

OK16D101089 (Uncharted)

- **Unprecedented resistance to BYD.** No other HRW cultivar is currently commercialized in the southern Plains with *Bdv2* from intermediate wheatgrass, and no such cultivar harbors the 2-gene stack, *Bdv1+Bdv2*. This combination confers the strongest observable response to BYD yet recorded in breeding nurseries conducted in Oklahoma, and is phenotypically consistent among genetic backgrounds, such as between parent (OK12621) and progeny (OK16D101089).

- **Broad-spectrum disease resistance.** No other OSU wheat cultivar released to date features resistance to as many key diseases common to Oklahoma. Its specific reaction to stripe rust could hinge on the frequency of races present with *Yr17* virulence, though OK16D101089 likely possesses other stripe rust resistance genes expressed in the adult plant stages.

- **Yield-competitive in targeted area of adoption.** OK16D101089 placed in the top statistical yield group in 7 of 10 OSU wheat variety trial sites in 2019, and 2 of 11 sites tested in 2020. Other than shattering, there is no simple explanation for the decline in yield ranking in 2020, and thus, this pattern seems transient. No doubt, OK16D101089 is better suited for competition where inputs are minimized, not maximized, and hence when nature is allowed to run its biological course. In that context, OK16D101089 is not considered an ideal candidate for intensive wheat management schemes.

- **Aggressive fall growth habit.** Early canopy closure and lateral vegetative growth (but not overly prostrate) are distinguishing characteristics of OK16D101089 difficult to quantify with conventional, single-clip forage trials. Based upon breeding nursery observations and dual-purpose yield trials, OK16D101089 fits an early-September planting date and early-March pull-off date well, as far north as Stillwater, OK.

- **Exceptional green-leaf duration.** In the absence of severe drought stress, OK16D101089 is able to retain a mostly green flag leaf and sometimes mostly green penultimate leaf through onset of physiological maturity. No other prior OSU release has demonstrated this degree of stay-green.

- Shattering tolerance is considered intermediate and similar to parent Bentley.
- Standability is not a concern at intermediate to above-average yield levels, but could become problematic in high-yield environments (>80 bu/ac).
- Hessian fly resistance is not expressed in controlled greenhouse assays. Field tolerance under natural insect pressure has not yet been determined.
- Yellow berry may be frequent in grain produced under N-deficient conditions.
- **Recommended positioning** – early-planted grazing systems for dual-purpose beef and wheat production throughout the central corridor of southern Plains wheat production.

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Duster Diamond/Bentley

