

## 2008 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. Chemical weed control consisted of a preplant incorporated chemical treatment of 2 pints Sonalan and 14 ounces Outlook, which was applied on April 18, and a broadcast application of Roundup, which was applied on June 1<sup>st</sup>. The plots received 60 units of N, 50 units of P, and 10 units of Zn April 14. The plots were planted on June 3<sup>rd</sup> in three row plots that were 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 5<sup>th</sup> (preplant), July 2<sup>nd</sup>, July 14<sup>th</sup>, July 26<sup>th</sup>, August 11<sup>th</sup>, and August 21<sup>st</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 10 feet were pulled by hand, and plots were threshed with an Almaco stationary small plot thresher. The seed was then hand screened over a  $10/64 \times 3/4$  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 slow and variable due to cold soil temperatures and wet weather at planting. Despite reasonable growing conditions during the summer, the slow start resulted in a 15.5 day shift in the average days after planting to flowering, and a 16.5 day shift in days after planting to pod maturity. Yields across entries averaged 3,110 lbs. per acre, and ranged from 1,293 pounds per acre for 'Jet Black' black bean to 4,435 pounds per acre for 'Quincy' pinto bean.

### **Acknowledgements**

This nursery is possible only with significant assistance from the staff at the Powell Research and Extension Center. The R & E Center staff manages 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.

<b>Name</b>	<b>Market Class</b>	<b>Yield lbs./A</b>	<b>Seeds per pound</b>	<b>50% Bloom Days After Planting</b>	<b>50% Buckskin Pods - Days After Planting</b>
Eclipse	black	3049	2820	59	111
Zorro	black	2625	2716	61	112
SW-B201240	black	2329	2847	61	113
Jet Black	black	1293	2752	63	117
D000264	dark red kidney	2895	989	53	112
Red Rover	dark red kidney	2279	942	52	109
Beryl	great northern	3670	1635	52	93
Sawtooth	great northern	3497	1121	53	107
Hungerford	great northern	3489	1086	53	108
OAC Lyrik	light red kidney	2990	795	52	104
Pink Panther	light red kidney	2774	815	53	112
SW LRK 7	light red kidney	2760	836	53	103
Blush	light red kidney	2690	829	54	111
Lightning	navy	3095	2368	57	111
T-9903	navy	2730	2578	59	111
N05324	navy	2524	3022	61	113
Avalanche	navy	2388	2679	59	108
T-9905	navy	2073	2916	62	112
Mean		3111	1559	56	106
CV		16.2	8.9	3.9	4.5
LSD		704	194	3	7

Table 1. Continued

<b>Name</b>	<b>Market Class</b>	<b>Yield lbs./A</b>	<b>Seeds per pound</b>	<b>50% Bloom Days After Planting</b>	<b>50% Buckskin Pods - Days After Planting</b>
Capri	cranberry	2797	963	53	99
BD 1003	cranberry	2748	855	52	97
USPK7-5	pink	3567	1354	58	105
Sedona	pink	2555	1454	59	105
Quincy	pinto	4435	1077	52	90
USPT7-1	pinto	4375	1242	54	102
ISB 1131	pinto	4075	1133	52	87
Medicine Hat	pinto	3876	1217	55	102
Stampede	pinto	3730	1366	58	105
Othello	pinto	3702	1179	52	87
ISB 777	pinto	3650	1280	57	99
Kimberly	pinto	3612	1545	58	109
Windbreaker	pinto	3589	1347	57	108
ND 307	pinto	3561	1419	54	111
Santa Fe	pinto	3478	1222	56	108
Shoshone	pinto	3345	1408	56	109
Croissant	pinto	3301	1490	55	104
Maverick	pinto	3212	1502	58	111
ISB 1218	pinto	3140	1513	59	112
Lariat	pinto	2930	1328	59	115
Merlot	small red	2835	1456	59	111
O863	yellow	1943	1519	60	113
Mean		3111	1559	56	106
CV		16.2	8.9	3.9	4.5
LSD		704	194	3	7