

Dry Bean Variety Performance Test at Montrose, Colorado 2004

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Summary

A dry bean variety performance test was conducted at the Keith Catlin Farm in Montrose, Colorado during the 2004 growing season. A similar study was conducted at the Keith Catlin Farm in 2003. Seed yields in the 2004 trial averaged 1205 lbs/acre lower than in 2003. The lower yields in 2004 compared to 2003 could be related to differences in climatic conditions, production practices, differences in dry bean varieties and lines evaluated, and other factors. Average seed yield in 2004 was 1673 lbs/acre and yields ranged from a high of 2218 lbs/acre for CO12786 to a low of 603 lbs/acre for CO12613.

Introduction

Data obtained from dry bean variety performance tests are important to provide Colorado farmers and others with information that has been obtained under local conditions in the dry-bean producing areas of the state. It is also important to test yield performance of dry bean varieties in the seed-producing areas of Colorado. Seed growers must be assured that yields of popular dry varieties will also be profitable for seed production.

Variety yield performance data can be used by various people- farmers when selecting varieties to plant on their farms, seedsmen in knowing which varieties to grow for seed production, companies to determine which varieties to market and in which locations varieties are best adapted, and university personnel in developing new dry bean varieties and in educating people about them. Dry bean variety performance trials conducted at several locations around the state are also important because data can be obtained from several environments in a single year. This provides considerable information in a short

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amount of time about the performance of dry bean lines and varieties in diverse environments.

Materials and Methods

A dry bean variety performance test was conducted at the Keith Catlin Farm in Montrose, Colorado during 2004. The experiment was a randomized complete block with three replications. Nineteen varieties and advanced breeding lines were included in the 2004 trial. Plot size was 5-feet wide by 35-feet long (2, 30-inch rows). The previous crop was spring barley. Fertilizer banded at planting time was 20 gallons/acre of 10.2-30.8-0-2.5S.

Lasso MicroTech herbicide at 1.0 qt/acre and Sonalan at 1.0 pt/acre as a tank mix were applied preplant broadcast and incorporated. Planting occurred on 4 June 2004 with an air planter modified for planting plots. Seeding rate was approximately 87,120 seeds/acre. Dimethoate at 1 pt/acre was applied aerially during the growing season for insect control.

The experiment was furrow-irrigated with siphon tubes approximately ten times during the growing season. Plots were cut on 10 Sept. 2004 with a Pickett One-Step™ rod cutter windrower and threshed on 28 Sept. 2004 using a Hege small plot combine equipped to harvest dry beans.

Results and Discussion

Weed control across the plot area was very good. The 2004 cropping season in western Colorado was mild and longer compared to 2003. Adequate irrigation water was available

during the growing season and, thus, was not a limiting factor for crop production.

Average seed yield in 2004 was 1673 lbs/acre and yields ranged from a high of 2218 lbs/acre for CO12786 to a low of 603 lbs/acre for CO12613 (Table 1). The dry bean line, CO12786, yielded 160 lbs/acre more than the variety/line with the second highest yield, which was Pro Vita 00191.

Average seed size in the 2004 trial was 1393 seeds/lb (Table 1). Average seed size in 2003

was 1190 seeds/lb, producing considerably larger seed in 2003 than in 2004. Seeds/lb in 2004 ranged from a large seed size of 1272 seeds/lb for Pro Vita 99232 to a small seed size of 1527 seeds/lb for Grand Mesa.

For more information and results on dry bean testing in Colorado visit the web site at: <http://www.colostate.edu/Depts/SoilCrop/extension/CropVar/index.html>.

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Pinto beans grown under conservation tillage at Fruita, Colorado. Sept. 20, 1994.

Table 1. Pinto Bean Variety Performance Test at Montrose¹ in 2004.

Variety	Yield	Seeds/lb
	lbs/acre	no.
CO12786	2218	1398
Pro Vita 00191	2058	1506
Poncho	2032	1351
Montrose	2022	1404
Rally	1991	1297
CO96753	1953	1419
GTS-900	1926	1400
Pro Vita 99232	1924	1272
Buckskin	1891	1377
CO96731	1888	1382
CO83783	1786	1338
Buster	1772	1296
Bill Z	1628	1470
Pro Vita 99230	1390	1292
CO12531	1349	1462
Grand Mesa	1292	1527
Othello	1238	1442
Pro Vita 02225	819	1423
CO12613	603	1402
Average	1673	1393
CV%	7	
LSD _(0.30)	132	

¹Trial conducted on the Keith Catlin farm; seeded 6/4 and harvested 9/28.