

Barley Seed

Hordeum vulgare (Poaceae)

Fast Facts: Acres in Washington: 3,152 acres
Number of Growers: 23
Per Acre Value: varies based on seed type

Description

Of crop:

Barley is one of the top five important crops in the United States. It consistently ranks in the top 25 Washington commodities based on production value. Washington State ranks fourth in the nations top six barley producing states. There are over 150 varieties cultivated in the U.S however many are produced only on a minor scale. Barley is a cool-weather, short-season, cereal grain with low moisture requirements. In Washington, it is produced mainly on dry farms with only a small amount being grown under irrigation. It is an annual, which can be either a winter or spring annual. Winter barley is planted in the fall since it requires a period of exposure to cold for it to produce flowers and set seeds. Spring varieties do not require exposure to cold to develop seed heads. Almost 95% of the barley grown in Washington is spring barley, which is planted in early April and harvested in late June or August. Winter barley is seeded in September or October and is harvested in late June or August of the following year. Barley is classified as either six-row or two-row depending on the physical arrangement of the kernels on the plant Barley is also described as hulled or hull less by the presence of beards or awns covering the kernels. The barley kernel is generally spindle shaped with the commercial varieties ranging from 7 to 12 mm. Kernels from the 2-rowed varieties are symmetrical. In 6-rowed a third of the kernels from the central spikelet are symmetrical, but the two-thirds from the lateral spikelets are twisted.

Washington growers often use barley as a rotation crop between other more profitable crops such as wheat. A typical rotation is winter wheat followed by spring barley. The end use of barley in Washington is primarily as feed for beef and dairy cattle, swine and poultry or for malting in food and beverage.

Barley grown for seed is similar to barley grown for food or feed. However, a weed-free crop is required for barley seed. Barley does well in cool, dry conditions and is produced mainly on dry land farms. Seedbed preparation for barley seed is minimal however growers should avoid fields where prior cereal crops existed to reduce disease pressures and optimize yields. Washington barley growers use registered, certified seed some of which is grown in the state. Most barley seed is produced for the open market. Researchers at WSU have developed conventionally bred

resistant barley but new techniques for gene-engineering barley may help with the development of additional rust-resistant barley. Fifty three percent of the barley seed grown in Washington is proprietary involving either Champion or Baronese barley seed.

Key pests:

Weeds are the main pests in barley seed production. Barley seed often comes from the combine with weeds mixed in that need to be removed before storage. Weed pests include kochia, wild oats, mustards, Canada thistle, pigweeds, and lambsquarter. The main disease problems in barley seed production involve several fungi that cause seedling blight and common root rots. Stripe rust is also a problem that can ruin a barley seed crop but occurs mainly on the west side of Washington due to the higher rainfall and resulting humidity. Insect pests include the cereal aphids and grasshoppers.

Key pesticides:

Herbicides used for weed control include Express and Buctril. Using resistant or tolerant cultivars may reduce common root rot. Seed treated with broad -spectrum fungicides can control seed borne infections. Stripe rust can be controlled with seed treated with Baytan. Aphids can be controlled with Di-Syston. Grasshoppers are controlled with Sevin. Aphids are also controlled through natural enemies such as parastoid wasps, ladybird beetles and lacewings.

Critical pest

Control issues:

Using clean and certified seed helps reduce seedling infections. Planting in cool soil can reduce seedling infections. Growers using fungicides may choose to rotate different fungicide types during the growing season to keep pathogens from developing resistance to these materials. Growers should choose disease resistant varieties when possible.

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Location

Of production:

Western Washington counties: Clallam, Clark, Island, Lewis and Skagit counties. Eastern Washington counties: Adams, Douglas, Ferry, Franklin, Garfield, Grant, Kittitas, Klickitat, Lincoln, Okanogan, Pend Oreille, Spokane, Stevens, Walla Walla, and Whitman.



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