

# 2007 Dry Bean Performance Evaluation

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In 2006, Wyoming ranked ninth nationally in dry bean (*Phaseolus vulgaris* L.) production, and fifth in the nation in the production of pinto beans. In the same year, Wyoming growers produced 510,000 hundred-weight of pinto beans on 24,000 harvested acres, averaging 21.3 hundred-weight per acre.

The University of Wyoming Seed Certification Service coordinates the dry bean variety performance evaluation at this location in a continuous and on-going program. In cooperation with the National Cooperative Dry Bean Nursery, a wide range of germplasm is evaluated each year, including promising new lines and newly released varieties, assisting producers in selecting varieties best suited for Wyoming soils and climate. Public and private (proprietary) varieties are tested.

## 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. A preplant incorporated chemical treatment of 2 pints Sonalan and 14 ounces Outlook was applied, and the plots received 60 units of N, 50 units of P, and 10 units of Zn. The plot area was irrigated and cultivated prior to planting on May 30<sup>th</sup> in plots 5.5 feet wide by 20 feet long. The experimental design was a randomized block with 4 replications. IH 185 planter units with cone attachments were used, set on 22-inch row spacing. Cultivation controlled weed escapes during the growing season. Furrow irrigation was applied on May 11<sup>th</sup> (preplant), June 30<sup>th</sup>, July 9<sup>th</sup>, July 24<sup>th</sup>, August 2<sup>nd</sup>, August 13<sup>th</sup>, and August 24<sup>th</sup>. 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 18 feet were pulled by hand, and plots were threshed with a Wintersteiger small plot combine. The seed was then hand screened over a  $10/64$  x inch slotted screen and 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 very good. Spring and summer were warm and dry, resulting in excellent plant vigor and yield potential. Yields across entries averaged 3,984 lbs. per acre, and ranged from 2,399 pounds per acre for BD1004 cranberry bean to 5,003 pounds per acre for PT 7-1 pinto bean.

## Acknowledgements

This nursery is possible only with significant assistance from the staff at the Powell Research and Extension Center. R & E Center staff manage the plots, take growing season notes, and harvest the plots, and their efforts are greatly appreciated.

Table 1. Agronomic Data, Cooperative Dry Bean Nursery, Powell, Wyoming.

Entry	Market Class	Yield lbs/a	Seeds per pound	50% Bloom Days After Planting	50% Buckskin Pods - Days After Planting
B201240	black	3543	71.8	42	94
Bandit	black	3270	20.5	42	94
N33210	navy	2948	23.0	41	91
N3467	navy	4169	20.5	41	93
Seahawk	navy	3821	22.0	42	93
Hungerford	great northern	4783	48.3	40	89
Sawtooth	great northern	4732	46.3	42	93
8560863	mayacoba	3882	1263	42	95

PK 7-4	pink	4393	38.5	40	89
PK 7-5	pink	4428	40.0	42	92
PT 7-1	pinto	5004	44.3	40	86
PT 7-8	pinto	4260	35.8	40	93
ISB 620-1	pinto	3882	38.8	40	90
ISB 777	pinto	4993	42.3	40	86
ISB 1131	pinto	4342	46.8	38	79
ISB 1145	pinto	4933	40.0	41	92
Kimberly	pinto	4656	37.3	40	89
Shoshone	pinto	4713	40.8	40	84
Othello	pinto	4414	42.0	39	81
Windbreaker	pinto	4639	1088	40	83
773-V98	light red kidney	3347	49.0	41	93
1062-V98	light red kidney	3127	62.8	41	91
CELRK	light red kidney	3674	65.8	40	90
D000264	dark red kidney	3925	55.3	41	91
Capri	cranberry	3076	61.8	41	94
BD 1002	cranberry	3059	61.3	41	93
BD 1003	cranberry	3160	67.0	41	92
BD1004	cranberry	2399	19.0	41	91
<b>Trial Mean</b>		<b>3985</b>	<b>1196</b>	<b>40.6</b>	<b>89.8</b>
<b>CV</b>		<b>9.6</b>	<b>4.2</b>	<b>3.2</b>	<b>4.1</b>
<b>LSD (.05)</b>		<b>540</b>	<b>70.8</b>	<b>1.8</b>	<b>5.2</b>