

## Great Northern ‘Panhandle Pride’

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A great northern common bean cultivar, ‘Panhandle Pride,’ developed by the dry bean breeding program at the University of Nebraska Agricultural Research Division was released in 2015. Panhandle Pride was bred specifically for adaptation to the common bean growing conditions of Nebraska and for enhanced resistance to common bacterial blight (CBB), and for improved resistance to common bean rust. Husker Genetics Foundation Seed Program, University of Nebraska-Lincoln, in collaboration with the North Dakota Seed Foundation Program at Burlington, WY (Figure 1) and Kimberly, ID is carrying out foundation seed increases. About 39,000 lbs of Foundation Seed will be available for the 2018 planting season. On average, Panhandle Pride yielded 2800 and 3000 lbs/acre in Kimberly, ID and Burlington, WY, respectively.

**Disease package:** Under greenhouse conditions (Lincoln, NE, and Beltsville, MD, 2016), Panhandle Pride, showed evidence for the presence of *Ur-3* and *Ur-6* genes for resistance to common bean rust. During field trials at the West Central Research & Extension Center (North Platte, NE), Panhandle Pride showed consistent CBB reaction across years with disease ratings of 5.2, 4.3, and 6.0 in 2014, 2013, and 2011, respectively. On average, Panhandle Pride had similar CBB reaction to Coyne. Conversely, susceptible great northern cultivar, Orion, scored 8.3, 7.5, and 8.0 during the same years. Based on top necrosis reaction to the *NL-3* strain of Bean Common Mosaic Necrotic Virus, it was determined that Panhandle Pride carries the single dominant hypersensitive I gene that provides resistance to all non-necrotic strains of BCMV.

**Agronomic characteristics:** Panhandle Pride exhibits a semi-upright Type 2b indeterminate growth habit. It has white flowers and blooms 44 d after planting. Panhandle Pride is a midseason bean, maturing 87 d after planting (range 80-91 d). It has a bright white seed coat. Average yield of Panhandle Pride (2875 lbs/acre) was slightly lower than for Marquis and Orion (2965 and 2896 lbs/acre) during on-farm and on-station trials (2011-2015). During 2015, Panhandle Pride had significantly higher yield than Orion in the Western Regional Bean Trial (WRBT; Colorado, Idaho, Nebraska, and Washington), but significant lower yield than Matterhorn in the Mid-West Regional Performance Nursery (MRPN; Colorado, Michigan, Nebraska, and North Dakota). Average seed size for Panhandle Pride (34.8 g/100 seeds) is similar to Aries (34.8 g/100 seeds), slightly larger than Coyne (34.7 g/100 seeds), and larger than Marquis, Beryl and Orion (31.1, 29.4, and 33.3 g/100 seeds, respectively) based on intermediate, advanced, and growers’ field trials (2011-2015). During the 2015 WRBT, Panhandle Pride had a significantly higher 100-seed weight of 35.2 g/100 seeds.

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