OCW04S717T-6W (BIG COUNTRY)

- ***A canopy hygiene grade that exceeds all prior OSU releases dating to 2001, with one potential exception, OK16D101089.*** OCW04S717T-6W offers effective resistance or in some cases all-out resistance, to more diseases common in Oklahoma than OK16D101089, save one, barley yellow dwarf. And to that, it is susceptible based upon observations where WIT relies most for evaluation: at Stillwater in early-planted nurseries. In the absence of BYD, the canopy of OCW04S717T-6W has been observed to remain photosynthetically active until physiological maturity. At times it is not clear to the eye if OCW04S717T-6W is late to finish because of innately later maturity or because the canopy simply resists shutting down under allowable temperature conditions. This healthy canopy helps to prop up the yield ceiling of OCW04S717T-6W.

- ***The same high yield ceiling expected of a bearded HRW cultivar.*** Across 55 site-years from 2015 through 2019, OCW04S717T-6W showed the highest yield differential (+4.8 bu/ac) from Gallagher relative to all candidates. Even this wide differential is weighted downward by environments in which OCW04S717T-6W is poorly adapted. OCW04S717T-6W is best adapted to southern, central, northern, and northeast Oklahoma, where its shattering tendency may be least exposed. A focus on that area in the 2020 wheat variety trials provides insight into the extended yield ceiling of OCW04S717T-6W. Excluding Lahoma where it shattered, but including sites Cherokee, Lamont, Kildare, Homestead, Kingfisher, and El Reno, OCW04S717T-6W averaged 80 bu/ac, compared with 82 bu/ac for Showdown and WB4269 and 78 bu/ac for OK12912C-138407-2. That is good company for yield, though OCW04S717T-6W is in another class for quality than WB4269 and Showdown.

- ***A HW option that exceeds the current millers' choice in productivity and quality.*** Across 10 site-years from 2018 through 2020 not impacted by shattering, and within the draw area of the Enid ADM mill, OCW04S717T-6W and Joe averaged 61 and 56 bu/ac. Yield superiority of OCW04S717T-6W was consistent at Chickasha all three years, averaging 34% improvement. Joe is repeatedly used as a check in the OET, because its yielding ability remains top-level if not top-rank among all HRW and HW cultivars statewide in Oklahoma, but its baking quality is widely considered unacceptable. We have used Joe as a check on both barometers. Mix strength, water absorption, and loaf volume of Joe are similar to, or worse than, Big Max, according to tests conducted by an industry collaborator in Wichita, KS, using grain sourced statewide in the 2019 OET3 for Joe or sourced by Ross Seed Company (Chickasha, OK) for Big Max. However, Joe has been the HW variety of choice sourced by Enid ADM outside of Oklahoma. OCW04S717T-6W offers a significant step forward in productivity, functionality, and utility (for its beardless phenotype) over Joe. OCW04S717T-6W is considered more a white wheat offering than a beardless one (OK Corral is available for that), and thus a licensing and marketing strategy will need to pivot in that direction, but not to exclude the added benefit of built-in flexibility, that is, to use the same cultivar to better manage production risks in-season. For that reason, a dual-marketing strategy might be plausible and necessary, even if by a sole licensee. To plan a rinse and repeat marketing strategy

with OCW04S717T-6W is a plan for failure.

- OCW04S717T-6W is moderately susceptible to shattering in some environments. The dehiscent tendency of the spikelet is the same feature that improves threshability of the beardless spike of OCW04S717T-6W. The above-average test weight performance of OCW04S717T-6W is likely connected to its greater threshability.
- OCW04S717T-6W is susceptible to Hessian fly infestations, a concern that may be lessened when OCW04S717T-6W is produced as a grain-only crop, or when harvested for hay or silage at heading.
- OCW04S717T-6W is not recommended for production (grain or forage) when soil pH is below 5.0
- *Recommended positioning – grain-only or forage-based production systems, but within convenient trucking distance of mills in Shawnee, Enid, and Okeene when OCW04S717T-6W is dedicated to grain-only production.*

OCW04S717T-6W (BIG COUNTRY) *(Attila*2/ESDA//Mason)/(HBK0935-7-4/Betty sib)// KS91W047*