

Bean (Dry)

Phaseolus vulgaris (Leguminosae)

Fast Facts:

Acres in Washington: 61,055
Average yield per acre: 1,770 lbs
Number of growers: 269
Value of Washington Production: \$35,931,000
*Statistics Provided by the Washington Agriculture Statistics Service (NASS).

Dry edible beans are the 25th most valuable commodity in the state

Description of crop:

Dry beans include all types of *Phaseolus vulgaris*, of which white, pinto, pink, black, small red and kidney beans are grown in Washington. Their production is similar to snap beans (green beans used for canning or freezing), but dry beans are harvested late and windrowed to dry the bean. Since they are harvested under dry conditions, dry beans are easily injured. If the beans are too dry, pods will shatter during harvest (yield loss). Harvesting beans is also a delicate process if nightshade weed contaminated the bean field. Mechanical harvesters indiscriminately collect both the nightshade berries and beans. If the harvester is not gentle, the nightshade berries can be crushed; causing sticky stains that can make the beans unusable for human consumption. Another problem associated with dry bean production and nightshade is the difference in moisture content between the beans and the berries. The harvestable beans have low moisture (11% to 13%) and the berries have high moisture. If the crop is contaminated with nightshade berries, the moisture from the berries will promote various types of rot in the stored beans. Production of bean seeds is similar to production of a bean crop.

Key pests:

Weeds and insects typically cause more economic losses than diseases. Diseases take away from the yield while weeds and insects take away from quantity and quality. As with most legumes, nightshades are a problem in dry beans. Wild mustards, grasses, lambsquarter, pigweeds, and kochia are also weed pests. Lambsquarter and pigweeds can jam combines. Insect pests of dry bean include lygus bugs, two-spotted spider mites, aphids, and seed corn maggots. Viral disease can cause problems in bean fields. Curly top virus is the most problematic and seems to be influenced by the weather. Dry bean mosaic virus is not as devastating, but seed from infested plants cannot be used as seed bean. Root rot is also an occasional problem on compact bean fields as well as heavy irrigation.

Key pesticides:

Control of nightshade includes using a preplant herbicide such as dimethenamid, Sonalan, Eptam or Treflan and if necessary a post emergent chemical such as Basagran or Raptor. Most other weeds can be controlled with Sonalan. Both the curly top virus and the dry bean virus have been curbed by the use of resistant varieties. Limiting irrigation is the most common means of controlling root rots. Both the lygus bugs and aphids are effectively controlled using Temik, Orthene and Sevin.. The two-spotted spider can be controlled with Temik, Comite, and Thimet and the seed corn maggot with Lorsban or Cruiser.

Critical pest control issues:

Currently there are varieties that are resistant to both the curly top virus and dry bean mosaic virus so these should be selected. Many bean crops are planted as second crop. In this case the seed used should be treated with Lorsban or Cruiser, which works systemically. Lygus bugs can cause damage to the blossoms and pods on the bean. Biological controls entail conserving populations of the generalist predators such as lacewings and damsel bugs that may prey on the lygus bug nymphs. Aphid populations can be controlled with the lacewing larvae and lady beetles. This would mean minimizing the applications of broad-spectrum insecticides and removing weeds such as pigweed, which serve as hosts for the lygus bugs. There is also need for stronger chemicals to help deal with worm problems (armyworm and cutworm) as the current products seem weaker than in the past and multiple applications often seem necessary. Plant treated bean seed with fungicides and insecticides such as Maxim, Apron XL, Dynasty and Crusier to protect your bean field.

Expert contacts: Dr. An N. Hang
WSU IAREC
24106 N. Bunn
Prosser, WA
99350-9687
509 786 9201

Ed Lamien
KBC Trading and Processing
509 488 2643

Tom Grebb
Central Bean Company
509 787 1544

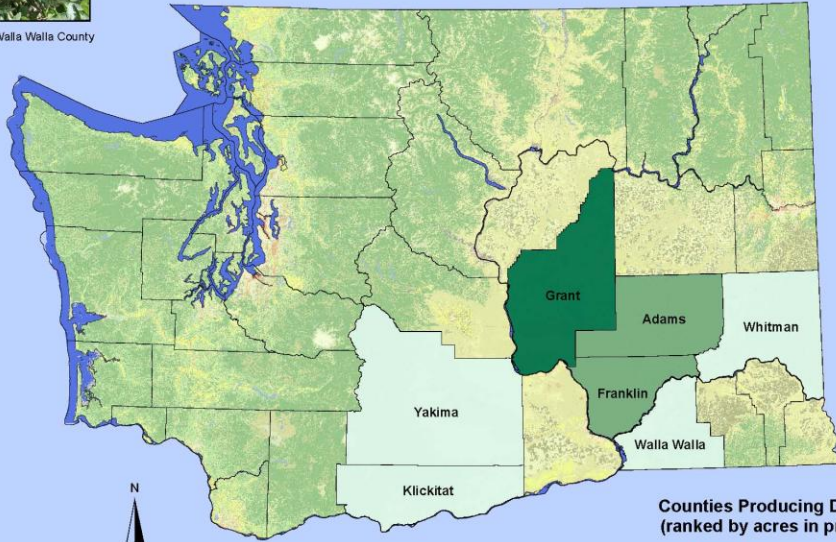
Location

of production: Adams, Asotin, Benton, Clark, Columbia, Franklin, Grant, Gray's Harbor, Kitsap, Kittitas, Klickitat, Lincoln, Okanogan, Pacific, Skagit, Spokane, Walla Walla, Whitman and Yakima counties.



Dry Beans - Walla Walla County

Dry Bean Production in Washington State



Counties Producing Dry Beans*
(ranked by acres in production)

- 19,000 acres or less
- 3,500 acres or less
- 1,000 acres or less

* Includes only those counties with significant crop acres. The crop may also be produced in counties not highlighted on the map.



Deborah Bahs - April 2007

