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UI 126 and UI 129 Pinto Bean Cultivars

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Pinto beans are currently grown on 50 percent of the commercial bean acreage in Idaho. Pinto beans are also grown extensively in North Dakota, Colorado, Wyoming, and Nebraska. UI 126 and UI 129 are high-yielding cultivars developed for Western bean growers.

Pedigree

UI 126 and UI 129 were developed by the Idaho Agricultural Experiment Station at Kimberly and released in 1983.

UI 126 is from the cross R764/UI 114 made by L.L. Lafarriere in 1965. R764 is an Idaho breeding line with some *Fusarium* root rot resistance. Its parentage included Idaho Bountiful, red kidney J-227, and *Phaseolus coccineus* selection 2012. UI 126 has been tested in advanced yield trials at Kimberly and Parma, Idaho, since 1983. It was tested in the Cooperative Dry Bean Nursery in 1980, 1981, and 1987. UI 126 was previously tested under the experimental designation Idaho Line KP6.

UI 129 is derived from a single plant selection of unknown parentage. Breeding records show it was selected from a progeny row of small red beans from which pinto segregates were not possible. It is considered a volunteer plant that grew the previous year in a breeding nursery. UI 129 has been grown in advanced yield nurseries at Kimberly and Parma from 1983 through 1992. UI 129 was tested in the Cooperative Dry Bean Nursery in 1980 and 1981. UI 129 was previously tested under the experimental number KP97.

Disease resistance

UI 126 and UI 129 were tested for reaction to virus diseases at Prosser and Othello, Washington, with supplemental testing done at Kimberly, Idaho. UI 126 and UI 129 are resistant to curly top virus and to Type and NY 15 strains of bean common mosaic virus (BCMV).

Both cultivars were susceptible to bean rust (*Uromyces appendiculatus* (Pers.:Pers.) Unger) in rust trials in Colorado, North Dakota, Michigan, and Maryland. Reaction to halo blight (*Pseudomonas phaseolicola* (Burk.) Dows), common blight (*Xanthomonas campestris* pv. *phaseoli* (Smith) Dye), white mold (*Sclerotinia sclerotiorum* (Lib.) de Baryl), and air pollution was similar to that of UI 114.

Description

UI 126 and UI 129 are Type III (vigorous, short-vine) plants according to CIAT classification. Both cultivars may produce more vine growth when produced on high fertility soils. Plants are shorter and less viny than those of UI 114 and are more upright. Foliage is medium to dark green. In both UI 126 and UI 129, pods are borne midplant, are mottled, and usually bear four to seven seeds.

Performance

UI 126 and UI 129 were tested in advanced yield trials at Kimberly and Parma to determine maturity and seed size (Table 1), seed yield (Table 2), seedfill

Table 1. Maturities and seed sizes of pinto beans grown at Kimberly and Parma, Idaho.

		Seed size (seed/lb)						
Cultivar	Days to maturity	Kimberly			Parma			Combined mean
		1990	1991	1992	1990	1991	1992	
UI 126	88	1,311	1,139	1,195	1,176	1,323	1,346	1,248
UI 129	88	1,317	1,123	1,178	1,229	1,328	1,323	1,250
Othello	84	1,237	1,141	1,181	1,163	1,301	1,300	1,211

Table 2. Seed yields of pinto beans grown at Kimberly and Parma, Idaho.

Cultivar	Seed yield (lb/acre)								Combined mean
	Kimberly				Parma				
	1990	1991	1992	Mean	1990	1991	1992	Mean	
UI 126	3,246	3,180	4,016	3,481	3,158	2,970	3,352	3,160	3,321
UI 129	2,882	3,171	4,040	3,364	2,947	3,429	4,030	3,469	3,417
Othello	3,385	3,125	3,741	3,417	3,130	3,258	4,077	3,488	3,452

Table 3. Seedfill efficiencies of pinto beans grown at Kimberly and Parma, Idaho.

Cultivar	Seedfill efficiency (lb/acre/day)								Combined mean
	Kimberly				Parma				
	1990	1991	1992	Mean	1990	1991	1992	Mean	
UI 126	64.64	78.08	96.94	79.89	77.19	75.88	86.74	79.94	79.91
UI 129	64.47	74.34	94.39	77.73	78.90	86.08	96.89	87.29	82.51
Othello	81.68	83.67	88.17	84.51	80.47	91.16	104.66	92.10	88.30

Table 4. Yield efficiencies of pinto beans grown at Kimberly and Parma, Idaho.

Cultivar	Yield efficiency (lb/acre/day)								Combined mean
	Kimberly				Parma				
	1990	1991	1992	Mean	1990	1991	1992	Mean	
UI 126	35.95	37.62	46.37	39.98	34.75	33.05	39.35	35.72	37.85
UI 129	32.99	27.11	46.15	35.42	33.20	38.46	43.07	38.24	36.83
Othello	42.48	39.24	43.50	41.74	35.48	39.15	47.83	40.82	41.28

efficiency (Table 3), and yield efficiency (Table 4). Seedfill efficiency is equal to yield/seedfill duration, and yield efficiency is calculated as yield/maturity. Both efficiency values are measures of reproductive seed growth rates. In Idaho, UI 126 and UI 129 matured 88 days after planting, 4 to 5 days later than Othello.

At Kimberly and Parma, seed sizes of UI 126 and UI 129 were similar. Combined data from these locations showed that both cultivars have slightly smaller seed than Othello.

In Kimberly trials, UI 126 yields were slightly higher than those of either UI 129 or Othello. UI 129 seed yields were similar to Othello yields at Parma. Both cultivars had slightly higher yields than UI 126. Combined data from both Idaho locations gave results similar to those at Parma.

Seedfill efficiency of UI 126 was similar to that of UI 129 at Kimberly, where both cultivars were less efficient than Othello. UI 126 seedfill efficiency was less than that of either UI 129 or Othello at Parma and in combined data from both Idaho locations. Yield efficiency of UI 126 was similar to that of

Othello at Kimberly. Yield efficiency of UI 129 was less than that of either UI 126 or Othello. At Parma and in combined data, both UI 126 and UI 129 had slightly lower yield efficiency values than Othello.

UI 126 and UI 129 have demonstrated acceptable canning qualities in canning trials.

Conclusion

UI 126 and UI 129 have been grown throughout major dry bean production areas in the United States and Canada. Both cultivars have shown acceptable yield and seed size. UI 126 and UI 129 have a more upright growth habit than some pinto cultivars, giving them potential for direct harvest.

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