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Seed Certification Service

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2020 Dry Bean Performance Evaluation

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In 2017, Wyoming ranked tenth nationally in dry bean (*Phaseolus vulgaris* L.) production, and fifth in the production of pinto beans. In the same year, Wyoming growers produced 933,000 hundred-weight of pinto beans on 39,000 harvested acres, averaging 23.9 hundred-weight per acre. The University of Wyoming Seed Certification Service coordinates the dry bean variety performance evaluation at the Powell location in a continuous and on-going program. In cooperation with the National Cooperative Dry Bean Nursery, and with funding from the Wyoming Bean Commission, a wide range of germplasm is evaluated each year, assisting producers in selecting varieties best suited for Wyoming soils and climate. Please note that this report represents only the Powell CDBN. The Lingle CDBN was not conducted in 2020.

Materials and Methods

The experiment was located at the University of Wyoming Research and Extension Center in Powell, Wyoming. The soil, a Garland clay loam, (fine, mixed, mesic: Typic Haplarid), was prepared by roller harrow and leveled in the spring. Chemical weed control consisted of a preplant incorporated chemical treatment of 2 pints of Sonalan and 1 pint of Outlook applied on April 29, and 32 ounces of Roundup on May 26. The plots received 45 units of N, 135 units of P, 40 units of K, and 40 units of sulfate per acre on April 29. The plots were planted on May 21 in three-row plots that were 5.5 feet wide by 20 feet long. IH 185 planter units with cone attachments were used, set on 22-inch row spacing. The experimental design was a randomized block with 4 replications. Cultivation occurred during the growing season when appropriate. Furrow irrigation was applied on June 10, June 24, July 8, July 22, and August 5, and August 17. Visual estimates for days to 50 percent bloom (50 percent of plants at second bloom) and days to maturity (50 percent of the plants with one buckskin pod) were made. Subplots of one row by 10 feet were pulled by hand, and those plants were threshed with an Almaco stationary plot thresher. The seed was hand-picked to remove dirt clods and seed mixtures. Samples were then weighed for clean seed yield per plot and seeds per pound.

Results and Discussion

Stand establishment was good, with excellent soil and weather conditions. The growing season had no days over 100 degrees, but was consistently in the mid to upper 90's, with warm nights, potentially impacting pod length and fill. Flowering, maturity, seed size, and yield data are presented in Table 1 on page 2.

Acknowledgements

This nursery was possible only with significant assistance of the Powell R & E Center assistant farm managers Brad May and Keith Schaefer.

Table 1. Powell R&E Center Cooperative Dry Bean Nursery Data

Name	Market Class	Bloom Days after Planting	Buckskin Days after Planting	Seeds per Pound	Yield lbs/A
AAC Knight Rider	Black	53	84	2409	1728
ND Twilight	Black	52	73	2305	1986
Eclipse	Black	52	77	2265	2009
NE14-18-4	Black	52	75	1978	1632
AC Portage	Navy	50	74	2189	1352
GN16-7-3	GN	52	76	1330	1985
ND Pegasus	GN	52	79	1276	2555
NE1-17-36	GN	51	75	1195	1714
NE1-17-19 GN	GN	52	77	1235	2344
PK16-1	Pink	51	73	1507	2703
SR16-2	SR	51	76	1619	2029
NE2-17-37	Pinto	49	74	1386	1416
NE4-17-6	Pinto	49	74	1177	2234
NE4-17-10	Pinto	50	74	1239	1449
PT16-9	Pinto	53	79	1291	1933
PT11-13-1	Pinto	53	77	1191	2052
PT11-13-31	Pinto	53	78	1107	2777
ND Falcon	Pinto	54	81	1305	2053
ND Palomino	Pinto	50	75	1199	1958
La Paz	Pinto	54	78	1222	2039
Othello	Pinto	48	70	1415	2402
ND Whitetail	WK	52	85	1097	1280
AAC Scotty	CB	49	75	1035	1646
Cal Early	LRK	48	74	1024	1777
Cowboy	Pinto	52	76	1145	2005
Monterrey	Pinto	52	76	1289	2342
Torreon	Pinto	52	74	1213	1950
Claim Jumper	Yellow	52	85	1091	1040
CSU pinto line	Pinto	50	75	1152	2021
	Mean	51	76	1410	1945
	LSD	2	2	125	852
	CV	2	2	6	31

SR - Small Red **GN** - Great Northern **LRK -** Light Red Kidney

CB - Cranberry **WK** - White Kidney