Asociación Española de Técnicos Cerealistas

2017 Regional Crop Quality Report

Hard Red Spring Wheat

XXIX Jornadas Técnicas de la Asociación Española de Técnicos Cerealistas (AETC)

U.S. WHEAT ASSOCIATES

U.S. Wheat Production Regions

● HARD RED WINTER ● HARD RED SPRING ● SOFT RED WINTER ● SOFT WHITE ● HARD WHITE ● DURUM

US Hard Red Spring Wheat
Planting, Growing and Harvesting Seasons

Planting:

Cooler temperatures and some rain delayed planting progress in many areas, but warmer, drier conditions prevailed in May, allowing planting to finish by the end of the month.

Growing:

Soil moisture conditions were mostly adequate. In July, temperatures warmed up substantially and rainfall was limited in southern areas, but more plentiful in northern growing regions. Disease pressure in portions of the northern growing region.
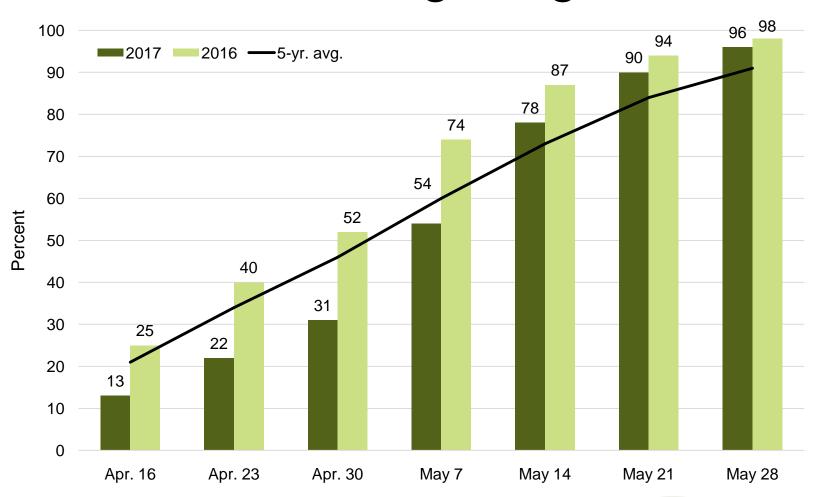
Harvesting:

Began in August and continued at a steady pace to start. Rains slowed harvest in mid-August, but had little impact on crop quality. Yields were average to above average. Harvest was completed by mid-September.
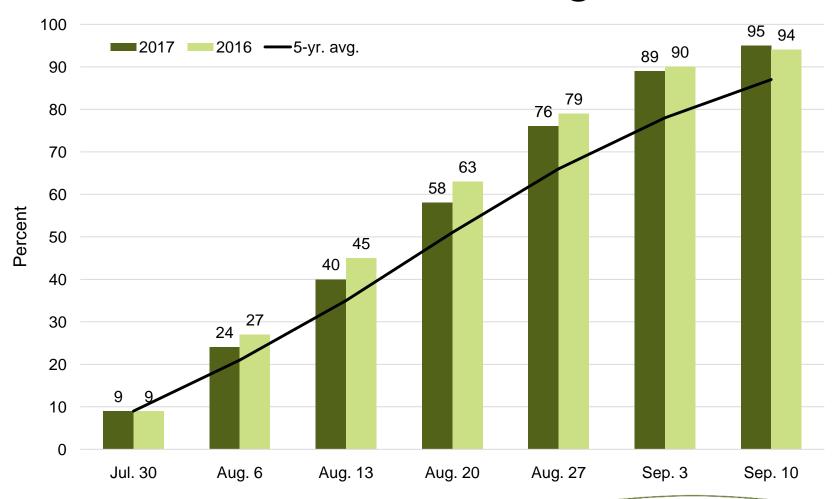
HRS Harvest Progress

2017 Crop Quality

HRS Export Tributary Areas

PNW Tributary Western Exportable Area

Area Production

53%

Gulf Tributary Eastern Exportable Area

Area Production
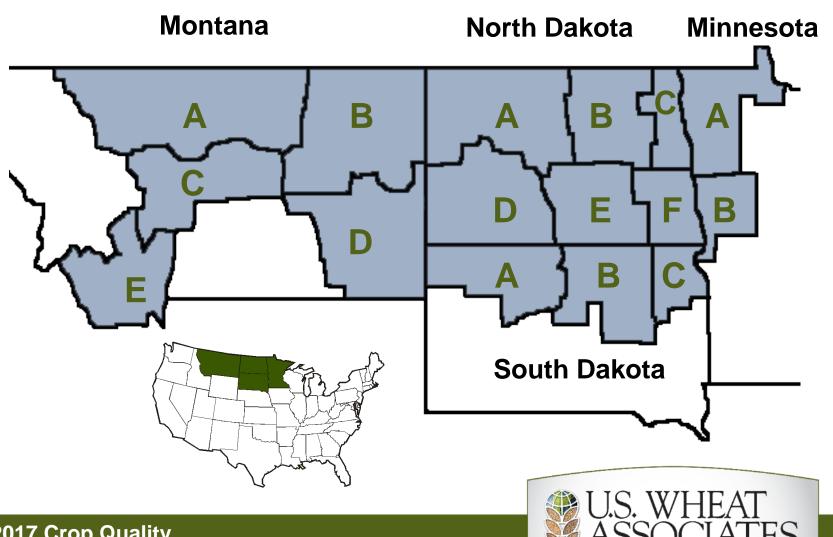
47%

Four-State Crop Reporting Areas

Gulf-GL HRS

Evaluation based on protein composites

Low Protein – **Represents all samples less than 15.3% dry basis protein.**
(30% of crop)

Medium Protein – **Represents all samples between 15.3% and – 16.5% dry basis protein.**
(26% of crop)

High Protein - **Represents all samples greater than 16.5% dry basis protein.**
(44% of crop)
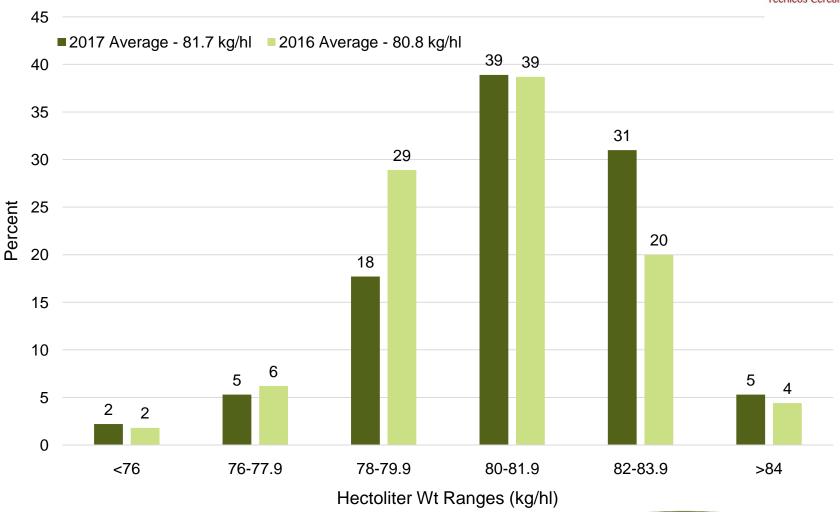
Gulf-GL HRS – Wheat Grade Data

	Low	Med	High	2017	2016	5-Year
Test Weight (kg/hl)	82.7	82.3	80.3	81.5	80.8	81.0
Damaged Kernels (%)	0.0	0.0	0.0	0.0	0.2	0.2
Foreign Material (%)	0.0	0.0	0.0	0.0	0.0	0.0
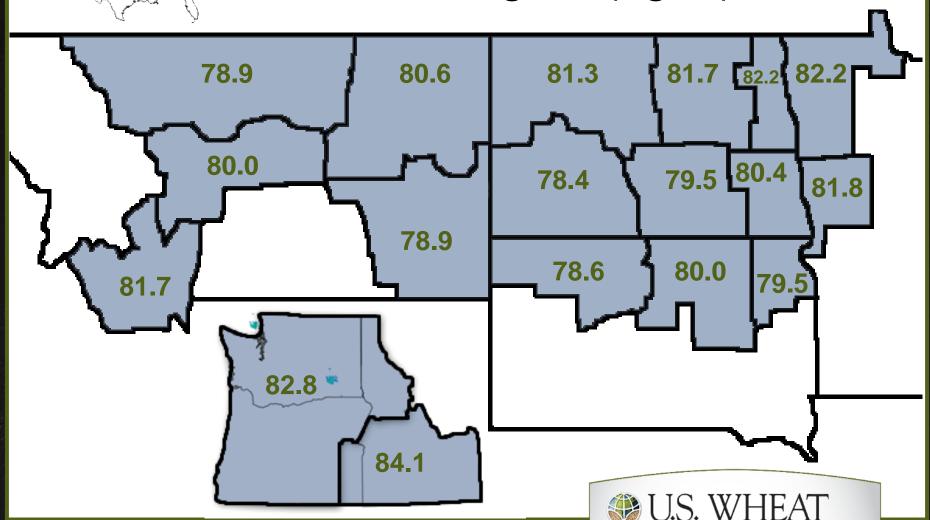
HRS – Hectoliter Weight by Region (kg/hl)

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Gulf-GL HRS – Wheat Grade Data
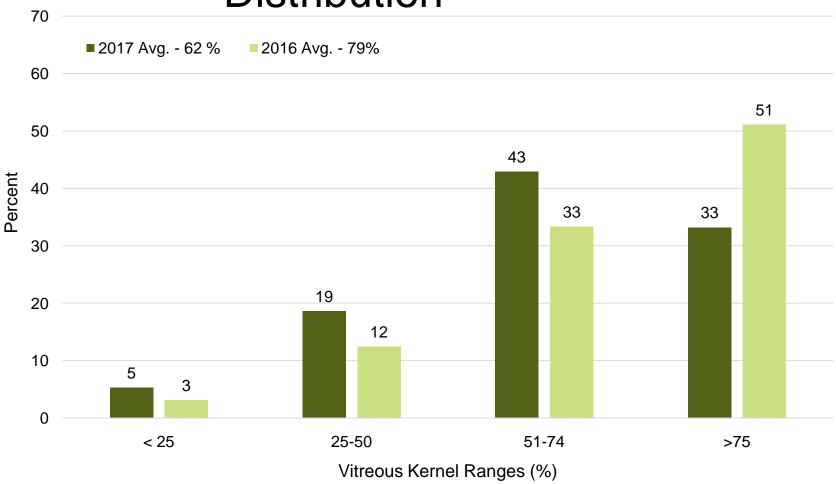
	Low	Med	High	2017	2016	5-Year
Shrunken & Broken (%)	0.6	0.8	0.8	0.7	0.6	0.8
Total Defects (%)	0.6	0.8	0.8	0.7	0.8	1.0
Vitreous Kernels (%)	59	62	65	62	79	67
Grade	1NS	1NS	1NS	1NS	1DNS	1NS

HRS – Vitreous Kernel by Region (%)

Gulf-GL HRS – Grade Distribution

Other 3%

1 DNS 32%

[CATEGORY NAME] [PERCENTAGE]

1 NS 60%

92% Grade 1 NS/DNS

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Gulf-GL HRS – Wheat Non Grade Data
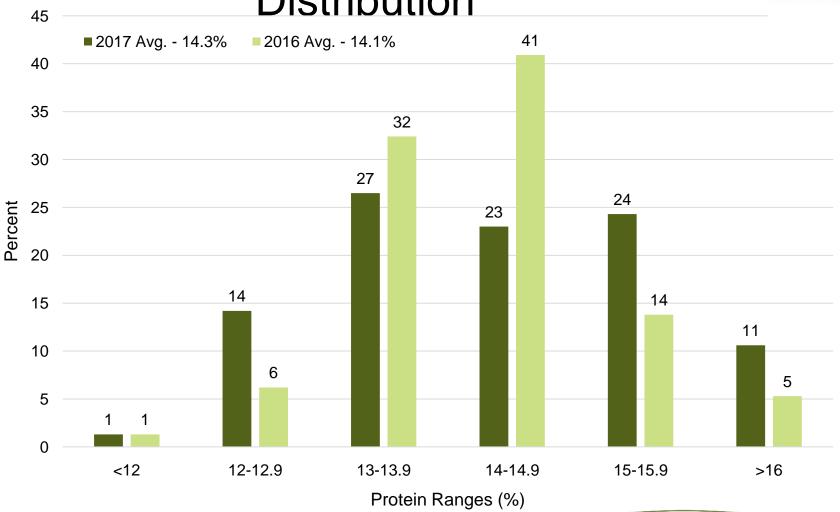
	Low	Med	High	2017	2016	5-Year
Dockage (%)	0.5	0.3	0.5	0.5	0.4	0.5
Moisture (%)	12.7	12.8	12.7	12.7	12.9	12.8
Protein, % (0% mb)	14.8	15.9	17.7	16.3	16.1	15.9

Gulf-GL HRS – Wheat Protein Distribution

2017 Crop Quality
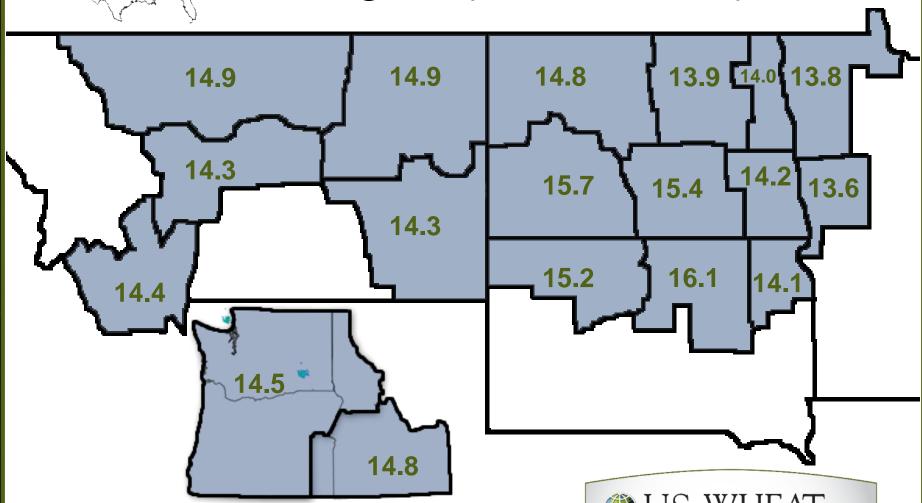
HRS - Protein by Region (%, 12%m.b.)

14.9   14.9   14.8   13.9   14.0   13.8

14.3

14.3   15.7   15.4   14.2   13.6

14.4

15.2   16.1   14.1

14.5

14.8

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Gulf-GL HRS – Wheat Non Grade Data
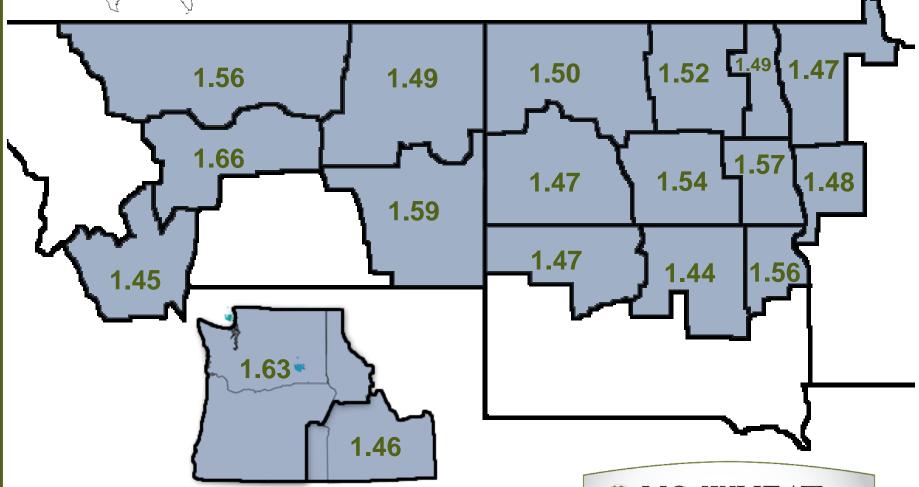
	Low	Med	High	2017	2016	5-Year
Ash, % (14% mb)	1.51	1.50	1.51	1.51	1.50	1.57
(0% mb)	1.76	1.74	1.75	1.75	1.75	1.82
1000 kwt (g)	35.8	33.0	31.0	32.9	31.1	30.7
Falling Number (sec)	372	421	397	396	382	384
DON (ppm)	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5
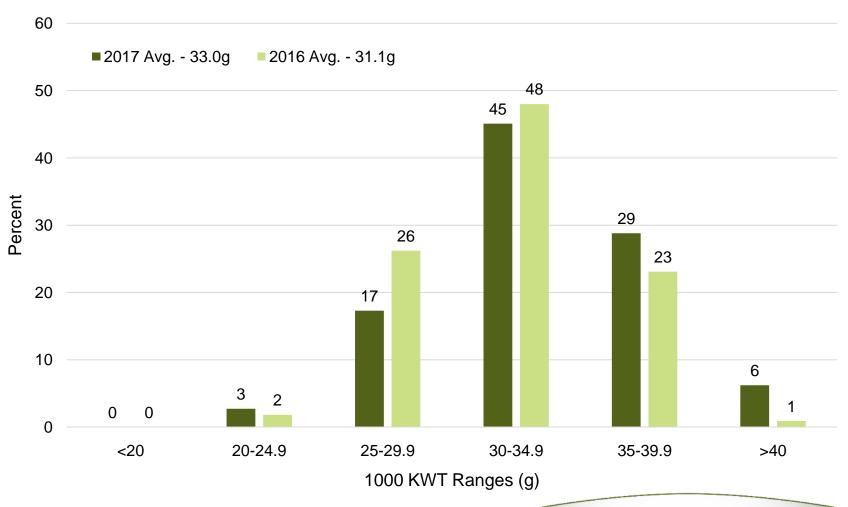
HRS –Ash by Region (%, 14%m.b.)

1.56

1.49

1.50

1.52

1.49

1.47

1.66

1.47

1.54

1.57

1.48

1.59

1.45

1.47

1.44

1.56

1.63

1.46

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HRS –1000 KWT by Region (g)

27.5   26.9   29.1   32.3   34.3   35.9

26.4

25.8   26.2   28.2   32.6   35.4

31.4

24.9   30.3   31.4

35.4

36.5

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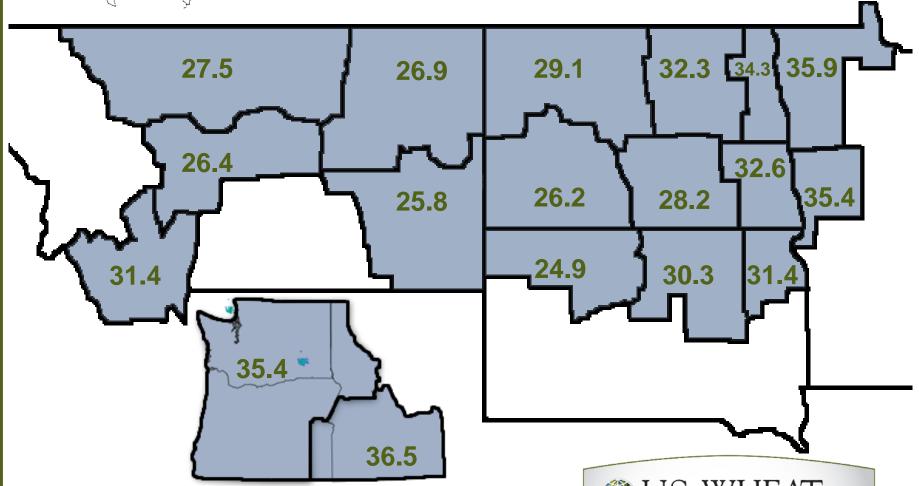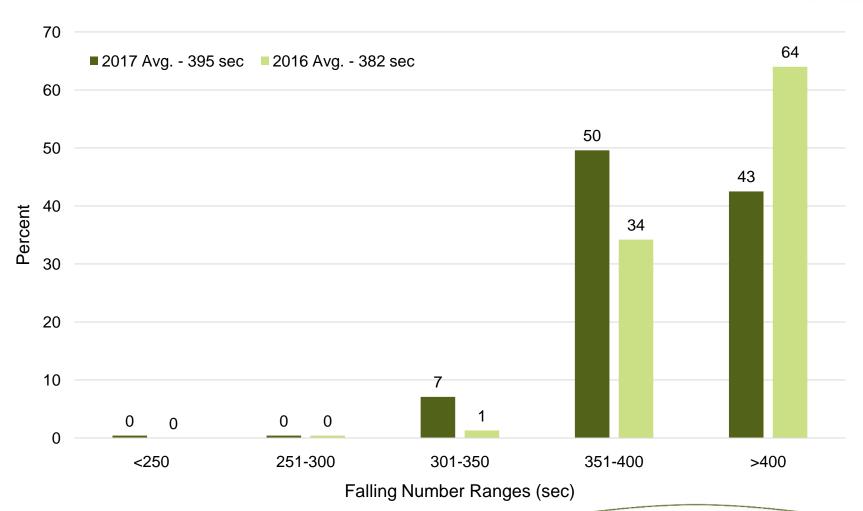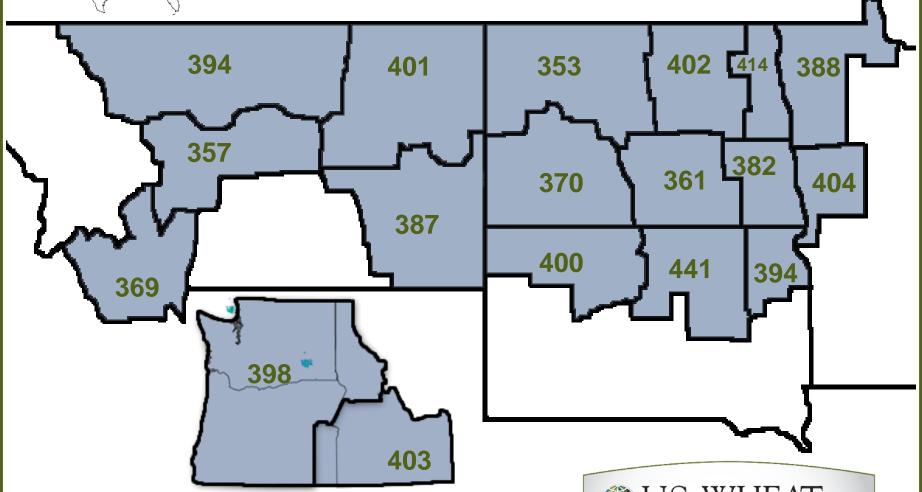
HRS – Falling Number by Region (sec)

2017 Crop Quality
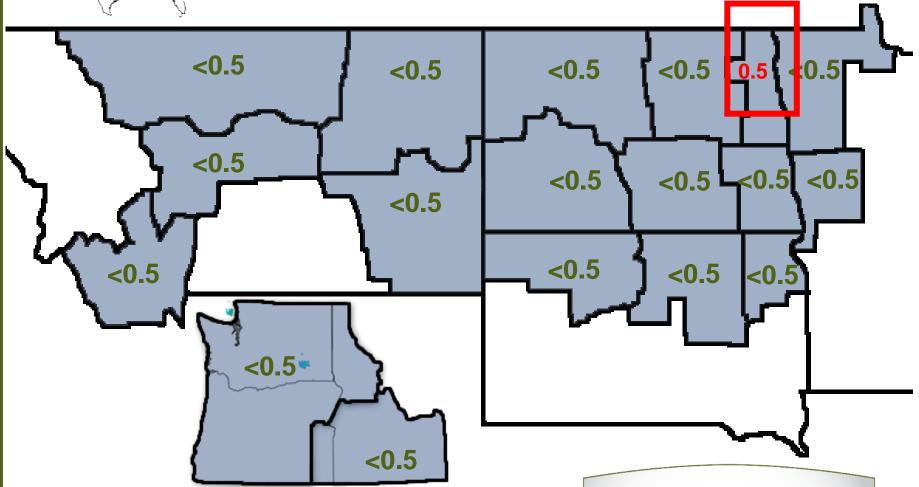
HRS –DON by Region (ppm)

Gulf-GL HRS – Flour Data

	Low	Med	High	2017	2016	5-Year
Lab Mill Extraction (%)	72.4	73.0	71.0	71.9	66.5	68.8
Ash, % (14% mb)	0.56	0.58	0.59	0.58	0.49	0.53
(0% moist)	0.65	0.67	0.69	0.67	0.57	0.61
Color: L*	90.3	90.2	89.8	90.0	90.9	90.6

Gulf-GL HRS – Flour Data

	Low	Med	High	2017	2016	5-Year
Protein, % (14% mb)	12.0	13.3	14.7	13.5	12.9	12.9
(0% mb)	14.0	15.5	17.1	15.7	15.0	15.0
Wet Gluten (%)	29.8	33.2	38.3	34.4	33.2	34.1
Gluten Index	97	96	91	94	96	93

Gulf-GL HRS – Flour Data

	Low	Med	High	2017	2016	5-Year
Falling Number (sec)	393	411	427	413	387	393
Amylograph Viscosity (65g, BU)	640	666	513	591	679	616
Starch Damage (%)	7.0	7.4	6.8	7.0	7.2	7.6

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Gulf-GL HRS – Flour Data
Solvent Retention Capacity Test
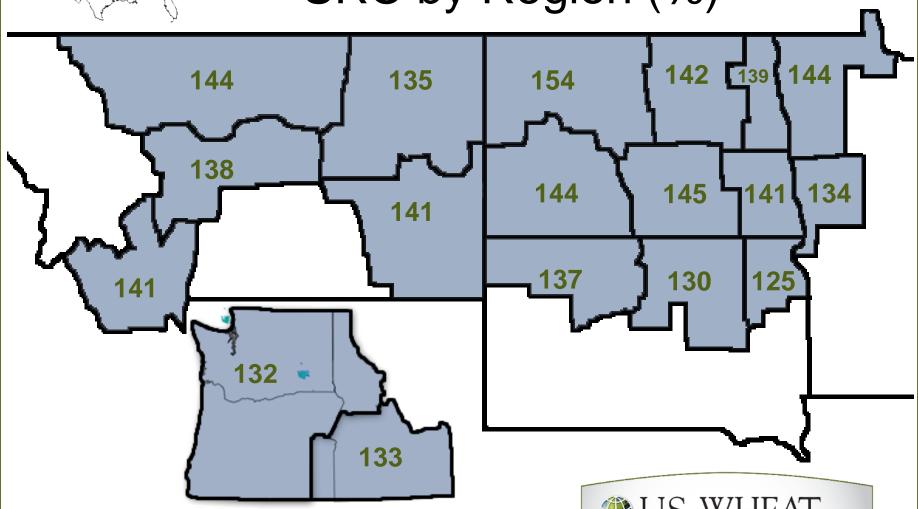
	Low	Med	High	2017	2016	5-Year
Water (%)	69	70	70	70	68	74
Sucrose (%)	111	115	116	114	116	124
Lactic Acid (%)	135	141	141	139	144	146
Sodium Carbonate (%)	97	98	93	95	96	97
Gluten Performance Index (GPI) (%)	**0.65**	**0.66**	**0.67**	**0.66**	**0.68**	**0.68**

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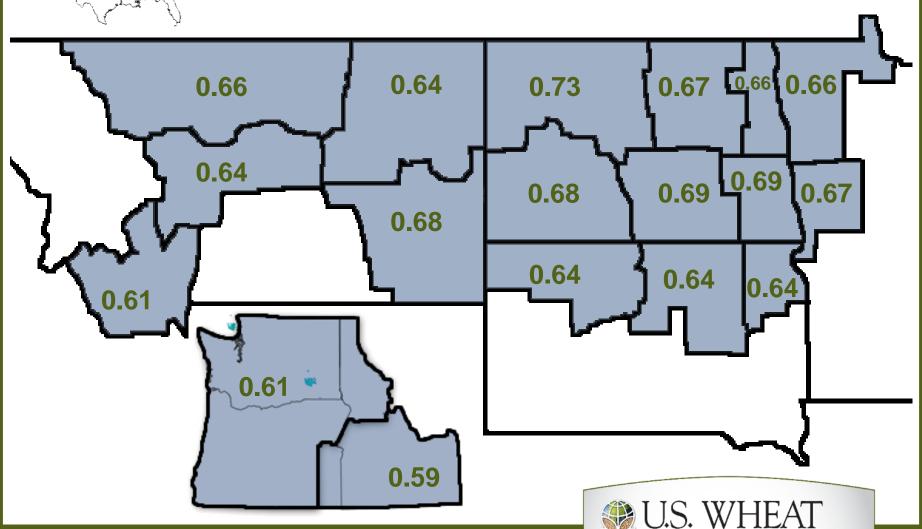
2017 HRS –Lactic Acid SRC by Region (%)

HRS –GPI SRC by Region

0.66 0.64 0.73 0.67 0.66 0.66

0.64 0.68 0.69 0.69 0.67

0.68

0.61 0.64 0.64 0.64

0.61

0.59

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Gulf-GL HRS – Flour Data
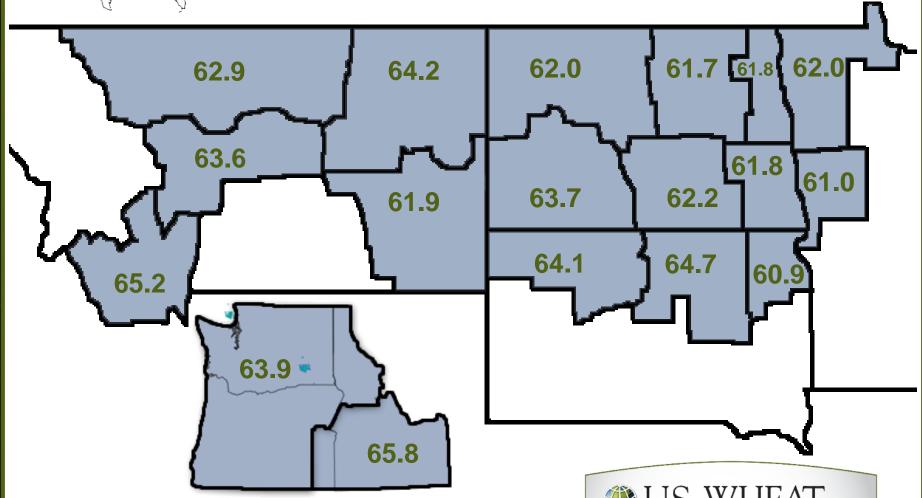
	Low	Med	High	2017	2016	5-Year
Farinograph Peak Time (min.)	6.5	7.5	7.8	7.3	8.2	6.7
Stability (min.)	9.9	11.5	13.8	12.0	14.2	11.2
Absorption (14%)	61.1	61.9	63.5	62.4	62.4	63.2

HRS –Farinograph Absorption by Region (14%)
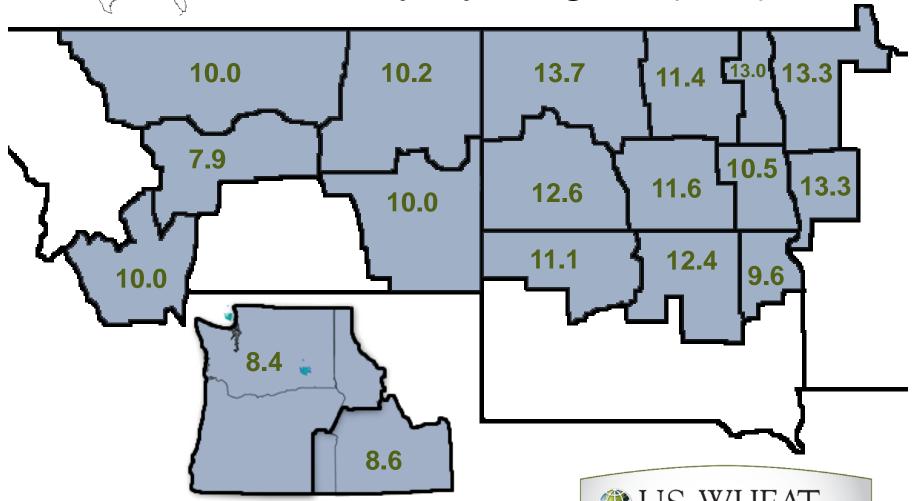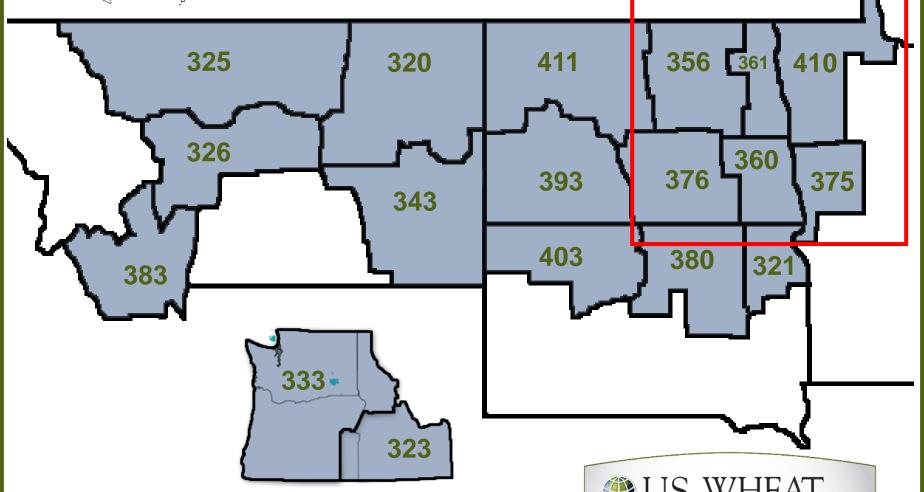
HRS –Farinograph Stability by Region (min)

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Gulf-GL HRS – Flour Data

	Low	Med	High	2017	2016	5-Year
Alveograph:						
P (mm)	80	79	81	80	85	90
L (mm)	117	145	141	135	140	112
P/L (Ratio)	0.69	0.54	0.57	0.60	0.61	0.80
W (10^{-4} joules)	315	377	394	366	412	344

HRS –Alveograph W Values by Region (10⁻⁴ joules)

Gulf-GL HRS – Flour Data
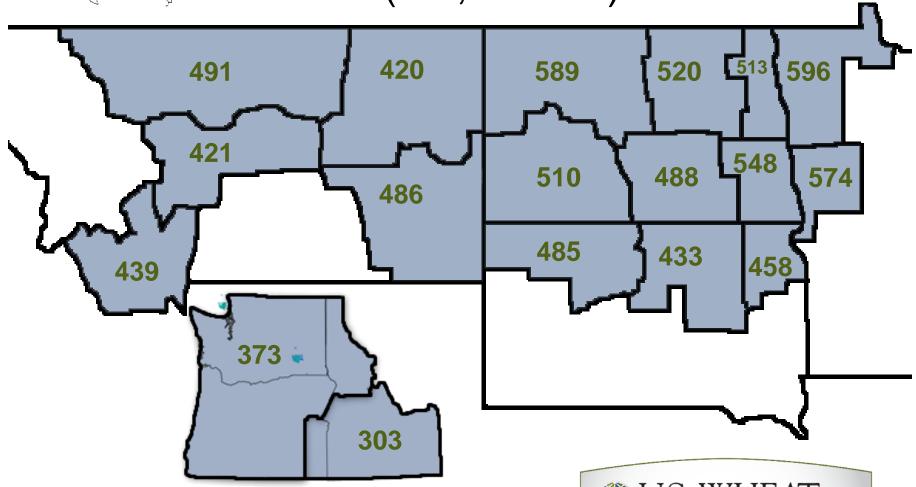
	Low	Med	High	2017	2016	5-Year
Extensograph: (45) Resistance (BU)	456	541	556	522	571	438
Extension (cm)	16.0	15.4	16.8	16.2	17.0	16.8
Area (sq cm)	99	108	122	111	125	96.0

HRS – Extensograph Resistance by Area (BU, 45 min)

2017 Crop Quality

Gulf-GL HRS – Flour Data
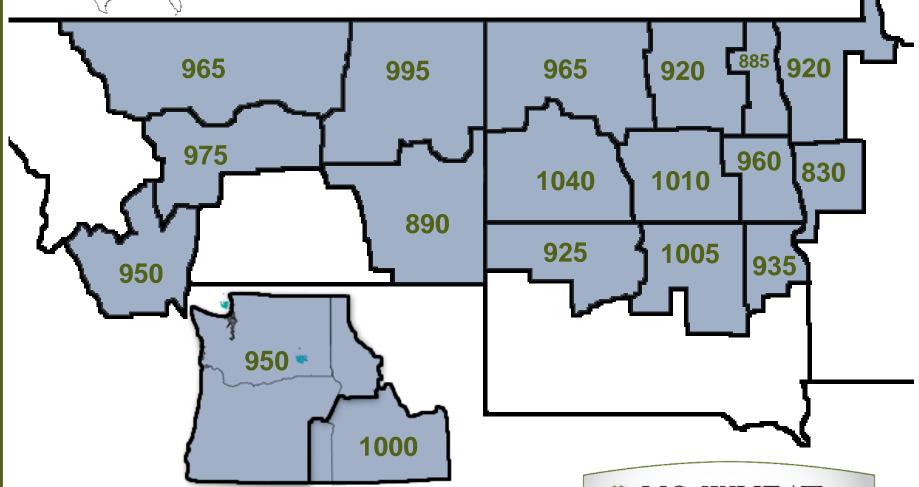
	Low	Med	High	2017	2016	5-Year
Absorption (%)	63.6	65.6	68.4	66.2	68.2	65.5
Crumb Grain and Texture (1-10)	8.0	8.0	8.0	8.0	7.8	8.1
Loaf Volume (cc)	845	950	1010	944	959	971

HRS – Loaf Volume by Area (cc)

PNW HRS - Protein and Loaf Volume

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Gulf-GL HRS Wheat Summary

- **Grade:** average 1DNS, 97% of crop is No. 1 grade

- **Protein content (12% mb):** average of 14.4%, higher than 14.1% last year and the 5-yr average

- **Falling Number:** average 396 seconds, 93% of samples are above 350 seconds

- **Dough quality:** Farinograph stability at 12.0 minutes, weaker than 2016, but stronger than 5-yr average. High protein segment is 13.8 minutes. Similar absorption to 2016, at 62.4%.

- **Baking quality:** Good bake scores with slightly lower bake absorption and loaf volumes.

Gulf-GL HRS Wheat Summary

Buyers will find many positive attributes in the 2017 crop, including

- High grades

- High protein

- Very good functional performance.

- Some areas have minor DON levels, but well below recent years.

- Varietal shifts are resulting in dough properties that are stronger than 5-year averages.

Thank you for your attention

This survey was supported by

Idaho Wheat Commission
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North Dakota Wheat Commission
Oregon Wheat Commission
South Dakota Wheat Commission
Washington Grain Commission
U.S. Wheat Associates

**Data for this survey was generated at the
HRS Wheat Quality Laboratory
North Dakota State University**