.6	4.75	4.29	4
NE06545	10.8	60.9	4.00	3.41	4
NE05430	11.4	62.0	3.38	3.15	2
CO03W054-2	10.4	61.7	7.25	5.83	4
CO03064-2	9.9	59.5	8.00	6.01	5
TX01V5134RC-3	11.2	61.7	3.50	3.18	2
TX04V075080	12.4	63.5	3.25	3.25	4
TX05A001614	11.6	60.8	3.25	3.11	2
TX05A001639	11.6	62.3	4.00	3.82	3
TX05A001828	10.8	60.9	4.13	3.52	4
TX05A001822	11.0	61.3	3.50	3.08	3
TX06A001263	11.1	61.5	3.63	3.25	3
TX05A001398	10.8	61.0	3.38	2.90	2
CO04393	10.8	60.9	4.88	4.16	4
CO04499	10.5	60.4	3.75	3.08	3
AP00x0100-51	10.9	61.2	3.38	2.95	2
Jackpot	11.4	62.0	3.13	2.91	2
AP05T2413	12.4	63.7	2.13	2.13	2
AP06TA4520	11.2	61.7	2.88	2.61	4
AP06T3832	10.9	61.0	4.00	3.45	3
NW04Y2188	12.1	63.1	2.63	2.63	2

	Flour Protein	Mixograph			
		Absorption	As-Is	Corrected	Tolerance
Line	(%)	(%)	(min)	(min)	
HV9W04-1186W	11.0	61.2	3.38	2.97	1
HV9W04-1594R	10.8	60.8	3.75	3.19	1
HV9W03-1596R	10.6	59.5	3.38	2.80	2
HV9W05-1125R	11.4	61.9	2.63	2.43	1

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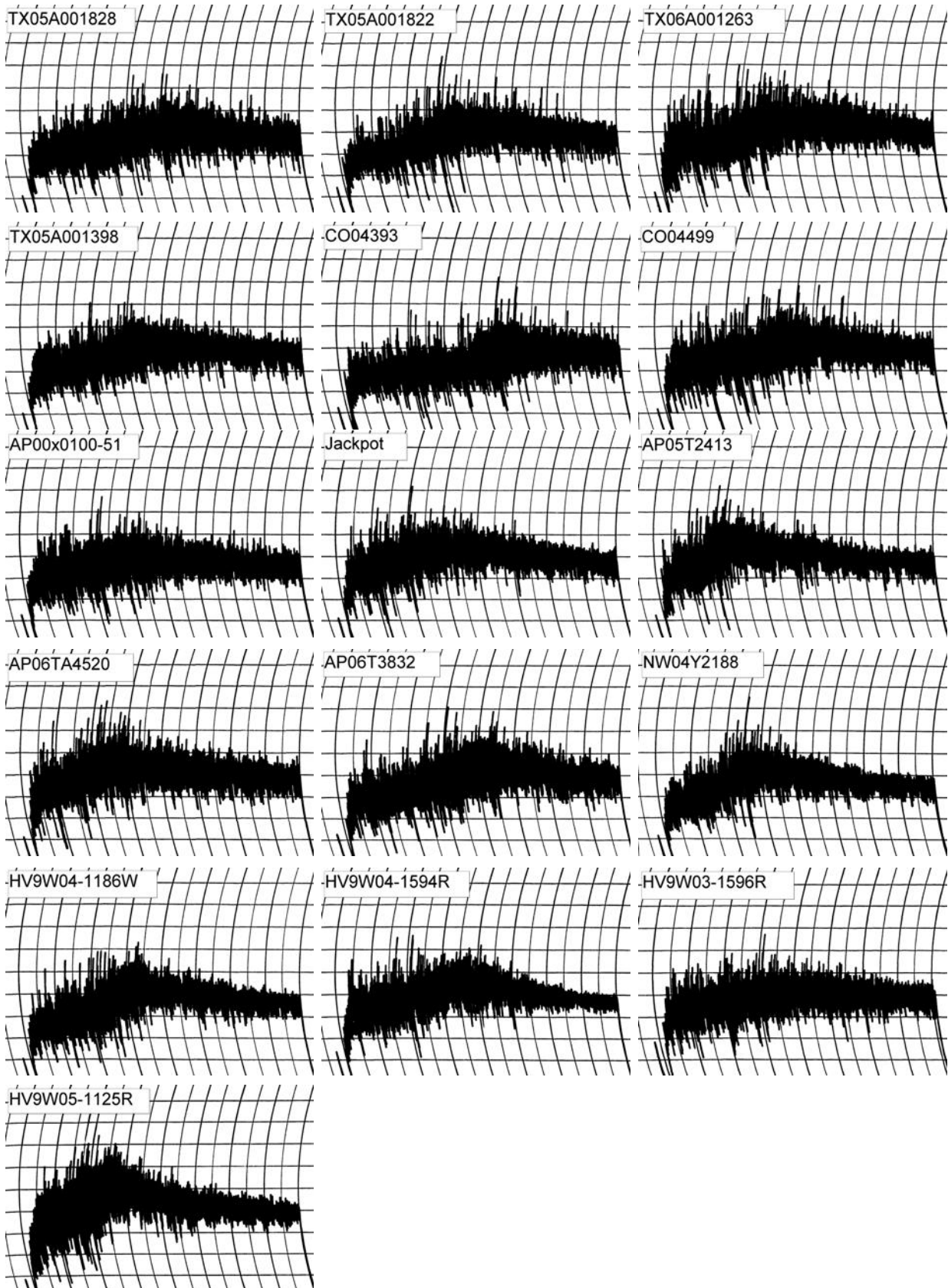


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Line	RVA							
	Stirring Number	Peak Viscosity	Trough Viscosity	Breakdown	Final Viscosity	Set back	Peak Time	Pasting Temp
	(RVU)	(RVU)	(RVU)	(RVU)	(RVU)	(RVU)	(min)	(Deg. C)
Kharkof	154.17	212.00	147.83	64.17	258.67	110.83	6.33	87.40
Scout 66	125.25	155.42	90.58	64.83	181.75	91.17	5.87	84.15
TAM-107	134.92	245.00	163.50	81.50	282.83	119.33	6.33	67.05
Trego	150.00	269.50	168.33	101.17	275.33	107.00	6.40	67.75
KS05HW136-3	108.00	188.67	81.25	107.42	160.92	79.67	5.87	66.90
KS06HW46-3	150.00	263.50	168.58	94.92	276.08	107.50	6.47	66.15
T163	161.17	266.00	181.83	84.17	310.50	128.67	6.47	85.75
T164	160.17	259.58	178.33	81.25	304.17	125.83	6.47	86.55
T165	135.00	241.92	165.92	76.00	298.00	132.08	6.27	67.70
T166	131.33	240.33	159.58	80.75	279.75	120.17	6.33	66.10
KS970093-8-9-#1-1	190.33	248.00	192.33	55.67	304.17	111.83	6.60	88.15
KS06O3A~57-1	158.08	235.58	169.33	66.25	288.33	119.00	6.47	86.50
KS06O3A~58-1	155.50	227.92	161.25	66.67	278.00	116.75	6.47	66.20
KS020056TM~4-1	157.25	219.42	162.17	57.25	277.00	114.83	6.47	88.25
OK05128	159.92	259.17	182.92	76.25	305.75	122.83	6.40	86.50
OK04525	149.50	237.25	159.33	77.92	268.50	109.17	6.40	67.00
OK04111	124.50	221.75	140.92	80.83	250.58	109.67	6.27	67.80
OK04315	135.33	241.17	135.42	105.75	287.17	151.75	5.47	64.35
OK05212	140.92	219.00	142.17	76.83	254.67	112.50	6.20	86.45
NE05403	153.08	263.08	172.42	90.67	284.42	112.00	6.40	68.55
NE05426	117.67	153.00	85.67	67.33	168.33	82.67	5.87	84.00
NE05496	137.67	264.08	153.83	110.25	259.42	105.58	6.33	67.80
NE06545	139.75	262.00	176.50	85.50	303.92	127.42	6.33	84.90
NE05430	167.33	253.58	183.25	70.33	296.58	113.33	6.53	87.30
CO03W054-2	150.50	230.92	163.50	67.42	282.42	118.92	6.33	86.45
CO03064-2	136.75	184.42	126.75	57.67	241.58	114.83	6.00	84.80
TX01V5134RC-3	129.67	208.67	147.08	61.58	266.08	119.00	6.27	86.40
TX04V075080	126.92	239.00	138.25	100.75	216.42	78.17	6.27	66.20
TX05A001614	160.08	269.25	175.83	93.42	278.17	102.33	6.40	66.95
TX05A001639	134.83	229.50	150.00	79.50	262.17	112.17	6.27	67.80
TX05A001828	145.42	278.00	177.50	100.50	284.33	106.83	6.40	67.75
TX05A001822	157.67	226.67	171.42	55.25	300.67	129.25	6.40	86.60
TX06A001263	131.75	275.00	167.67	107.33	270.33	102.67	6.33	66.95
TX05A001398	143.58	230.83	163.33	67.50	288.00	124.67	6.33	87.35
CO04393	133.33	250.42	149.25	101.17	255.67	106.42	6.27	67.70
CO04499	142.83	251.33	161.08	90.25	266.92	105.83	6.40	67.80
AP00x0100-51	154.33	211.42	149.50	61.92	271.92	122.42	6.27	86.50
Jackpot	155.50	239.00	171.17	67.83	289.17	118.00	6.47	67.75
AP05T2413	147.08	229.75	172.08	57.67	296.83	124.75	6.47	66.90
AP06TA4520	123.92	175.33	116.42	58.92	219.17	102.75	6.13	86.50
AP06T3832	132.08	233.92	159.83	74.08	274.42	114.58	6.33	86.45
NW04Y2188	149.33	224.75	165.42	59.33	290.25	124.83	6.40	86.45
HV9W04-1186W	120.67	215.67	141.92	73.75	255.25	113.33	6.20	86.50
HV9W04-1594R	141.25	172.58	107.00	65.58	199.33	92.33	6.13	86.55
HV9W03-1596R	150.17	216.08	149.75	66.33	260.58	110.83	6.33	86.55
HV9W05-1125R	148.42	223.50	162.00	61.50	289.17	127.17	6.33	67.75

2009 SRPN Intraregional Production Zone

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	12.8	62.0	5.00	5.00	170.9	7.9	4.0	905	6.1	61
Scout 66	12.3	62.4	4.25	4.25	172.4	7.9	5.0	905	6.1	65
TAM-107	11.4	61.6	4.00	3.69	171.0	7.7	3.5	915	6.2	73
Trego	11.7	61.4	2.75	2.67	171.4	7.5	3.5	870	5.8	65
KS05HW136-3	11.5	62.2	5.25	4.93	171.8	7.6	4.0	950	6.4	76
KS06HW46-3	11.7	62.4	4.00	3.83	171.8	7.6	3.8	925	6.3	72
T163	11.1	61.5	6.13	5.44	170.8	7.4	3.5	845	5.7	67
T164	12.1	63.4	6.00	6.00	172.8	7.6	3.5	900	6.0	66
T165	11.0	61.4	4.88	4.32	170.8	7.6	3.0	900	6.1	74
T166	11.1	60.5	3.75	3.34	169.9	7.1	3.5	845	5.7	67
KS970093-8-9-#1-1	11.5	59.4	3.75	3.52	168.9	7.5	3.0	850	5.8	65
KS06O3A~57-1	12.8	62.3	4.50	4.50	172.5	7.9	4.0	1005	6.7	72
KS06O3A~58-1	13.1	62.3	3.88	3.88	171.8	7.7	3.0	895	6.0	59
KS020056TM~4-1	12.6	63.4	4.75	4.75	173.1	7.8	3.8	960	6.4	69
OK05128	11.6	64.5	7.00	6.63	173.8	7.7	3.8	905	6.0	71
OK04525	11.8	59.2	3.38	3.32	167.8	7.3	3.2	850	5.8	62
OK04111	11.9	61.2	3.50	3.47	170.9	7.5	3.5	915	6.1	69
OK04315	12.5	63.4	3.88	3.88	173.3	7.5	3.0	880	5.8	61
OK05212	12.2	60.3	3.38	3.38	170.1	7.1	4.0	890	6.0	64
NE05403	11.7	61.2	4.13	4.00	169.9	7.4	4.0	905	6.1	69
NE05426	12.0	64.2	9.13	9.08	172.7	7.6	4.0	870	5.8	64
NE05496	11.2	62.3	6.25	5.65	171.1	7.4	3.5	905	6.1	73
NE06545	10.8	62.1	5.13	4.37	172.0	7.4	4.0	850	5.7	70
NE05430	11.4	60.4	4.13	3.85	169.3	7.7	3.5	915	6.2	73
CO03W054-2	10.4	61.0	9.88	7.95	169.5	7.5	3.0	850	5.7	74
CO03064-2	9.9	59.7	9.38	7.04	168.4	7.1	3.5	800	5.4	71
TX01V5134RC-3	11.2	60.2	4.00	3.63	171.7	7.6	4.0	885	6.0	71
TX04V075080	12.4	62.1	3.88	3.88	171.4	7.8	3.8	960	6.4	70
TX05A001614	11.6	60.1	4.13	3.96	169.7	7.6	3.2	885	6.0	68
TX05A001639	11.6	62.3	4.75	4.54	172.1	7.8	4.5	950	6.4	75
TX05A001828	10.8	61.3	5.38	4.59	170.6	7.3	4.0	825	5.6	67
TX05A001822	11.0	60.4	4.50	3.96	169.4	8.0	5.0	940	6.4	80
TX06A001263	11.1	63.3	4.38	3.92	172.1	7.5	3.8	960	6.5	81
TX05A001398	10.8	60.2	4.00	3.43	169.2	7.6	5.0	890	6.1	75
CO04393	10.8	61.3	6.88	5.86	170.5	7.5	3.8	885	6.0	75
CO04499	10.5	63.4	5.50	4.52	172.7	7.5	3.2	890	5.9	78
AP00x0100-51	10.9	63.3	4.63	4.04	173.3	7.5	3.0	845	5.6	68
Jackpot	11.4	61.3	3.25	3.02	172.0	7.7	3.5	900	6.0	71
AP05T2413	12.4	61.1	3.13	3.13	170.2	7.9	3.0	965	6.6	70
AP06TA4520	11.2	62.1	3.75	3.40	172.0	7.7	2.5	860	5.7	68
AP06T3832	10.9	61.1	5.25	4.53	170.6	7.7	3.2	930	6.2	80
NW04Y2188	12.1	60.3	3.13	3.13	170.1	7.6	3.5	875	5.8	63
HV9W04-1186W	11.0	60.2	4.13	3.63	169.2	7.7	4.2	910	6.1	76
HV9W04-1594R	10.8	62.5	3.75	3.19	171.5	7.7	3.0	845	5.7	70

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/%)
HV9W03-1596R	10.6	61.2	4.25	3.52	171.2	7.5	3.0	845	5.6	71
HV9W05-1125R	11.4	62.3	3.50	3.24	172.2	7.6	4.5	875	5.9	68



Hard Winter Wheat Quality Report 2009 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	48.9	Very Poor	80.0	63.9	Very Good	95.7		
Scout66	56.6	Very Good	92.6	49.6	Good	74.2		16,
TAM 107	54.2	Good	88.7	54.5	Very Good	81.7	1AL	3,5,16,
Trego	61.1	Very Good	100.0	31.4	Very Poor	47.0		16,
Tiger	58.9	Very Good	96.5	39.1	Poor	58.6		
KS06HW46-3	58.0	Very Good	95.0	40.2	Poor	60.3		
T163	53.0	Poor	86.7	38.6	Poor	57.8		11,12,13,
T164	53.9	Average	88.3	45.2	Average	67.7	1AL	12,13,
T165	54.2	Average	88.7	50.8	Good	76.1	1AL	16,
T166	53.1	Poor	86.9	53.3	Good	79.8	1AL	
KS970093-8-9-#1-1	58.9	Very Good	96.4	47.0	Average	70.4		16,
KS06O3A~57-1	55.0	Good	90.1	42.2	Poor	63.1		5,
KS06O3A~58-1	50.2	Very Poor	82.3	47.3	Average	70.9	1BL	3,8,16,20,
KS020056TM~4-1	52.8	Poor	86.5	42.7	Average	64.0		15,
OK05128	50.5	Very Poor	82.7	54.3	Good	81.3		14,15,
OK04525	54.4	Average	89.0	45.1	Average	67.6		9,16,20,
OK04111	56.0	Good	91.7	49.8	Good	74.6		9,
OK04315	55.1	Good	90.2	37.4	Poor	56.1		16,
OK05212	56.9	Very Good	93.2	33.3	Very Poor	49.8		4,18,
NE05403	54.7	Average	89.5	38.5	Poor	57.7		16,
NE05426	56.7	Very Good	92.8	42.9	Average	64.3		14,15,
NE05496	55.9	Good	91.5	30.8	Very Poor	46.1		13,18,
NE06545	48.7	Very Poor	79.7	21.0	Very Poor	31.5		11,13,14,15,18,19,
NE05430	53.8	Average	88.2	60.0	Very Good	89.9		
Snowmass	53.3	Poor	87.3	25.1	Very Poor	37.6		9,14,15,
CO03064-2	51.0	Very Poor	83.5	26.3	Very Poor	39.3		14,15,
TX01V5134RC-3	55.3	Good	90.6	53.8	Very Good	80.5	1AL	10,
TX04V075080	51.7	Poor	84.6	66.8	Very Good	100.0		3,8,10,
TX05A001614	53.1	Poor	87.0	34.9	Very Poor	52.2	1BL	16,
TX05A001639	52.4	Poor	85.9	58.0	Very Good	86.8		

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 2009 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
TX05A001828	59.2	Very Good	96.9	48.1	Average	72.1		
TX05A001822	57.2	Very Good	93.7	40.4	Poor	60.6		16,
TX06A001263	53.1	Poor	87.0	46.5	Average	69.6	1AL	2,
TX05A001398	56.3	Good	92.2	38.2	Poor	57.3		
CO04393	56.6	Good	92.6	51.0	Good	76.3		14,15,
CO04499	54.9	Good	89.9	37.1	Very Poor	55.5		
SY Gold	53.4	Average	87.4	50.7	Good	76.0		
Jackpot	56.1	Good	91.8	36.8	Poor	55.1		16,
AP05T2413	52.4	Poor	85.8	46.8	Average	70.1	1AL	3,5,
AP06TA4520	51.0	Very Poor	83.5	55.9	Very Good	83.8		
Greer	49.0	Very Poor	80.2	38.0	Very Poor	56.9		1,15,
NW04Y2188	47.8	Very Poor	78.3	50.6	Good	75.8		1,16,18,19,20,
HV9W04-1186W	54.1	Average	88.6	52.0	Good	77.9		4,12,16,18,
HV9W04-1594R	51.1	Very Poor	83.6	33.8	Very Poor	50.6	1BL	6,8,9,12,16,
HV9W03-1596R	50.9	Very Poor	83.4	56.5	Very Good	84.6		8,17,
HV9W05-1125R	53.4	Average	87.4	55.3	Very Good	82.9		4,16,

2009 SRPN Intraregional Production Zone

South Central Plains

LINE	Wt/Bu (lb)	SKCS Average Kernel						Hardness			
		Moisture		Weight		Diameter		SKCS	Class	Distribution	
		(%)	(sd)	(mg)	(sd)	(mm)	(sd)				
								(sd)			
Kharkof	60.0	11.5	0.6	26.9	7.3	2.50	0.30	52 20	MIXED	14--23--30--33--03	
Scout 66	59.2	11.4	0.5	28.5	8.0	2.58	0.34	68 19	HARD	03--09--20--68--01	
TAM-107	57.9	11.4	0.5	29.2	9.3	2.57	0.36	71 18	HARD	03--05--15--77--01	
Trego	60.9	11.8	0.6	29.5	7.7	2.58	0.29	68 17	HARD	02--10--22--66--01	
KS05HW136-3	58.5	11.3	0.5	28.3	7.5	2.56	0.31	69 17	HARD	02--07--18--73--01	
KS06HW46-3	60.9	11.6	0.5	29.9	8.8	2.65	0.33	80 17	HARD	00--03--08--89--01	
T163	57.8	11.4	0.5	29.6	7.7	2.66	0.34	60 20	HARD	07--15--31--47--02	
T164	58.1	11.5	0.6	30.4	8.2	2.68	0.36	65 20	HARD	04--13--23--60--01	
T165	58.7	11.6	0.4	27.0	8.3	2.56	0.34	77 19	HARD	01--03--12--84--01	
T166	58.7	11.6	0.5	27.3	8.7	2.50	0.36	77 18	HARD	01--03--11--85--01	
KS970093-8-9-#1-1	59.3	11.4	0.5	26.9	7.2	2.54	0.31	71 17	HARD	02--04--20--74--01	
KS06O3A~57-1	57.9	11.7	0.5	29.4	8.6	2.67	0.37	67 18	HARD	02--09--21--68--01	
KS06O3A~58-1	57.8	11.4	0.4	27.9	9.3	2.57	0.34	80 16	HARD	00--00--09--91--01	
KS020056TM~4-1	58.2	11.3	0.5	25.9	8.0	2.52	0.31	80 17	HARD	01--02--08--89--01	
OK05128	58.2	11.4	0.5	27.6	8.2	2.58	0.33	69 19	HARD	03--09--20--68--01	
OK04525	59.6	11.7	0.6	25.9	7.6	2.54	0.34	82 18	HARD	01--01--08--90--01	
OK04111	59.0	11.6	0.4	29.7	7.3	2.70	0.31	81 18	HARD	00--03--08--89--01	
OK04315	59.7	11.5	0.5	30.7	8.0	2.68	0.32	74 20	HARD	04--01--13--82--01	
OK05212	59.1	11.6	0.5	26.9	7.0	2.42	0.31	65 17	HARD	02--14--22--62--01	
NE05403	59.2	11.6	0.5	25.8	7.0	2.51	0.31	67 17	HARD	02--06--20--72--01	
NE05426	59.1	11.7	0.5	28.1	8.7	2.58	0.36	76 18	HARD	00--05--13--82--01	
NE05496	59.1	11.7	0.5	28.3	8.3	2.59	0.35	73 18	HARD	01--05--15--79--01	
NE06545	57.5	11.9	0.4	28.5	8.8	2.55	0.35	52 19	MIXED	17--25--23--35--03	
NE05430	59.0	11.6	0.5	25.6	7.9	2.49	0.32	67 18	HARD	03--06--22--69--01	
CO03W054-2	59.2	11.5	0.4	28.4	8.8	2.60	0.35	83 16	HARD	00--01--05--94--01	
CO03064-2	57.6	11.3	0.4	26.3	7.9	2.51	0.32	80 20	HARD	01--04--11--84--01	
TX01V5134RC-3	60.0	11.3	0.4	27.8	7.0	2.62	0.32	83 17	HARD	00--01--07--92--01	
TX04V075080	59.2	11.2	0.5	31.6	9.6	2.66	0.33	69 17	HARD	03--07--18--72--01	
TX05A001614	58.4	11.1	0.5	28.6	7.8	2.62	0.33	73 17	HARD	01--03--18--78--01	
TX05A001639	58.0	11.2	0.4	28.0	8.3	2.56	0.34	72 19	HARD	01--07--15--77--01	
TX05A001828	60.2	11.6	0.4	28.3	7.8	2.59	0.32	78 16	HARD	01--02--08--89--01	
TX05A001822	59.7	11.5	0.7	28.8	8.1	2.62	0.33	63 18	HARD	05--11--28--56--01	
TX06A001263	58.6	11.7	0.5	25.0	7.6	2.49	0.32	82 17	HARD	00--01--09--90--01	
TX05A001398	59.7	11.3	0.5	26.2	7.5	2.54	0.30	74 16	HARD	00--04--14--82--01	
CO04393	59.1	11.5	0.4	29.6	8.6	2.63	0.36	63 18	HARD	02--16--25--57--01	
CO04499	59.5	11.6	0.4	30.9	9.1	2.62	0.36	68 19	HARD	03--10--22--65--01	
AP00x0100-51	59.0	11.7	0.6	26.4	7.9	2.50	0.31	79 19	HARD	01--02--10--87--01	
Jackpot	58.6	11.4	0.5	30.5	8.8	2.67	0.35	74 18	HARD	01--06--13--80--01	
AP05T2413	58.8	11.3	0.5	32.2	9.8	2.72	0.37	69 16	HARD	02--06--17--75--01	
AP06TA4520	57.9	11.4	0.5	29.5	8.8	2.59	0.34	79 20	HARD	02--02--12--84--01	
AP06T3832	56.7	11.5	0.4	28.3	8.8	2.56	0.35	69 19	HARD	02--12--21--65--01	
NW04Y2188	56.5	11.3	0.5	26.9	8.8	2.49	0.31	57 17	HARD	07--20--29--44--02	
HV9W04-1186W	57.9	11.3	0.5	25.9	7.1	2.46	0.31	58 17	HARD	06--24--24--46--02	
HV9W04-1594R	58.5	11.8	0.5	25.8	7.9	2.48	0.32	89 18	HARD	00--01--03--96--01	
HV9W03-1596R	57.8	11.5	0.4	29.1	8.4	2.66	0.34	74 17	HARD	01--04--15--80--01	

LINE	Wt/Bu (lb)	SKCS Average Kernel						Hardness			
		Moisture		Weight		Diameter		SKCS		Class	Distribution
		(%)	(sd)	(mg)	(sd)	(mm)	(sd)	(sd)			
HV9W05-1125R	59.1	11.5	0.6	26.0	8.0	2.47	0.29	71	17	HARD	01--06--17--76--01

2009 SRPN Intraregional Production Zone

South 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	1.4	67.4	0.44	12.5	0.602	81.30	-2.32	23.78	-10.60	1.37	1.38
Scout 66	1.5	70.6	0.44	11.2	0.565	80.24	-2.02	22.63	-10.46	1.10	2.19
TAM-107	1.4	69.5	0.40	11.3	0.599	79.49	-1.83	24.65	-11.61	1.36	1.24
Trego	1.3	71.1	0.44	11.0	0.631	81.16	-2.31	23.33	-11.39	1.43	1.42
KS05HW136-3	1.3	71.8	0.48	11.0	0.217	81.48	-1.80	21.37	-10.69	0.93	3.57
KS06HW46-3	1.3	69.1	0.48	10.7	0.686	83.03	-2.28	20.08	-15.60	1.61	3.70
T163	1.4	69.6	0.43	10.1	0.612	80.83	-1.76	22.04	-12.08	2.28	0.73
T164	1.3	69.6	0.43	10.9	0.605	82.37	-2.07	21.71	-13.15	1.45	2.77
T165	1.4	69.6	0.45	10.9	0.588	81.30	-2.20	23.59	-11.71	1.57	1.26
T166	1.4	68.9	0.44	11.2	0.594	80.80	-2.11	24.31	-10.58	1.28	2.27
KS970093-8-9-#1-1	1.4	70.4	0.42	11.6	0.622	80.09	-2.10	24.62	-9.52	1.27	1.30
KS06O3A~57-1	1.5	70.6	0.46	12.6	0.568	80.61	-1.75	23.06	-12.72	1.66	1.70
KS06O3A~58-1	1.5	66.9	0.49	12.8	0.529	79.90	-1.54	24.07	-11.92	1.61	2.76
KS020056TM~4-1	1.5	67.7	0.46	12.7	0.536	80.41	-1.33	22.00	-12.13	1.27	2.88
OK05128	1.5	67.3	0.41	12.0	0.307	80.73	-1.65	22.61	-10.37	1.72	2.01
OK04525	1.5	68.8	0.50	12.5	0.233	79.46	-1.50	23.52	-10.44	2.40	0.04
OK04111	1.5	68.6	0.53	11.8	0.579	80.99	-2.28	23.15	-12.46	2.31	1.40
OK04315	1.5	68.5	0.46	12.6	0.549	80.80	0.00	22.47	-12.12	-0.49	2.43
OK05212	1.5	69.5	0.38	11.9	0.814	82.54	-1.90	19.74	-11.57	2.08	1.35
NE05403	1.4	68.5	0.43	11.3	0.605	82.01	-2.47	22.61	-11.32	1.54	1.23
NE05426	1.4	69.8	0.41	11.7	0.580	82.03	-1.97	21.70	-11.98	1.00	2.89
NE05496	1.5	69.5	0.43	10.8	0.657	82.04	-2.01	21.32	-13.05	1.50	3.81
NE06545	1.4	68.8	0.41	10.2	0.577	82.16	-2.30	21.63	-10.93	0.62	6.00
NE05430	1.5	69.1	0.42	11.1	0.585	81.78	-2.52	23.61	-11.90	1.00	3.57
CO03W054-2	1.3	67.5	0.50	10.6	0.736	84.37	-2.59	21.89	-12.86	0.98	4.62
CO03064-2	1.5	67.7	0.43	10.8	0.621	82.51	-1.80	20.10	-10.62	0.71	5.48
TX01V5134RC-3	1.5	67.0	0.49	11.4	0.642	81.84	-2.14	21.79	-13.59	1.15	5.02
TX04V075080	1.6	66.7	0.42	12.4	0.698	80.23	-1.96	23.35	-12.93	1.31	0.82
TX05A001614	1.5	67.8	0.48	12.0	0.542	79.98	-2.12	25.41	-10.17	1.23	2.31
TX05A001639	1.5	69.1	0.47	11.8	0.645	81.27	-2.00	22.61	-14.51	1.28	3.51
TX05A001828	1.5	69.4	0.45	11.0	0.633	81.10	-2.21	23.71	-11.03	1.78	0.22
TX05A001822	1.4	70.3	0.41	11.3	0.592	80.38	-1.85	23.30	-12.98	1.17	1.31
TX06A001263	1.5	68.0	0.47	11.5	0.719	80.92	-2.10	22.48	-13.08	1.30	3.32
TX05A001398	1.5	68.0	0.41	11.0	0.661	81.01	-2.41	23.30	-9.56	1.02	2.57
CO04393	1.5	70.6	0.41	11.2	0.702	81.87	-2.50	23.13	-11.94	1.40	2.69
CO04499	1.5	69.5	0.42	10.7	0.701	81.50	-2.60	24.58	-10.36	1.44	1.74
AP00x0100-51	1.4	67.7	0.42	11.2	0.539	81.01	-1.82	21.77	-12.60	1.27	2.54
Jackpot	1.4	70.3	0.48	11.5	0.549	80.66	-2.15	24.06	-12.40	1.87	0.49
AP05T2413	1.5	68.0	0.48	12.3	0.513	81.35	-2.37	23.47	-12.05	1.34	1.94
AP06TA4520	1.4	67.9	0.46	11.8	0.511	80.19	-2.15	24.14	-11.39	1.28	2.61
AP06T3832	1.5	68.9	0.48	11.3	0.670	80.96	-2.40	22.22	-12.29	1.43	2.80
NW04Y2188	1.4	67.6	0.40	11.8	0.687	82.47	-1.89	21.06	-11.78	0.98	1.57

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
	(%)	(%)	(%)	(%)							
HV9W04-1186W	1.3	70.2	0.43	10.7	0.679	83.18	-2.51	20.80	-9.76	1.00	3.18
HV9W04-1594R	1.5	66.8	0.50	11.6	0.470	80.41	-2.13	24.43	-11.23	1.33	2.38
HV9W03-1596R	1.6	66.9	0.47	11.6	0.694	80.24	-2.00	23.87	-10.59	0.77	3.02
HV9W05-1125R	1.5	68.8	0.47	11.6	0.699	81.91	-2.41	22.61	-11.19	1.05	3.00

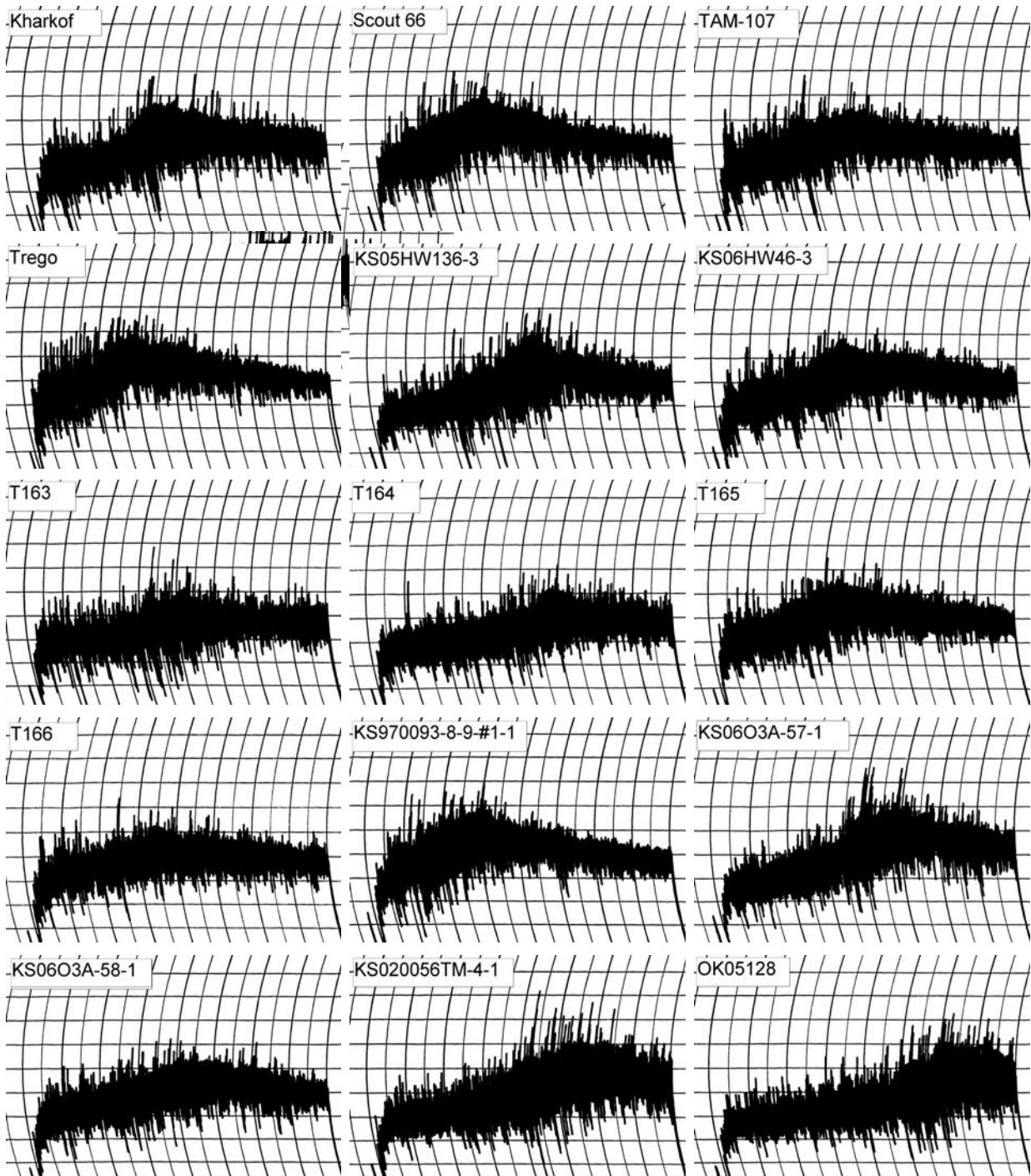
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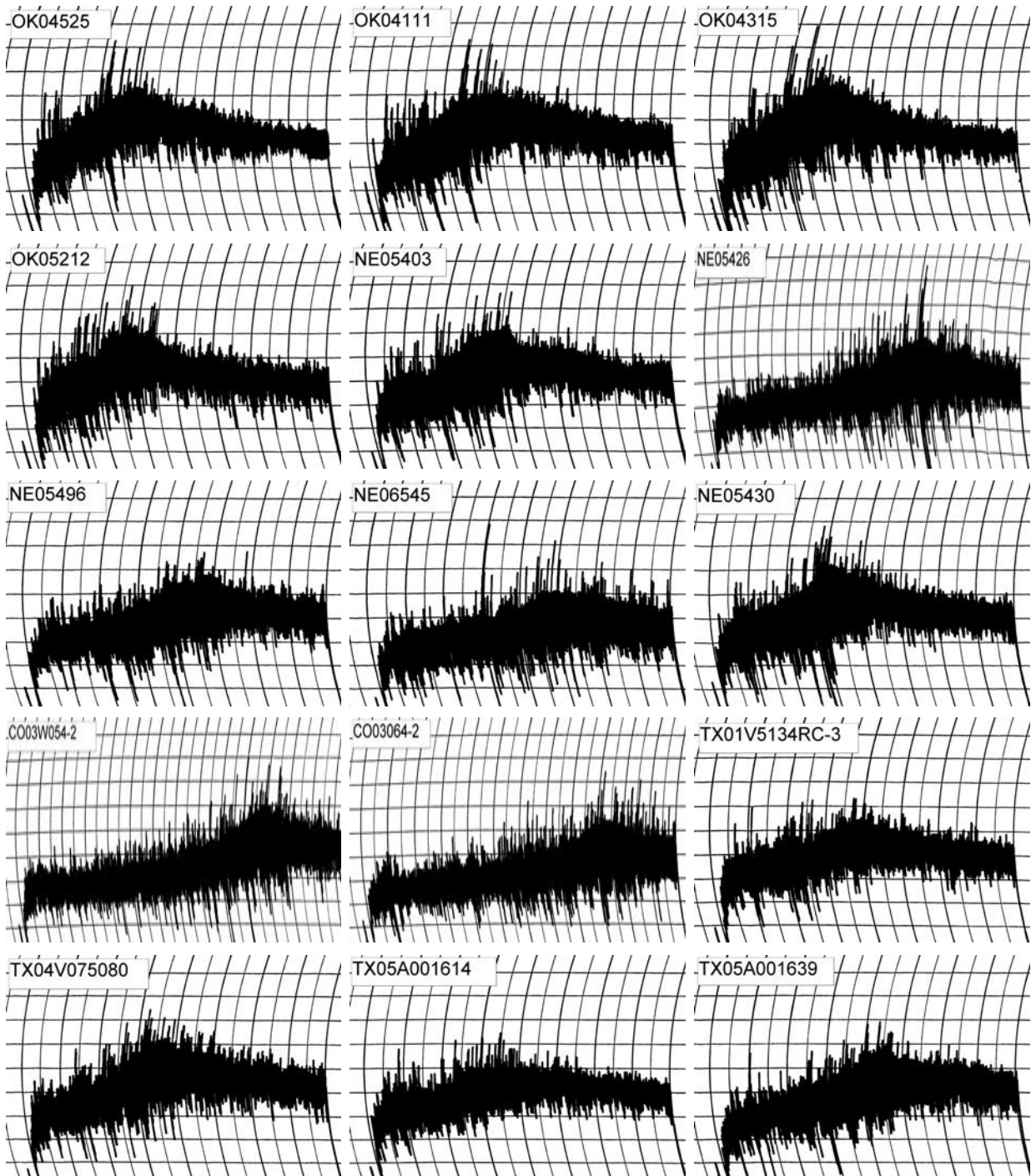
	Flour Protein	Mixograph			
		Absorption	As-Is	Corrected	Tolerance
Line	(%)	(%)	(min)	(min)	
Kharkof	12.5	62.2	3.75	3.75	4
Scout 66	11.2	61.7	3.00	2.72	2
TAM-107	11.3	60.8	3.75	3.45	2
Trego	11.0	61.3	2.75	2.43	1
KS05HW136-3	11.0	61.3	4.50	3.98	3
KS06HW46-3	10.7	60.8	3.50	2.97	3
T163	10.1	58.3	4.38	3.38	3
T164	10.9	59.1	5.00	4.33	4
T165	10.9	61.1	3.50	3.04	2
T166	11.2	61.6	3.75	3.39	3
KS970093-8-9-#1-1	11.6	62.2	3.00	2.86	1
KS06O3A~57-1	12.6	63.0	4.88	4.88	3
KS06O3A~58-1	12.8	63.2	4.38	4.38	2
KS020056TM~4-1	12.7	65.0	5.63	5.63	5
OK05128	12.0	65.0	6.50	6.50	5
OK04525	12.5	63.8	3.00	3.00	2
OK04111	11.8	62.6	3.13	3.05	3
OK04315	12.6	64.9	3.00	3.00	2
OK05212	11.9	62.7	2.63	2.58	3
NE05403	11.3	59.8	3.63	3.34	2
NE05426	11.7	62.4	8.25	7.93	5
NE05496	10.8	59.4	4.75	4.06	4
NE06545	10.2	59.0	5.25	4.13	5
NE05430	11.1	59.9	3.25	2.89	3
CO03W054-2	10.6	60.6	1.38	9.44	3
CO03064-2	10.8	60.9	9.38	8.01	5
TX01V5134RC-3	11.4	61.9	4.00	3.70	3
TX04V075080	12.4	63.7	3.63	3.63	4
TX05A001614	12.0	60.9	3.50	3.50	2
TX05A001639	11.8	62.5	4.63	4.50	4
TX05A001828	11.0	61.2	5.00	4.38	4
TX05A001822	11.3	61.8	4.50	4.12	2
TX06A001263	11.5	62.2	4.13	3.89	4
TX05A001398	11.0	61.3	3.50	3.08	3
CO04393	11.2	60.7	5.88	5.34	4
CO04499	10.7	60.8	4.38	3.71	4
AP00x0100-51	11.2	61.6	4.00	3.63	3
Jackpot	11.5	62.1	3.38	3.19	2
AP05T2413	12.3	63.4	3.63	3.63	4
AP06TA4520	11.8	62.5	3.63	3.53	4
AP06T3832	11.3	61.8	5.25	4.81	5
NW04Y2188	11.8	61.1	3.00	2.92	2

	Flour Protein	Mixograph			
		Absorption	As-Is	Corrected	Tolerance
Line	(%)	(%)	(min)	(min)	
HV9W04-1186W	10.7	59.8	4.38	3.71	2
HV9W04-1594R	11.6	61.3	4.00	3.83	1
HV9W03-1596R	11.6	62.3	4.63	4.42	4
HV9W05-1125R	11.6	62.3	3.00	2.86	2

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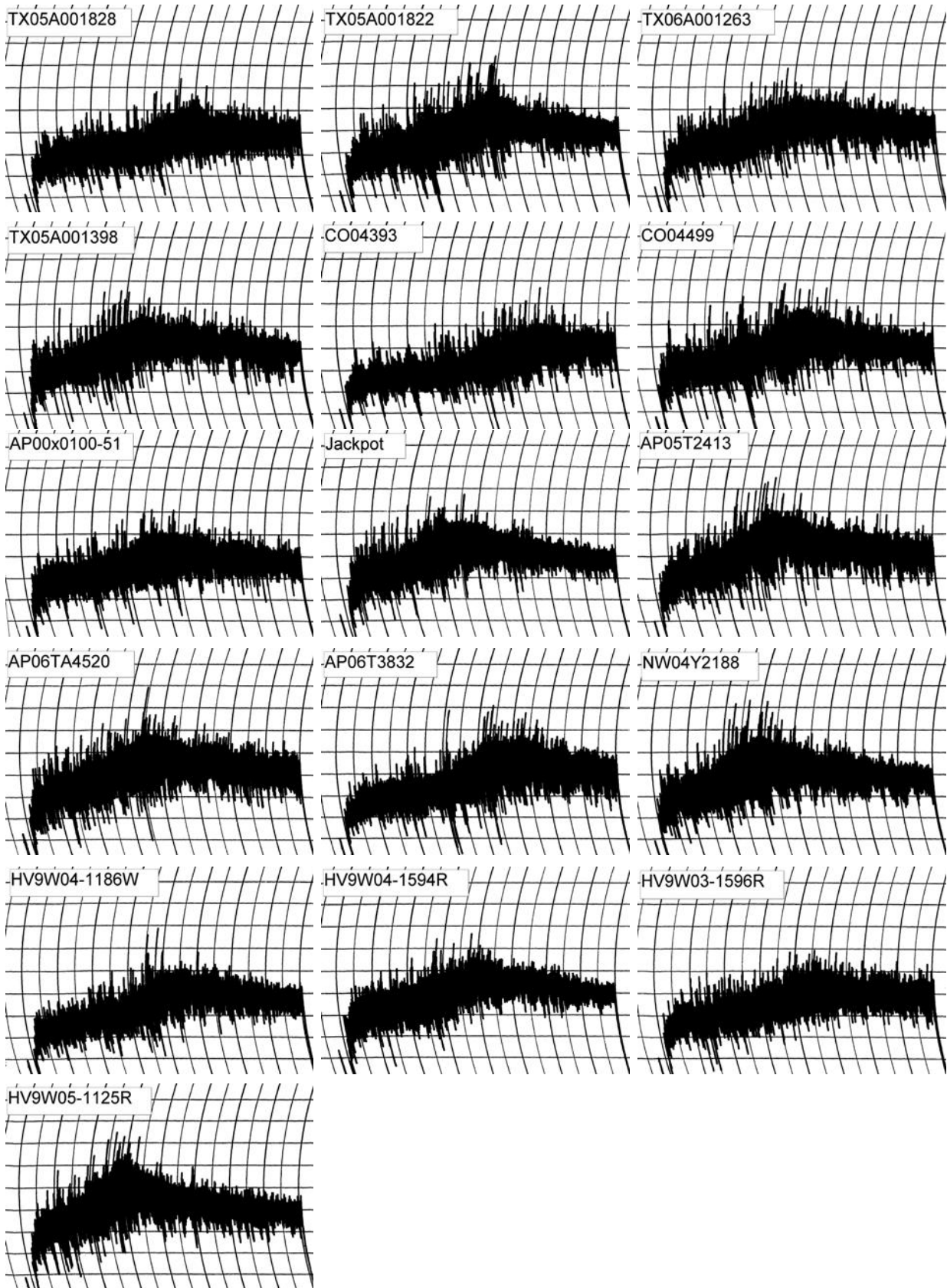


2009 SRPN Intraregional Production Zone South Central Plains



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Line	RVA							
	Stirring Number	Peak Viscosity	Trough Viscosity	Breakdown	Final Viscosity	Set back	Peak Time	Pasting Temp
	(RVU)	(RVU)	(RVU)	(RVU)	(RVU)	(RVU)	(min)	(Deg. C)
Kharkof	161.92	243.08	171.33	71.75	292.17	120.83	6.40	86.40
Scout 66	142.58	226.50	148.67	77.83	271.17	122.50	6.27	67.70
TAM-107	135.00	269.17	177.17	92.00	304.58	127.42	6.33	66.95
Trego	127.33	263.67	155.83	107.83	262.50	106.67	6.33	67.00
KS05HW136-3	109.17	205.50	94.08	111.42	178.33	84.25	5.93	67.90
KS06HW46-3	133.83	273.92	175.42	98.50	280.83	105.42	6.33	66.05
T163	261.17	282.75	186.33	96.42	311.42	125.08	6.40	67.75
T164	124.00	278.50	184.75	93.75	308.42	123.67	6.40	67.85
T165	128.92	254.67	168.25	86.42	301.08	132.83	6.27	67.80
T166	126.33	257.08	166.75	90.33	290.33	123.58	6.33	67.75
KS970093-8-9-#1-1	168.75	257.33	187.17	70.17	305.25	118.08	6.53	67.70
KS06O3A~57-1	130.58	221.08	167.33	53.75	276.58	109.25	6.67	69.55
KS06O3A~58-1	143.67	248.58	168.67	79.92	293.17	124.50	6.40	67.00
KS020056TM~4-1	139.33	235.75	163.83	71.92	283.25	119.42	6.33	66.15
OK05128	132.75	271.33	186.25	85.08	310.42	124.17	6.40	66.90
OK04525	134.25	248.75	165.42	83.33	275.42	110.00	6.40	66.90
OK04111	123.42	230.58	143.83	86.75	254.42	110.58	6.20	66.85
OK04315	119.83	221.83	152.33	69.50	274.75	122.42	6.27	66.10
OK05212	126.83	248.33	162.75	85.58	288.50	125.75	6.27	67.70
NE05403	125.25	270.17	175.67	94.50	290.83	115.17	6.47	67.80
NE05426	131.08	229.00	145.17	83.83	267.25	122.08	6.13	66.15
NE05496	123.58	287.17	166.92	120.25	278.33	111.42	6.27	66.95
NE06545	150.00	278.92	187.83	91.08	318.67	130.83	6.33	67.70
NE05430	147.17	261.42	181.00	80.42	297.75	116.75	6.47	66.90
CO03W054-2	137.75	243.42	168.33	75.08	294.42	126.08	6.40	67.85
CO03064-2	113.83	221.50	157.83	63.67	290.75	132.92	6.20	85.70
TX01V5134RC-3	130.50	223.50	151.08	72.42	276.08	125.00	6.27	66.10
TX04V075080	119.67	259.42	143.00	116.42	241.75	98.75	6.20	67.05
TX05A001614	156.58	266.33	172.50	93.83	275.08	102.58	6.40	66.95
TX05A001639	133.17	243.25	161.50	81.75	282.83	121.33	6.33	67.80
TX05A001828	133.08	284.83	173.42	111.42	282.42	109.00	6.27	67.70
TX05A001822	138.83	245.75	173.75	72.00	308.75	135.00	6.33	86.40
TX06A001263	111.67	263.00	146.92	116.08	246.67	99.75	6.13	66.95
TX05A001398	132.17	244.08	169.33	74.75	297.92	128.58	6.33	67.80
CO04393	124.75	286.17	172.33	113.83	284.58	112.25	6.33	67.70
CO04499	124.42	264.83	169.00	95.83	279.25	110.25	6.47	67.85
AP00x0100-51	134.75	228.00	160.75	67.25	286.75	126.00	6.27	67.70
Jackpot	144.67	250.67	171.25	79.42	290.25	119.00	6.40	67.00
AP05T2413	136.50	253.00	178.08	74.92	309.33	131.25	6.40	66.90
AP06TA4520	126.67	205.92	140.92	65.00	259.83	118.92	6.27	66.85
AP06T3832	133.08	250.25	160.58	89.67	284.00	123.42	6.27	67.70
NW04Y2188	134.67	238.25	164.92	73.33	299.17	134.25	6.27	84.90
HV9W04-1186W	117.00	232.33	144.58	87.75	265.75	121.17	6.13	67.80
HV9W04-1594R	141.00	215.17	145.67	69.50	261.92	116.25	6.33	67.05
HV9W03-1596R	145.50	234.83	158.83	76.00	281.25	122.42	6.33	67.65
HV9W05-1125R	128.50	248.17	171.42	76.75	304.83	133.42	6.33	66.20

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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	12.5	62.1	5.00	5.00	170.7	7.7	5.0	905	6.1	64
Scout 66	11.2	61.5	3.88	3.52	170.5	7.6	4.0	885	6.0	71
TAM-107	11.3	61.5	4.25	3.92	170.8	7.6	4.0	925	6.3	75
Trego	11.0	61.6	3.13	2.76	170.7	7.2	3.5	900	6.0	74
KS05HW136-3	11.0	62.0	6.25	5.53	169.6	7.5	5.5	955	6.6	81
KS06HW46-3	10.7	61.1	4.50	3.82	170.1	7.4	3.2	920	6.2	79
T163	10.1	59.0	6.50	5.02	167.7	7.2	3.0	865	5.9	78
T164	10.9	59.3	6.50	5.63	168.1	7.4	4.0	885	6.1	74
T165	10.9	60.2	3.75	3.26	169.6	7.1	4.0	920	6.3	78
T166	11.2	62.5	4.50	4.07	171.8	7.0	4.0	860	5.7	68
KS970093-8-9-#1-1	11.6	61.2	3.50	3.34	170.2	7.3	4.0	870	5.9	66
KS06O3A~57-1	12.6	63.2	5.50	5.50	172.0	7.6	4.5	950	6.4	68
KS06O3A~58-1	12.8	62.3	5.00	5.00	170.9	7.2	3.0	850	5.7	56
KS020056TM~4-1	12.7	64.4	6.00	6.00	173.0	7.6	4.2	955	6.4	68
OK05128	12.0	63.4	8.50	8.50	171.5	7.6	5.0	940	6.3	71
OK04525	12.5	62.3	3.50	3.50	171.8	7.3	3.0	885	5.9	61
OK04111	11.8	62.4	4.50	4.38	171.5	7.3	3.0	900	6.0	68
OK04315	12.6	63.5	3.50	3.50	172.9	7.4	3.8	900	5.9	63
OK05212	11.9	61.5	3.75	3.68	170.4	6.9	4.8	870	5.8	64
NE05403	11.3	60.4	4.75	4.38	169.9	7.4	4.5	910	6.1	73
NE05426	11.7	62.3	9.88	9.50	170.5	7.2	4.0	870	5.8	66
NE05496	10.8	60.4	6.25	5.35	169.1	6.9	4.2	860	5.8	71
NE06545	10.2	60.3	7.50	5.90	169.0	6.9	3.5	770	5.2	64
NE05430	11.1	61.4	5.25	4.67	170.7	7.5	5.0	930	6.2	78
CO03W054-2	10.6	63.1	15.38	12.76	170.0	7.3	4.2	855	5.8	72
CO03064-2	10.8	62.3	13.00	11.11	169.9	7.2	3.5	855	5.8	71
TX01V5134RC-3	11.4	62.2	4.50	4.16	171.3	7.4	4.0	870	5.8	68
TX04V075080	12.4	64.2	4.75	4.75	173.4	7.6	4.0	1010	6.7	75
TX05A001614	12.0	60.4	4.13	4.13	169.9	7.2	2.5	880	6.0	65
TX05A001639	11.8	62.4	6.25	6.07	171.7	7.4	5.0	915	6.1	70
TX05A001828	11.0	61.3	6.00	5.26	170.6	7.1	4.0	865	5.9	70
TX05A001822	11.3	63.5	5.75	5.27	172.4	7.4	3.2	950	6.4	78
TX06A001263	11.5	62.2	5.00	4.71	171.2	7.4	3.5	975	6.6	79
TX05A001398	11.0	61.5	4.13	3.63	170.7	7.2	4.5	905	6.1	75
CO04393	11.2	61.5	7.25	6.59	169.8	7.2	5.0	930	6.3	76
CO04499	10.7	61.6	5.88	4.97	167.9	7.3	4.5	900	6.1	77
AP00x0100-51	11.2	61.4	4.25	3.85	170.8	7.1	4.0	855	5.7	67
Jackpot	11.5	61.4	4.13	3.90	170.6	7.2	2.5	895	6.0	70
AP05T2413	12.3	63.4	4.50	4.50	172.1	7.3	3.2	960	6.5	71
AP06TA4520	11.8	62.6	4.50	4.38	172.3	7.1	4.0	875	5.8	65
AP06T3832	11.3	61.0	6.25	5.73	170.1	7.2	5.5	950	6.4	78
NW04Y2188	11.8	60.2	4.25	4.14	169.2	6.8	5.0	825	5.5	60
HV9W04-1186W	10.7	59.2	5.25	4.44	168.2	6.7	5.0	860	5.8	72
HV9W04-1594R	11.6	59.1	4.75	4.55	168.2	7.2	3.8	850	5.8	64

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/%)
HV9W03-1596R	11.6	61.0	5.50	5.25	10.0	7.1	5.0	870	5.8	66
HV9W05-1125R	11.6	61.2	3.75	3.57	170.7	7.3	5.0	905	6.0	70



Hard Winter Wheat Quality Report 2009 SRPN-SHP

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	Very Poor	66.5	77.2	Very Good	100.0		2,4,8,
Scout66	57.4	Very Good	100.0	47.2	Poor	61.2		16,
TAM 107	51.5	Good	89.8	57.8	Very Good	74.9	1AL	3,5,16,
Trego	55.5	Very Good	96.7	37.9	Very Poor	49.1		10,16,
Tiger	55.3	Very Good	96.5	50.7	Poor	65.7		16,
KS06HW46-3	53.5	Good	93.2	72.6	Very Good	94.1		16,
T163	50.2	Poor	87.5	58.7	Average	76.1		11,13,
T164	50.0	Poor	87.1	46.4	Very Poor	60.1	1AL	15,
T165	52.0	Average	90.6	46.8	Poor	60.7	1AL	16,
T166	51.8	Average	90.3	46.2	Poor	59.9	1AL	5,16,21,
KS970093-8-9-#1-1	51.7	Average	90.1	48.4	Poor	62.7		16,
KS06O3A~57-1	51.2	Poor	89.3	76.5	Very Good	99.1		15,16,17,
KS06O3A~58-1	47.4	Very Poor	82.7	70.6	Very Good	91.5	1BL	8,16,20,
KS020056TM~4-1	51.2	Poor	89.3	70.9	Very Good	91.8		
OK05128	51.5	Average	89.8	63.3	Good	82.0		14,15,
OK04525	53.3	Good	92.9	38.5	Very Poor	49.8		9,10,16,
OK04111	51.8	Average	90.3	65.8	Good	85.3		9,16,
OK04315	52.8	Good	92.0	62.1	Good	80.5		16,
OK05212	52.4	Good	91.4	41.0	Very Poor	53.1		16,
NE05403	51.4	Average	89.6	50.1	Average	64.9		2,4,16,
NE05426	54.8	Very Good	95.5	66.8	Good	86.6		14,15,
NE05496	51.0	Poor	88.9	50.2	Poor	65.0		16,17,
NE06545	47.4	Very Poor	82.5	60.0	Average	77.8		1,14,15,
NE05430	51.9	Good	90.5	60.4	Good	78.3		16,
Snowmass	48.8	Very Poor	85.1	38.5	Very Poor	49.8		5,14,15,18,
CO03064-2	49.9	Poor	87.1	39.6	Very Poor	51.3		11,14,15,17,
TX01V5134RC-3	52.9	Good	92.2	45.4	Poor	58.8	1AL	10,13,18,
TX04V075080	45.8	Very Poor	79.8	75.0	Very Good	97.2		3,16,
TX05A001614	49.1	Very Poor	85.7	44.2	Very Poor	57.3	1BL	16,
TX05A001639	53.0	Good	92.3	66.8	Good	86.5		16,

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 2009 SRPN-SHP

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
TX05A001828	57.2	Very Good	99.8	69.1	Good	89.6		
TX05A001822	55.7	Very Good	97.0	74.6	Very Good	96.6		16,
TX06A001263	47.7	Very Poor	83.1	71.7	Very Good	92.8	1AL	2,4,16,
TX05A001398	54.9	Very Good	95.7	49.6	Average	64.2		16,
CO04393	57.2	Very Good	99.7	57.3	Average	74.2		12,13,
CO04499	56.8	Very Good	99.1	51.0	Average	66.0		11,
SY Gold	51.6	Average	90.0	65.8	Good	85.2		
Jackpot	54.5	Good	95.0	71.9	Very Good	93.2		16,
AP05T2413	47.8	Very Poor	83.4	51.6	Average	66.9	1AL	1,9,16,
AP06TA4520	53.0	Good	92.4	63.6	Good	82.5		1,16,
Greer	51.0	Poor	88.9	55.5	Average	71.9		1,16,
NW04Y2188	48.3	Very Poor	84.2	37.7	Very Poor	48.9		16,19,20,
HV9W04-1186W	51.8	Average	90.3	46.0	Very Poor	59.6		2,4,16,
HV9W04-1594R	49.5	Very Poor	86.3	45.9	Poor	59.4	1BL	16,20,
HV9W03-1596R	51.9	Average	90.4	45.9	Poor	59.5		5,
HV9W05-1125R	49.8	Poor	86.8	39.6	Very Poor	51.3		16,

2009 SRPN Intraregional Production Zone

Southern High Plains

LINE	Wt/Bu (lb)	SKCS Average Kernel						Hardness			
		Moisture		Weight		Diameter		SKCS	Class	Distribution	
		(%)	(sd)	(mg)	(sd)	(mm)	(sd)				
								(sd)			
Kharkof	57.2	11.3	0.7	23.6	6.5	2.37	0.28	53 19	MIXED	15--23--26--36--03	
Scout 66	58.0	11.7	0.7	26.9	7.7	2.50	0.31	69 18	HARD	02--07--20--71--01	
TAM-107	58.1	11.5	0.5	30.9	10.0	2.61	0.38	70 18	HARD	01--08--16--75--01	
Trego	59.7	11.3	0.6	27.0	8.4	2.50	0.31	74 17	HARD	02--03--14--81--01	
KS05HW136-3	58.6	11.3	0.6	27.8	7.5	2.54	0.30	63 15	HARD	02--11--27--60--01	
KS06HW46-3	59.1	11.7	0.6	28.0	8.7	2.56	0.32	78 16	HARD	00--01--10--89--01	
T163	57.7	11.7	0.5	29.3	8.6	2.59	0.33	59 21	HARD	08--17--30--45--02	
T164	57.0	11.4	0.7	27.5	8.0	2.54	0.32	66 19	HARD	05--08--21--66--01	
T165	58.7	11.7	0.6	26.1	7.5	2.47	0.30	67 18	HARD	03--08--18--71--01	
T166	58.4	11.7	0.6	27.3	7.8	2.52	0.36	74 15	HARD	00--03--12--85--01	
KS970093-8-9-#1-1	57.9	11.9	0.7	27.9	8.6	2.55	0.34	63 17	HARD	04--13--23--60--01	
KS06O3A~57-1	56.9	11.8	0.6	26.9	8.3	2.56	0.35	68 18	HARD	02--08--22--68--01	
KS06O3A~58-1	57.1	12.0	0.6	27.2	8.8	2.54	0.31	79 17	HARD	01--02--08--89--01	
KS020056TM~4-1	57.9	11.6	0.7	26.6	7.8	2.55	0.30	78 17	HARD	00--03--09--88--01	
OK05128	58.7	11.6	0.7	26.8	7.8	2.55	0.31	70 17	HARD	02--07--17--74--01	
OK04525	59.0	11.9	0.7	28.0	7.8	2.63	0.33	78 18	HARD	00--03--10--87--01	
OK04111	57.8	12.0	0.6	28.3	8.3	2.63	0.33	81 17	HARD	01--01--11--87--01	
OK04315	58.6	11.6	0.6	28.7	7.5	2.60	0.29	76 18	HARD	03--02--10--85--01	
OK05212	58.0	12.0	0.5	26.1	8.3	2.43	0.32	65 19	HARD	04--11--22--63--01	
NE05403	58.1	11.9	0.5	23.9	6.6	2.41	0.27	65 17	HARD	03--10--26--61--01	
NE05426	57.7	11.5	0.4	26.0	7.4	2.51	0.31	73 17	HARD	01--05--13--81--01	
NE05496	57.1	11.4	0.6	27.0	8.2	2.54	0.31	69 17	HARD	00--09--20--71--01	
NE06545	55.7	11.8	0.6	24.9	7.5	2.45	0.30	58 18	HARD	08--14--32--46--02	
NE05430	58.1	11.4	0.5	24.3	6.9	2.45	0.29	67 18	HARD	02--11--22--65--01	
CO03W054-2	57.5	11.9	0.5	27.7	8.4	2.56	0.35	82 18	HARD	00--02--07--91--01	
CO03064-2	56.7	11.9	0.4	26.1	7.8	2.46	0.30	75 16	HARD	01--05--11--83--01	
TX01V5134RC-3	58.7	11.8	0.4	27.0	7.4	2.56	0.33	85 17	HARD	00--02--06--92--01	
TX04V075080	57.0	11.8	0.4	30.3	9.4	2.57	0.33	59 17	HARD	06--15--29--50--02	
TX05A001614	57.7	12.0	0.5	26.1	8.4	2.50	0.34	70 17	HARD	01--06--17--76--01	
TX05A001639	57.8	11.8	0.5	27.1	8.4	2.53	0.32	74 17	HARD	01--05--10--84--01	
TX05A001828	58.9	11.9	0.4	27.3	7.9	2.53	0.32	74 16	HARD	01--04--13--82--01	
TX05A001822	58.3	11.5	0.5	26.2	7.5	2.51	0.31	66 17	HARD	02--09--23--66--01	
TX06A001263	56.9	12.0	0.4	24.1	7.7	2.42	0.32	76 18	HARD	00--03--12--85--01	
TX05A001398	59.2	11.7	0.5	25.6	6.8	2.50	0.29	71 17	HARD	01--06--17--76--01	
CO04393	59.0	11.7	0.4	28.8	9.0	2.60	0.35	65 17	HARD	03--07--27--63--01	
CO04499	59.1	11.6	0.3	30.2	8.7	2.62	0.34	68 18	HARD	04--08--16--72--01	
AP00x0100-51	57.9	11.5	0.6	25.4	7.5	2.47	0.30	81 18	HARD	01--03--06--90--01	
Jackpot	57.5	11.3	0.5	29.1	8.3	2.63	0.34	73 16	HARD	01--04--19--76--01	
AP05T2413	56.0	11.6	0.5	26.4	7.7	2.49	0.31	70 17	HARD	02--05--16--77--01	
AP06TA4520	56.3	11.4	0.4	27.9	8.7	2.53	0.31	81 17	HARD	00--02--08--90--01	
AP06T3832	55.5	11.7	0.5	25.9	7.5	2.49	0.33	69 17	HARD	02--08--20--70--01	
NW04Y2188	57.0	11.7	0.5	27.1	8.6	2.51	0.29	57 18	HARD	09--20--29--42--02	
HV9W04-1186W	56.4	11.6	0.5	23.5	7.1	2.37	0.30	59 16	HARD	06--14--27--53--02	
HV9W04-1594R	56.8	11.7	0.5	24.4	7.2	2.45	0.30	83 17	HARD	00--03--07--90--01	
HV9W03-1596R	57.4	11.8	0.4	26.8	8.3	2.56	0.37	74 16	HARD	01--04--14--81--01	

LINE	Wt/Bu (lb)	SKCS Average Kernel						Hardness			
		Moisture		Weight		Diameter		SKCS		Class	Distribution
		(%)	(sd)	(mg)	(sd)	(mm)	(sd)	(sd)			
HV9W05-1125R	58.1	11.6	0.4	25.4	8.7	2.43	0.31	68	19	HARD	03--11--19--67--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	16.9	62.4	0.44	15.5	0.623	80.14	-1.92	21.04	-15.32	1.71	2.69
Scout 66	14.9	70.6	0.40	14.0	0.613	79.44	-1.61	21.25	-13.38	1.10	2.24
TAM-107	14.5	68.1	0.41	13.1	0.574	79.21	-1.90	23.14	-14.56	1.49	2.44
Trego	16.6	68.6	0.42	13.8	0.684	80.64	-2.09	21.95	-13.41	1.64	2.95
KS05HW136-3	14.7	68.6	0.42	13.5	0.207	80.96	-2.15	21.58	-10.26	0.78	2.52
KS06HW46-3	15.2	66.8	0.43	13.9	0.774	80.98	-2.39	22.43	-15.09	1.62	0.43
T163	13.9	68.6	0.39	12.7	0.626	80.47	-2.01	21.87	-12.55	1.38	1.73
T164	15.6	67.6	0.40	14.1	0.645	80.04	-2.04	22.70	-12.23	1.98	-1.21
T165	14.3	67.4	0.40	13.2	0.563	80.84	-2.09	23.21	-12.28	1.11	2.06
T166	14.1	66.7	0.44	13.2	0.580	79.78	-2.19	25.42	-10.91	2.13	-0.09
KS970093-8-9-#1-1	14.9	68.7	0.44	13.9	0.606	80.15	-1.92	23.53	-12.65	2.00	-0.10
KS06O3A~57-1	16.4	68.6	0.43	15.6	0.577	80.79	-1.72	23.00	-12.99	1.66	0.43
KS06O3A~58-1	16.4	65.4	0.47	15.9	0.571	78.82	-1.41	24.43	-12.87	1.74	0.21
KS020056TM~4-1	15.4	66.5	0.45	14.4	0.541	78.62	-1.50	23.89	-11.27	2.13	-1.09
OK05128	15.2	66.4	0.40	14.0	0.234	80.55	-1.71	22.59	-11.36	1.07	2.46
OK04525	15.5	68.1	0.50	14.2	0.193	79.40	-1.48	22.96	-10.88	1.57	1.42
OK04111	15.4	67.3	0.49	14.5	0.600	79.56	-1.89	23.63	-12.34	2.31	-1.74
OK04315	16.2	67.1	0.47	15.1	0.548	80.61	-1.95	22.92	-12.09	2.15	-0.28
OK05212	15.2	69.2	0.39	14.1	0.587	80.20	-1.77	22.24	-12.49	2.08	-0.05
NE05403	14.7	67.6	0.43	13.6	0.671	80.08	-2.38	23.58	-11.76	1.63	0.64
NE05426	15.9	68.6	0.41	14.4	0.599	79.52	-1.49	22.09	-11.65	0.85	0.45
NE05496	15.2	67.6	0.42	14.0	0.716	79.06	-1.87	23.28	-13.86	1.37	1.32
NE06545	15.3	67.1	0.38	14.1	0.621	79.81	-1.98	24.00	-13.67	1.59	0.78
NE05430	14.7	68.3	0.44	13.6	0.696	81.44	-2.18	21.17	-15.03	1.62	2.90
CO03W054-2	14.6	66.1	0.47	13.3	0.781	82.38	-2.43	23.12	-14.43	1.34	2.17
CO03064-2	14.2	66.9	0.46	12.7	0.619	81.57	-1.47	20.19	-13.17	1.27	2.87
TX01V5134RC-3	14.8	66.5	0.47	13.2	0.713	79.58	-1.73	23.78	-14.20	1.26	1.83
TX04V075080	16.3	66.0	0.43	15.4	0.751	80.30	-1.41	21.44	-16.35	1.54	1.09
TX05A001614	15.3	67.5	0.47	14.6	0.563	78.25	-1.85	26.02	-13.59	1.68	-1.12
TX05A001639	15.4	69.1	0.49	14.2	0.628	79.14	-2.06	24.89	-13.96	1.63	0.83
TX05A001828	15.3	69.4	0.43	14.3	0.575	79.29	-1.99	24.27	-11.83	1.42	0.25
TX05A001822	15.2	69.4	0.40	14.2	0.563	81.36	-1.81	21.63	-16.10	1.64	4.18
TX06A001263	15.7	67.0	0.48	14.4	0.730	78.28	-1.56	23.15	-14.04	1.52	0.58
TX05A001398	14.7	67.9	0.42	13.5	0.733	80.10	-1.95	22.61	-11.10	1.58	0.34
CO04393	14.0	70.9	0.41	12.9	0.646	80.81	-2.22	24.25	-11.85	2.11	-0.46
CO04499	13.7	69.6	0.39	12.4	0.604	80.11	-2.56	24.57	-10.19	2.33	-1.04
AP00x0100-51	15.4	66.7	0.42	13.9	0.511	78.71	-1.84	24.14	-11.33	1.53	0.54
Jackpot	15.8	69.4	0.47	14.5	0.604	77.96	-1.33	23.34	-13.72	1.73	-1.04
AP05T2413	16.8	67.2	0.50	16.0	0.480	77.89	-1.67	24.52	-14.67	2.26	-1.48
AP06TA4520	15.9	68.9	0.48	14.1	0.525	79.55	-1.72	23.75	-15.33	2.15	1.35
AP06T3832	15.3	69.5	0.47	13.8	0.725	79.33	-1.80	23.79	-15.43	2.07	-1.35
NW04Y2188	15.7	67.8	0.40	14.6	0.707	79.58	-1.45	21.47	-14.40	1.83	-0.68

LINE	Wheat		Flour			Noodle Color					
	Protein	Milling	Ash	Protein	PPO	L @ 0	a @ 0	b @ 0	Delta L	Delta a	Delta b
	(%)	Yield							24 hrs	24 hrs	24 hrs
		(%)	(%)	(%)							
HV9W04-1186W	14.4	69.8	0.43	13.6	0.701	81.72	-2.25	22.19	-11.74	2.27	0.18
HV9W04-1594R	16.5	66.7	0.49	15.5	0.455	77.18	-1.24	25.69	-13.00	1.50	-2.76
HV9W03-1596R	15.0	67.9	0.44	13.7	0.599	78.43	-1.45	24.55	-11.56	1.76	-0.53
HV9W05-1125R	15.2	69.1	0.47	14.1	0.763	80.81	-1.92	20.88	-15.04	1.30	3.12

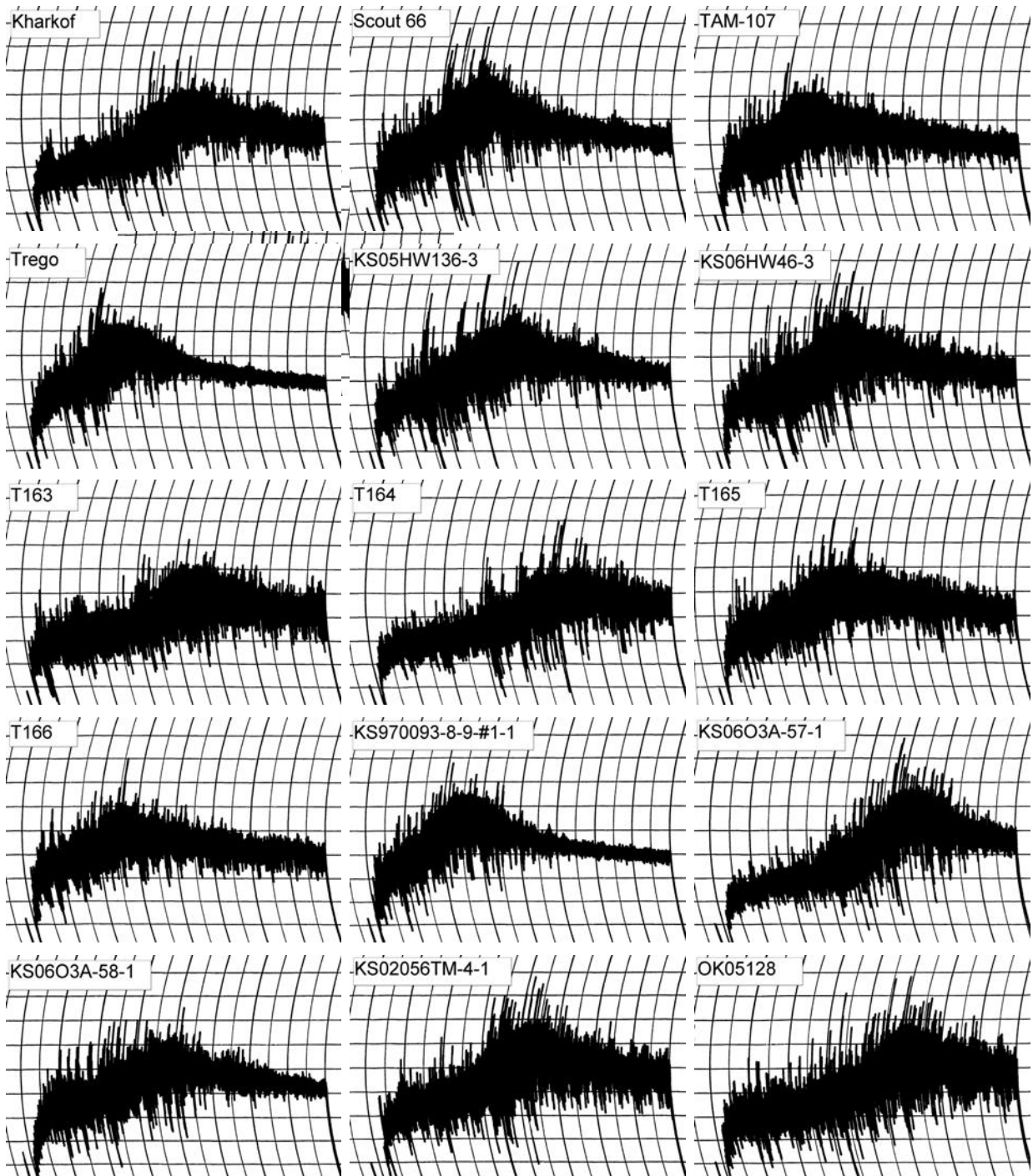
2009 SRPN Intraregional Production Zone

Southern High Plains

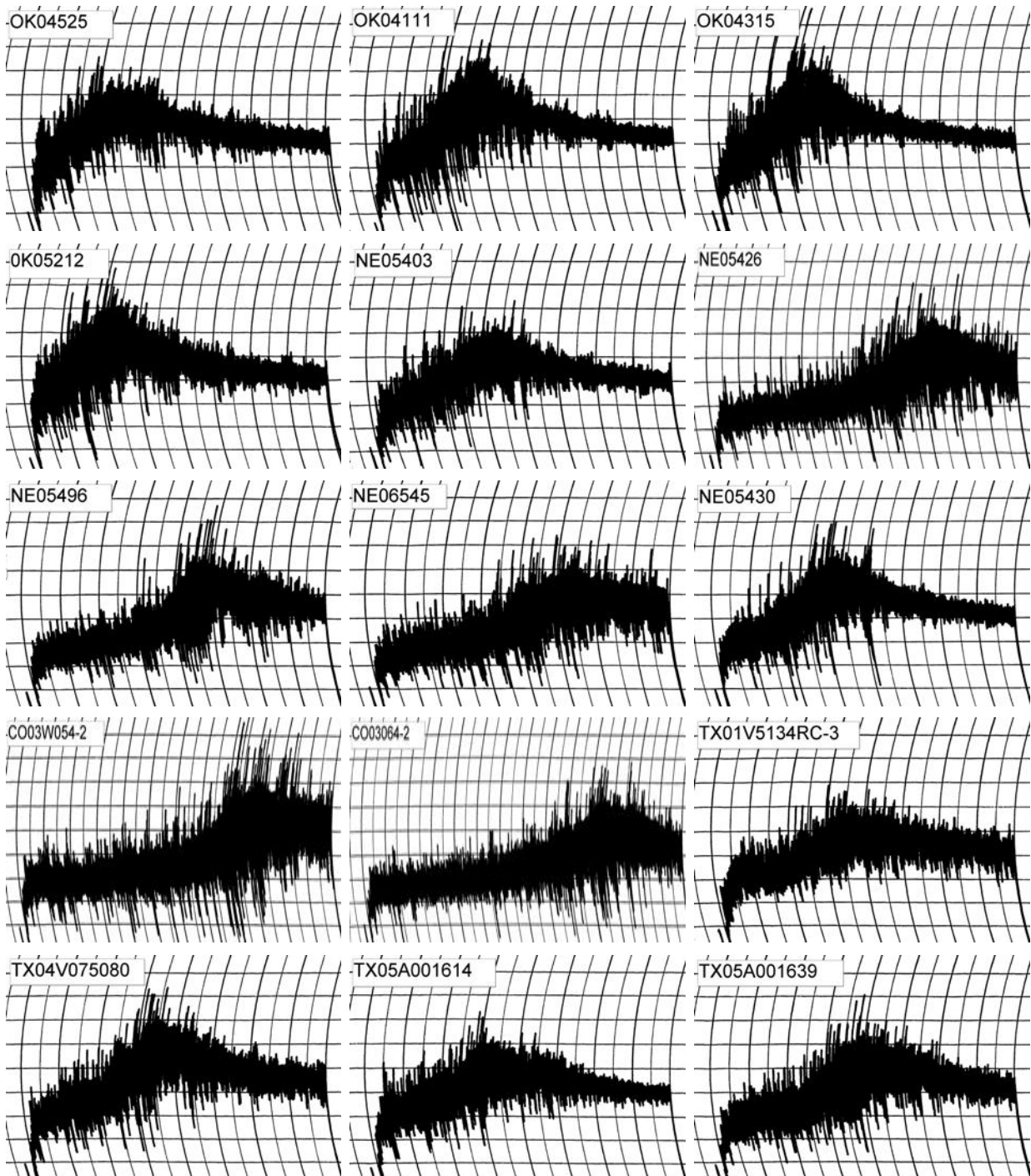
	Flour Protein	Mixograph			
		Absorption	As-Is	Corrected	Tolerance
Line	(%)	(%)	(min)	(min)	
Kharkof	15.5	66.7	4.38	4.38	4
Scout 66	14.0	66.2	3.00	3.00	2
TAM-107	13.1	64.8	2.50	2.50	2
Trego	13.8	65.9	2.50	2.50	0
KS05HW136-3	13.5	63.4	3.88	3.88	1
KS06HW46-3	13.9	66.1	3.50	3.50	2
T163	12.7	62.1	4.50	4.50	4
T164	14.1	66.4	5.50	5.50	3
T165	13.2	65.0	3.50	3.50	2
T166	13.2	64.9	2.63	2.63	2
KS970093-8-9-#1-1	13.9	66.2	2.50	2.50	0
KS06O3A~57-1	15.6	69.0	5.38	5.38	2
KS06O3A~58-1	15.9	66.4	4.00	4.00	0
KS020056TM~4-1	14.4	67.0	4.50	4.50	5
OK05128	14.0	66.3	5.38	5.38	5
OK04525	14.2	66.6	2.50	2.50	0
OK04111	14.5	67.1	2.88	2.88	1
OK04315	15.1	68.1	2.50	2.50	0
OK05212	14.1	66.3	2.38	2.38	1
NE05403	13.6	65.6	3.38	3.38	1
NE05426	14.4	67.0	7.25	7.25	6
NE05496	14.0	66.3	4.88	4.88	2
NE06545	14.1	66.4	5.50	5.50	5
NE05430	13.6	65.6	3.13	3.13	1
CO03W054-2	13.3	65.2	9.25	9.25	6
CO03064-2	12.7	64.1	0.50	0.50	5
TX01V5134RC-3	13.2	63.0	3.63	3.63	3
TX04V075080	15.4	68.7	3.50	3.50	2
TX05A001614	14.6	65.8	3.25	3.25	0
TX05A001639	14.2	66.6	4.13	4.13	2
TX05A001828	14.3	64.8	3.88	3.88	4
TX05A001822	14.2	64.6	3.38	3.38	2
TX06A001263	14.4	67.0	3.88	3.88	2
TX05A001398	13.5	64.4	3.38	3.38	0
CO04393	12.9	62.9	4.75	4.75	5
CO04499	12.4	63.6	4.00	4.00	4
AP00x0100-51	13.9	66.1	3.88	3.88	4
Jackpot	14.5	67.6	3.75	3.75	0
AP05T2413	16.0	69.7	2.75	2.75	2
AP06TA4520	14.1	66.5	3.63	3.63	1
AP06T3832	13.8	63.9	4.00	4.00	2
NW04Y2188	14.6	66.2	2.88	2.88	0

	Flour Protein	Mixograph			
		Absorption	As-Is	Corrected	Tolerance
Line	(%)	(%)	(min)	(min)	
HV9W04-1186W	13.6	63.6	3.38	3.38	0
HV9W04-1594R	15.5	67.3	3.63	3.63	0
HV9W03-1596R	13.7	63.8	3.00	3.00	3
HV9W05-1125R	14.1	66.5	2.50	2.50	0

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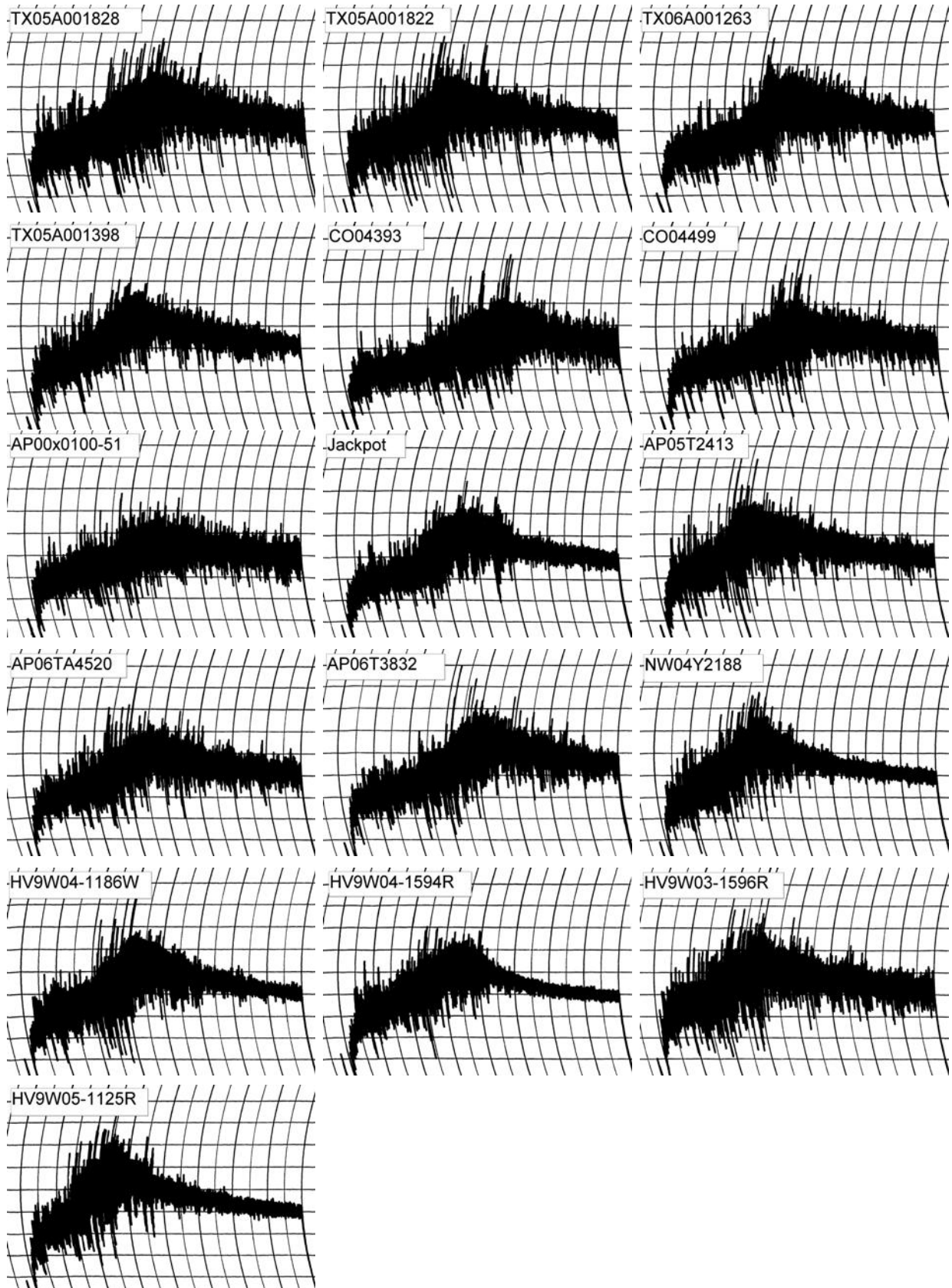


2009 SRPN Intraregional Production Zone Southern High Plains



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Line	RVA							
	Stirring Number	Peak Viscosity	Trough Viscosity	Breakdown	Final Viscosity	Set back	Peak Time	Pasting Temp
	(RVU)	(RVU)	(RVU)	(RVU)	(RVU)	(RVU)	(min)	(Deg. C)
Kharkof	160.92	232.92	168.67	64.25	285.33	116.67	6.47	86.55
Scout 66	158.50	225.25	163.92	61.33	287.42	123.50	6.33	67.85
TAM-107	131.92	251.58	178.67	72.92	296.42	117.75	6.53	67.70
Trego	133.42	259.08	169.17	89.92	273.25	104.08	6.47	67.65
KS05HW136-3	156.42	248.25	146.58	101.67	243.67	97.08	6.27	66.85
KS06HW46-3	135.33	271.50	174.50	97.00	281.67	107.17	6.40	66.15
T163	136.92	274.42	187.58	86.83	313.75	126.17	6.47	66.15
T164	152.92	262.75	184.50	78.25	301.17	116.67	6.53	67.70
T165	134.00	246.58	174.58	72.00	298.42	123.83	6.40	67.75
T166	130.17	244.42	166.67	77.75	282.67	116.00	6.47	67.80
KS970093-8-9-#1-1	163.58	246.25	182.00	64.25	293.00	111.00	6.60	67.85
KS06O3A~57-1	136.25	242.00	169.00	73.00	284.00	115.00	6.47	67.75
KS06O3A~58-1	147.50	236.42	159.75	76.67	277.25	117.50	6.40	66.20
KS020056TM~4-1	157.67	222.92	166.00	56.92	274.00	108.00	6.53	67.70
OK05128	137.75	265.00	187.00	78.00	306.33	119.33	6.47	66.85
OK04525	135.33	234.92	157.67	77.25	262.83	105.17	6.40	66.15
OK04111	111.25	224.67	140.33	84.33	246.92	106.58	6.20	66.95
OK04315	125.58	212.25	145.25	67.00	261.58	116.33	6.20	66.20
OK05212	123.92	222.17	143.08	79.08	259.92	116.83	6.20	66.95
NE05403	123.08	251.50	168.33	83.17	271.08	102.75	6.47	67.75
NE05426	134.08	216.83	147.92	68.92	260.75	112.83	6.33	67.80
NE05496	119.83	260.83	162.17	98.67	263.92	101.75	6.33	66.95
NE06545	129.08	264.17	180.42	83.75	305.08	124.67	6.40	84.95
NE05430	150.42	247.67	179.25	68.42	280.92	101.67	6.60	67.85
CO03W054-2	141.83	224.08	158.75	65.33	269.50	110.75	6.40	67.70
CO03064-2	133.75	210.67	156.58	54.08	286.08	129.50	6.27	67.80
TX01V5134RC-3	125.25	211.50	146.33	65.17	264.00	117.67	6.27	66.90
TX04V075080	119.25	239.58	144.42	95.17	227.50	83.08	6.27	67.75
TX05A001614	140.92	221.58	145.25	76.33	232.17	86.92	6.47	66.85
TX05A001639	126.08	207.00	133.92	73.08	238.00	104.08	6.13	66.95
TX05A001828	138.42	263.67	165.67	98.00	266.67	101.00	6.33	67.80
TX05A001822	144.67	226.33	167.17	59.17	291.33	124.17	6.40	86.45
TX06A001263	101.25	191.83	90.75	101.08	170.50	79.75	6.00	66.95
TX05A001398	141.17	224.00	156.17	67.83	273.83	117.67	6.27	67.90
CO04393	123.08	267.33	169.00	98.33	274.08	105.08	6.40	67.70
CO04499	134.58	262.25	168.33	93.92	275.25	106.92	6.40	66.85
AP00x0100-51	145.67	217.67	156.42	61.25	284.42	128.00	6.27	86.55
Jackpot	147.83	237.42	169.50	67.92	284.58	115.08	6.53	67.05
AP05T2413	136.67	223.75	161.00	62.75	278.33	117.33	6.40	66.10
AP06TA4520	129.75	187.50	129.58	57.92	241.33	111.75	6.20	67.00
AP06T3832	135.58	232.50	153.75	78.75	266.08	112.33	6.33	67.80
NW04Y2188	135.58	207.17	151.58	55.58	267.75	116.17	6.33	86.50
HV9W04-1186W	114.83	217.00	141.08	75.92	253.75	112.67	6.20	86.55
HV9W04-1594R	134.75	197.50	138.00	59.50	243.33	105.33	6.33	66.85
HV9W03-1596R	143.58	219.50	153.67	65.83	264.50	110.83	6.40	87.25
HV9W05-1125R	133.08	228.50	165.67	62.83	289.17	123.50	6.33	66.20

2009 SRPN Intraregional Production Zone

Southern 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	15.5	66.3	5.50	5.50	175.6	8.3	5.0	1075	7.1	62
Scout 66	14.0	64.3	3.50	3.50	173.3	8.2	4.5	1030	6.8	66
TAM-107	13.1	63.5	3.50	3.50	173.0	8.1	4.0	1005	6.7	70
Trego	13.8	63.5	2.75	2.75	173.5	7.8	3.8	970	6.5	62
KS05HW136-3	13.5	64.6	5.25	5.25	173.7	8.1	5.5	1040	7.0	71
KS06HW46-3	13.9	65.5	4.13	4.13	175.1	7.8	5.0	1060	7.1	70
T163	12.7	63.7	6.25	6.25	173.2	7.8	4.0	990	6.7	71
T164	14.1	64.6	6.50	6.50	173.3	7.8	5.8	1060	7.1	69
T165	13.2	63.6	4.13	4.13	173.6	7.8	3.5	1000	6.8	69
T166	13.2	63.6	3.38	3.38	173.6	7.6	2.0	985	6.6	67
KS970093-8-9-#1-1	13.9	62.5	3.25	3.25	172.3	8.1	3.0	960	6.5	60
KS06O3A~57-1	15.6	66.5	5.50	5.50	170.5	8.3	5.0	1130	7.8	66
KS06O3A~58-1	15.9	67.4	5.00	5.00	176.5	8.5	4.0	1030	6.8	57
KS020056TM~4-1	14.4	67.7	6.00	6.00	176.6	8.1	4.0	1060	6.9	67
OK05128	14.0	67.6	7.88	7.88	176.2	8.1	4.0	1080	7.2	71
OK04525	14.2	63.7	3.00	3.00	173.5	8.0	3.5	955	6.4	59
OK04111	14.5	66.6	3.88	3.88	176.2	8.2	4.0	1045	6.9	65
OK04315	15.1	66.7	3.50	3.50	176.2	8.1	4.0	1015	6.7	59
OK05212	14.1	65.6	3.00	3.00	175.1	7.8	4.8	970	6.4	61
NE05403	13.6	65.5	4.13	4.13	174.5	8.3	3.5	1025	6.8	68
NE05426	14.4	64.5	8.25	8.25	173.3	8.3	5.0	1095	7.3	70
NE05496	14.0	66.5	6.00	6.00	170.2	8.0	3.8	1055	7.2	69
NE06545	14.1	64.4	7.50	7.50	172.9	7.8	5.0	965	6.4	60
NE05430	13.6	63.6	4.00	4.00	172.7	7.8	4.0	1000	6.8	66
CO03W054-2	13.3	64.3	13.50	13.50	171.6	7.5	3.5	975	6.5	65
CO03064-2	12.7	63.4	10.63	10.63	170.8	7.6	3.5	1040	7.1	76
TX01V5134RC-3	13.2	63.0	4.25	4.25	171.8	7.5	4.5	970	6.5	65
TX04V075080	15.4	67.5	4.38	4.38	176.3	8.0	4.0	1115	7.4	66
TX05A001614	14.6	64.3	3.75	3.75	173.5	7.6	2.5	975	6.5	58
TX05A001639	14.2	64.5	5.00	5.00	173.7	7.7	4.0	1025	6.9	65
TX05A001828	14.3	63.4	5.00	5.00	172.3	7.7	4.0	1050	7.1	66
TX05A001822	14.2	64.7	4.88	4.88	178.8	8.0	5.0	1080	7.3	70
TX06A001263	14.4	65.4	5.13	5.13	174.5	7.7	4.0	1090	7.3	69
TX05A001398	13.5	64.7	4.63	4.63	173.6	7.8	4.2	1030	6.9	70
CO04393	12.9	62.2	6.63	6.63	171.2	7.6	4.0	1000	6.8	71
CO04499	12.4	63.7	5.00	5.00	172.4	7.8	3.5	1015	6.9	76
AP00x0100-51	13.9	63.6	4.63	4.63	172.6	7.7	4.0	990	6.7	63
Jackpot	14.5	65.6	4.00	4.00	174.6	8.2	5.0	1040	7.0	64
AP05T2413	16.0	66.4	3.50	3.50	175.3	8.0	2.5	1050	7.0	58
AP06TA4520	14.1	65.6	4.00	4.00	174.7	8.0	4.0	990	6.5	62
AP06T3832	13.8	63.5	5.13	5.13	172.5	8.1	5.5	1130	7.7	77
NW04Y2188	14.6	63.5	3.13	3.13	172.7	7.7	3.5	920	6.1	54
HV9W04-1186W	13.6	63.6	5.00	5.00	173.0	7.7	4.8	980	6.5	64
HV9W04-1594R	15.5	63.5	3.75	3.75	172.5	7.9	3.8	980	6.6	54

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/%)
HV9W03-1596R	13.7	63.9	4.25	4.25	173.1	7.7	3.8	980	6.5	64
HV9W05-1125R	14.1	62.5	3.38	3.38	172.0	7.8	3.5	975	6.6	61

Results of Flour Protein Analysis for NRPN Samples

sample	%IPP	Gliadin:Glutenin ratio	HMW-GS Composition		
			<i>Glu 1A</i>	<i>Glu 1B</i>	<i>Glu 1D</i>
09-nnc1101	50.28	2.22	2*	7+9	5+10
09-nnc1102	48.84	2.23	2*	7+9	5+10
09-nnc1103	51.87	2.47	2*	7+8,	5+10
09-nnc1104	50.44	2.20	2*	7+9	5+10
09-nnc1105	45.30	2.22	1	7+9	2+12
09-nnc1106	39.93	2.21	1	7+9	2+12
09-nnc1107	48.02	2.09	1	7+9	2+12
09-nnc1108	46.43	1.87	1	7+9	2+12 /5+10
09-nnc1109	43.64	2.30	1	7+9	2+12 /5+10
09-nnc1110	49.45	2.35	2*	17+18	5+10
09-nnc1111	48.99	1.72	1	17+18	5+10
09-nnc1112	53.27	2.60	2*	7+8	5+10
09-nnc1113	49.21	1.95	2*	7+8/7+9	5+10
09-nnc1114	51.56	2.42	2*	7+8	5+10
09-nnc1115	50.72	2.35	2*	7+8	5+10
09-nnc1116	52.00	2.59	2*/1	7+9	5+10
09-nnc1117	48.20	2.84	2*	17+18	5+10
09-nnc1118	47.52	2.50	2*	17+18	5+10
09-nnc1119	51.61	2.56	2*	17+18	5+10
09-nnc1120	56.40	2.79	2*	7+9	5+10
09-nnc1121	56.10	2.35	2*	7+9	5+10
09-nnc1122	51.89	2.66	2*	7+9	5+10
09-nnc1123	52.88	2.47	2*	7+8	5+10
09-nnc1124	52.03	2.22	2*	7+9	5+10
09-nnc1125	53.04	2.76	1	7+9	5+10

Results of Flour Protein Analysis for SRPN Samples

sample	%IPP	Gliadin:Glutenin ratio	HMW-GS Composition		
			<i>Glu 1A</i>	<i>Glu 1B</i>	<i>Glu 1D</i>
09-ssc1001	45.72	2.21	2*	7+9	5+10
09-ssc1002	44.91	1.97	2*	7+9	2+12
09-ssc1003	44.25	2.06	2*	7+9	2+12
09-ssc1004	44.42	2.30	2*	7+8	5+10
09-ssc1005	48.97	2.39	2*	7+9	5+10
09-ssc1006	46.79	2.40	2*	7+8	5+10
09-ssc1007	46.69	2.18	2*	7+9	5+10
09-ssc1008	47.85	2.37	2*	7+9	5+10
09-ssc1009	46.04	2.42	2*	7+9	2+12
09-ssc1010	44.52	1.97	2*	7+9	2+12
09-ssc1011	40.86	2.47	2*	7+9	2+12
09-ssc1012	48.49	2.13	1	17+18	5+10
09-ssc1013	43.41	2.79	1	17+18	5+10
09-ssc1014	48.54	2.44	1	7+9	5+10
09-ssc1015	52.20	2.34	1	7+9	5+10
09-ssc1016	43.35	2.32	2*	7+9	5+10
09-ssc1017	46.41	2.60	2*	7+8	5+10
09-ssc1018	43.41	2.49	2*	20a+20b	5+10
09-ssc1019	42.53	2.46	1	7+9	2+12
09-ssc1020	44.72	3.03	2*	7+9	5+10
09-ssc1021	50.13	2.20	2*	7+9	5+10
09-ssc1022	49.65	2.90	2*	7+9	5+10
09-ssc1023	47.45	2.28	2*	7+9	5+10
09-ssc1024	44.11	1.95	2*	7+9	5+10
09-ssc1025	57.48	2.07	2*	7+8	5+10
09-ssc1026	54.47	1.83	2*	7+9	5+10
09-ssc1027	47.01	1.82	2*	17+18	5+10
09-ssc1028	45.48	1.99	2*	17+18	5+10
09-ssc1029	44.66	2.14	1	7+8	5+10
09-ssc1030	48.11	2.31	1	7+8	5+10
09-ssc1031	51.89	2.35	2*	17+18	5+10
09-ssc1032	46.60	2.26	1	7+8	5+10
09-ssc1033	45.04	2.32	2*	7+9	5+10
09-ssc1034	43.43	1.85	2*	7+9	5+10
09-ssc1035	50.39	2.21	2*	7+8	5+10/2+12
09-ssc1036	45.99	2.37	2*	7+8	5+10
09-ssc1037	44.73	2.18	null	7+9	5+10
09-ssc1038	44.98	2.16	1	17+18	5+10
09-ssc1039	44.85	2.27	2*	17+18	2+12
09-ssc1040	47.30	1.76	1	17+18	5+10
09-ssc1041	50.00	2.31	1	17+18	5+10
09-ssc1042	41.18	2.10	1	17+18	5+10
09-ssc1043	46.91	2.44	2*	7+9	5+10
09-ssc1044	47.66	2.99	1	7+9	5+10
09-ssc1045	46.12	3.16	2*	7+8	5+10
09-ssc1046	43.43	2.39	1	7+8	5+10