PGI HRW Harvest Report August 27, 2021 By Mark Hodges, Executive Director, Plains Grains, Inc.

| State | Percent Complete: |
|--------------|-------------------|
| Texas | 100% |
| Oklahoma | 100% |
| Kansas | 100% |
| Colorado | 100% |
| Nebraska | 100% |
| South Dakota | 100% |
| Montana | 100% |
| Washington | 100% |
| Oregon | 100% |
| Idaho | 100% |
| Wyoming | 100% |

8/26/2021: The theme of the 2021 HRW harvest could be characterized as "extremes". Harvest began in central Texas with rain, rain, and more rain just as the crop matured, that was followed by damp, overcast, cool weather making it very difficult to get the crop out of the field. These conditions prevailed for several weeks and when it wasn't raining many areas experienced abnormally cool conditions, heavy overcast with very high humidity. While not unusual for the Southern Plains during harvest, the length of time it lasted was unusual. Harvest in most of the central and eastern parts of the HRW production area of the US was delayed by almost 2 weeks due to excessive moisture and high humidity limiting harvest start times that then only lasted a very few hours each day before the straw was too tough to cut shutting down harvest early. The northern US and Pacific Northwest experienced the opposite conditions leading to an early harvest seeing exceptionally dry conditions, abnormally high temperatures, and a short crop (understated). Early lab results are reflective of these conditions.

Early testing data: There are currently 505 of (a now expected 525) samples in the lab and with 484 in various stages of testing. Moisture dropped slightly (11.0% to 10.9%) and overall protein increased from 11.8% to 11.9%. TKW increased from 30.1 grams to 30.2 grams and test weight decreased from 60.5 lbs/bu (79.6 kg/hl) to 60.4 lbs/bu (79.5 kg/hl). Falling number decreased slightly this week (364 sec.) down from (369 sec.) last week. Other kernel factors remained unchanged from last week. Dough and bake tests have begun on the first 32 composites (Texas/Oklahoma/partial Kansas). Average bake absorption is good at 62.7%. Farinograph and alveograph data indicate the need for monitoring during mixing as over mixing will be possible. Early indications are this crop can make a very good final product with an average loaf volume of 874cc (average across all protein ranges in the region defined) when handled properly.

The US HRW harvest is now complete. However, there still samples (20) in transit to the lab from 2 states.

| August 27, 2021 (*FN and Grade Based on 484 samples) | | | | | | | | | | | | |
|--|--------------|------|-------|-----|------|-----|-------|-------------|-----|-----|-----|------------|
| Tst | Exp | MST | Pro % | DKG | TKW | FN* | Grade | Test Weight | FM | DMG | S&B | DEF |
| 505 | 525 | 10.9 | 11.9 | 0.5 | 30.2 | 364 | 1HRW | 60.4 79.5 | 0.2 | 0.4 | 1.0 | 1.6 |
| August 20, 2021 (*FN and Grade Based on 449 samples) | | | | | | | | | | | | |
| Tst | Exp | MST | Pro % | DKG | TKW | FN* | Grade | Test Weight | FM | DMG | S&B | DEF |
| 502 | 500 | 11.0 | 11.8 | 0.5 | 30.1 | 369 | 1HRW | 60.5 79.6 | 0.2 | 0.4 | 1.0 | 1.6 |
| 2020 | Final | | | | | | | | | | | |
| Tst | Exp | MST | Pro % | DKG | TKW | FN | Grade | Test Weight | FM | DMG | S&B | DEF |
| 431 | 500 | 10.9 | 11.9 | 0.5 | 31.6 | 367 | 1HRW | 61.7 81.1 | 0.2 | 0.2 | 1.1 | 1.5 |

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Industry Notes:

August 26, 2021

- **Kansas** Hot and dry (110 heat index). Fall crops drying. Overall CQ recent HRW moving to Gulf. Concern about where export demand will be for HRW, lots moving into domestic channels.
- **Colorado** Hot and dry, drought conditions creeping back. NASS 3% planted.
- **Nebraska** Spotty rains to aid in planting, S. central/SE unusually dry.
- **Montana** Stopped raining. Pockets of good quality. Lots of bailing. Minimal rain damage on spring/durum. Almost done with harvest, est. 30-40% of durum acres left to harvest.
- Idaho Almost done with winter, spring 75-80% complete. Rain esp. SE state, possible sprout damage concerns. Elevator avg. 11-11.5% pro. More rain needed.
- Washington Winter wheat mostly complete, spring 70-80%. 2000 SW samples avg. 11.6% pro. Starting to seed, expect slower pace since dry.
- **Oregon** Harvest mostly complete. Anticipate planted acres increase. 91% short/very short, small % of seeding.
- North Dakota NASS spring 73% harvested. Drought/ill timed rains, losing color. No sprout issues for spring. Durum possible pockets of sprout damage. Spring yields mostly better than expected. Abandonment currently 3%, est. increase.
- PGI/NASS Samples wrapped up. 449 samples total. Avg. 409 samples: 60.5 TW. 416 samples: protein 11.8%, 34% medium, 60% large. 449 samples: Single kernel 30.2 avg. 2.58 MM diameter, avg. hardness 61, nothing above 86 (slightly below 2020). Falling number 363.5, 4/5 low samples (1 below 250 WY, others right at 300 SD). Sedimentation slightly below 2020 48 vs. 52, 70 composites. Still have WY, MT, SD to complete composites. 32 samples evaluated for flour color L Value avg. 90.5, 32 samples avg. breakdown avg. 9.61 (max 12.8 min 7.5) stability max 10.9 min 5.2, development max 6.7 min 3.3. Alveograph 32 samples (TX, OK, KS): avg. P value 93, avg. L value 67, avg. W 209, avg. P-L ratio 1.4, mixograph (32 samples) Avg. water absorption 62, mix time 3.25, avg. tolerance 2.7. Bulk of samples from TX/OK, not the best tolerance. Bake mix time avg. 4.27, water absorption 62.7, avg. loaf volume 874, max 970 cc min 790 cc. Possibility of issues in terms of dough strength. Seeing some off color (yellow/dark yellow).
- WMC Most of OR/ID samples finished (80%+ of samples). Overall PNW avg. 11.1%, good falling number, small/light kernels, club avg. 11.3%.