HOLBERG, A NEW PINTO BEAN CULTIVAR FOR NORTH DAKOTA

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Holberg, a new pinto bean cultivar, was released January 13, 1983 by the North Dakota and Washington Agricultural Experiment Stations and the USDA-ARS. Holberg is the second pinto bean cultivar jointly released from the cooperative efforts of NDSU and USDA personnel. The name Holberg was derived from the last names of Jerome Holter, Hatton, ND, and A. H. Berg, Barney, ND, two long-time bean growers and cooperators in the dry bean variety trials.

Holberg is an F5 selection from the cross Viva × 5R-568, made in 1969 by D. W. Burke, USDA-ARS, Prosser, WA. Viva, a pink bean cultivar, was derived from the cross Sutter Pink × a pink selection resistant to bean common mosaic virus and Fusairum root rot; 5R-568 is a pinto selection from a cross of a Fusarium resistant pinto selection and the pinto cultivar UI-114.

Holberg has been tested at several locations in North Dakota since 1977, including three off-station locations in the state's major bean growing region. Holberg has consistently exceeded UI-114, a widely grown cultivar in North Dakota (Table 1), for seed yield. Seed yield of Holberg has been similar to that of Olathe in the major bean-producing region of North Dakota (Table 2). Holberg was the highest yielding pinto bean entry in the National Cooperative Dry Bean Nursery grown at 31 location-years in the United States and Canada in both 1980 and 1981, outyielding UI-114, the check cultivar, by 8.4 percent.

Table 1. Seed yield of Holberg as percent of UI-114 at several locations in North Dakota.

Location	Years tested	Holberg
		---% ---
Fargo	78-82	112
Hatton	77-82	111
Barney	77-78, 80-82	101
Oakes (irrig.)	78-82	106
Langdon	77-82	88
Minot	79-82	114
Carrington	79-82	106
Williston	79-82	100
Ave. 39 location years		105

Grafton is assistant professor, Schneiter is professor and Weiser is assistant professor, Department of Agronomy; Burke is research plant pathologist, USDA—ARS, Prosser, WA.

Table 2. Seed yield of Holberg compared to Olathe, expressed as percent of UI-114, at four locations in the major bean growing region of North Dakota (1979, 1981-82).

Location	Holberg	Olathe
Hatton	104.1	113.6
Barney	95.2	95.0
Fargo	120.9	112.8
Oakes (Irrig.)	107.2	110.0
Ave. 12 location years	106.8	107.9

Holberg has a vine type growth habit, white flowers, and is slightly later maturing than UI-114. Seed size of Holberg is very uniform but smaller than UI-114, a large seeded cultivar. The uniform seed size of Holberg results in lower dockage (Table 3). Cooking tests conducted at both Prosser, WA, and Washington State University, Pullman, found cooking qualities of Holberg similar to pinto UI-111, a cultivar with excellent cooking qualities. Holberg was rated equal or better than UI-111 in flour characteristics, texture, and flavor.

Table 3. Maturity, seed weight, and percent dockage of Holberg and UI-114 grown at several locations in North Dakota, 1977-82.

	No. location years	Holberg	UI-114
Maturity (Days to harvest)	18	104.2	101.8
250 seed wt (g)	12	75.0	91.8
Percent dockage 12/64 x 3/4	12	12.7	18.8

Holberg is resistant to the prevalent type and New York 15 strains of bean common mosaic virus and to curly top virus, and has an effective level of field resistance to Fusarium root rot. Holberg is moderately susceptible to rust races found in North Dakota in 1981-82.