

Dry Beans

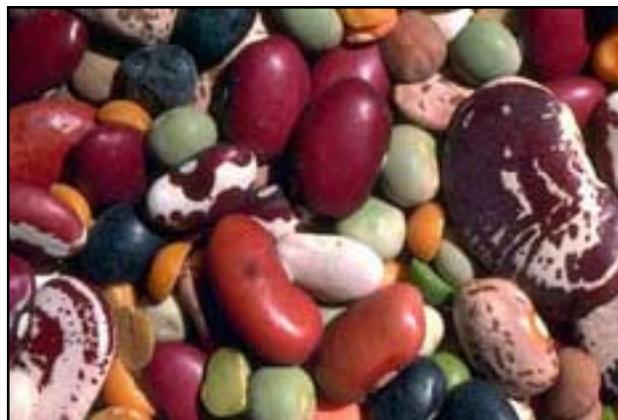
Introduction

Dry beans (*Phaseolus vulgaris*), also referred to as field beans, include pinto, navy, kidney, black beans, and many others. Most commercial dry bean production occurs in areas of the U.S. with a cooler climate; however, there may be a potential market for dry beans at Kentucky farmers markets and stores that sell local produce.

Marketing and Market Outlook

U.S. dry bean production reacted to storage surpluses and low prices in the early 2000s, with national dry bean production dropping 40 percent between 2002 and 2004. Low production resulted in depleted stocks of stored beans and acreage increased 45 percent in 2005. The U.S. also experienced a dry bean trade surplus in the crop year 2006/2007, but was down from 2005/2006. Over the past 8 years 18 percent of the U.S. dry bean supply has been exported. Given the slowdown in the domestic demand since the early 2000s, growth of the dry bean industry will depend on foreign sales.

Domestic use of dry beans is currently at 6 to 7 pounds per capita. Nationwide the most popular types are pinto, navy, garbanzo, and black beans. Use of black beans has grown with greater foodservice usage and larger Hispanic populations. The majority of dry bean production occurs under contract. Given this and their extreme sensitivity to price changes in supply, the USDA's Economic Research Service forecasts prices of \$30 to \$36 per hundredweight across all bean classes for 2009.



Production Considerations

Site selection and planting

Dry beans are a warm-season crop and are not planted until all danger of frost has passed. Well-drained soils are preferred; dry beans do not tolerate heavy clay or water-logged soils. While seed can be inoculated with nitrogen-fixing bacteria, additional applications of nitrogen fertilizer may be needed to help meet season-long nitrogen needs. To optimize quality and yield, dry beans should be irrigated to supplement rainfall.

Pest management

Dry beans are susceptible to a number of diseases that can result in crop losses, including common blight, rust, halo blight, *Rhizoctonia* root rot, *Pythium* root rot, rust, anthracnose, white mold, and bean common mosaic virus. Selecting resistant cultivars and following good management practices can help reduce the impact of disease problems. However, it is likely that fungicides will be needed, especially if dry beans receive sprinkler irrigation. Potential insect pests include bean leaf beetle and stinkbugs. Aphids and whiteflies can also serve as vectors for virus diseases.



Regular scouting to monitor populations help the grower determine when and how often insecticides should be applied. Dry beans compete poorly with weeds; however a combination of herbicides, cultivation, and a good rotation system can help manage weedy vegetation.

Harvest and storage

Equipment used to harvest soybeans can be used for harvesting bush-type cultivars. Vine-type cultivars require different machinery for harvest. Drying is accomplished with or without heat. Storage facilities need to be dry, clean, and free from rodent and insect pests. Some buyers may require that beans be polished for the edible market.

Labor requirements

Labor needs per acre are approximately 2 hours for production, 2 to 4 hours for harvest and 1 to 2 hours (or more) for packing and grading. These labor estimates may be slightly higher for small acreages and if harvesting equipment is not available.

Economic Considerations

Initial investments include land preparation, purchase of seed, and installation of an irrigation system. Other than irrigation and nitrogen requirements, production costs for dry beans are similar to that of soybean. Non-irrigated operating costs are approximately \$300 to \$340 per acre. Non-irrigated ownership costs would be the same as soybean production at approximately \$35 per acre. If irrigation is necessary, operating and ownership costs would range from \$160 to \$200 in additional expenses. Producers may incur added costs due to the variety selected and/or disease problems.

The economics of dry beans is hard to estimate due to widely fluctuating bean prices and varying production costs, resulting in profits that are highly variable. Dry beans could potentially return

\$85 to \$165 to land and management per acre at the average expected price for 2009 (\$33 per hundredweight) and with a yield averaging 2,000 pounds per acre. However, they could also return less than \$25 per acre in years with lower prices. Due to increased conventional row crop prices, dry bean production is currently a pessimistic prospect for Kentucky growers considering them as an alternative crop. Dry beans could potentially be added to a crop mix in western Kentucky, but a buyer and quality specifications should be lined up before production.

Selected Resources

- Alternative Field Crops Manual: Fieldbean (University of Wisconsin and University of Minnesota, 1990)
<http://www.hort.purdue.edu/newcrop/afcm/fieldbean.html>
- Black Bean Cost-Return Budget (Thomas Jefferson Institute, Missouri)
http://www.jeffersoninstitute.org/pubs/budgets/black_bean_budget.pdf
- Center-Pivot-Irrigated Dry-Edible Bean Cost-Return Budget in Western Kansas, MF-999 (Kansas State University, 2008)
<http://www.oznet.ksu.edu/library/agec2/mf999.pdf>
- Dry Bean Production Guide, A-1133 (North Dakota State University, 1997)
<http://www.ag.ndsu.edu/pubs/plantsci/rowcrops/a1133-1.htm>
- Dry Edible Beans (Thomas Jefferson Agricultural Institute, Missouri)
<http://www.jeffersoninstitute.org/pubs/drybeans.shtml>
- Economic Issues with Dry-Edible Beans, MF-2533 (Kansas State University, 2001)
<http://www.oznet.ksu.edu/library/agec2/mf2533.pdf>
- Sustainable Dry Bean Production (ATTRA, 2003)
<http://attra.ncat.org/attra-pub/summaries/drybean.html>