

# Field Corn Seed

*Zea mays* (Gramineae)

## Fast Facts:

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| Acres in Washington: 4,500                     |
| Number of growers: 75                          |
| Per Acre Value: \$800                          |
| Value of Production in Washington: \$3,600,000 |

## Description Of Crop:

Production of field corn seed is similar to production of corn for food/feed, except for activities required for cross-pollinating male and female lines. With modern seed corn, the varieties to hybridize need to be carefully selected. Detassling the maleline field corn varieties will prevent undesirable cross-pollination. Plant breeders recognized that the progeny from a specific cross could often out yield either of the two parents used in the cross. This has lead to the development of inbred lines. To develop a hybrid corn seed, the manual detasseling of the female parent is required to prevent self-pollination. This is when the pollen- producing tassel from a corn plant is removed. Usually in field corn seed, they detassel the female rows and maintain a bull row for pollination. They don't harvest the pollinator and only have female rows for seed corn. Thus in seed corn, up to 20 percent of the acreage is nonproductive. Companies tend to pay growers a per acre fee to offset this constraint. Attempts to produce a male sterile system that would eliminate manual detassling have been made. Since the inbred lines used for the parent are not prolific they are planted later in spring around the last of March or first of April. Corn seed hybrids are planted 2-3 weeks later. Growers wait 1-2 weeks to make sure the grain pollination is complete.

## Key pests:

In the Columbia Basin, due to the climate and the fact that corn seed is planted in relatively clean fields many pests issues are kept in check. Corn seed grown in areas that are near old dairies and feedlots have a higher percent of problems as in the Yakima area. Often, dairies need high volume silage for their cows so there tends to be higher rate of continuous corn on corn grown with little crop rotation. This has resulted in a higher incident of head smut, which can overwinter in the old cornfields. Feedlots and dairies in that area also generate enormous amounts of cow manure much of which is spread back over fields. In cow manure, weed seeds can stay viable and tend to produce high weed pressure on the fields where it is spread. Spider mites can be an issue and in the last three years the cereal leaf beetle has emerged as a pest. Insect pests that infest the soil include the cornseed maggot and wireworms. Weeds can also be an issue since many of the field corn seed inbred lines have a weak emergence and are poor competetitors. Weeds that can be pests are pigweeds, barnyard grass, nightshades, yellow nut sedge, volunteer wheat and volunteer potato.

## Key pesticides:

Head smut can be controlled with a protective fungicide seed treatment like Captan or a systemic fungicide such as Vitavax. Spider mites can be kept in check with overhead watering since dry conditions favor increased mite populations. Cornseed maggots and wireworms are controlled with Counter. The cereal leaf beetle can be controlled with beneficial insects such as parasitic wasps and ladybugs. Weeds are controlled with Roundup in genetically modified (GMO) corn only.

### **Critical pest**

#### **Control issues:**

There are resistant varieties for head smut and growers should rotate with other crops. The fungus that affects corn doesn't infect sorghums, soybeans and small grains. Many of the insect problems can be controlled through genetically modified (GMO) varieties. Insects such as the corn earworm can't digest the protein in the Bt corn line. The cereal leaf beetle is usually a problem only when fields such as wheat that can act as a host for this insect surround corn seed fields. Other insect problems can be controlled with spraying but growers should weigh the damage to beneficial insects. Growers need to be aware of following corn after corn ground and should maintain a crop rotation policy. Growers would like to see the labor-intensive cost of detasseling removed through continued genetic work on male sterility. With breeding programs underway, organic field corn seed bred specifically for organic productions are commercially available.

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### **Location**

#### **Of production:**

Seed corn production in Washington State is mainly confined to the eastern Washington counties of Adams, Franklin, Grant, and Lincoln. There is some seed corn production in western Washington in Jefferson County.



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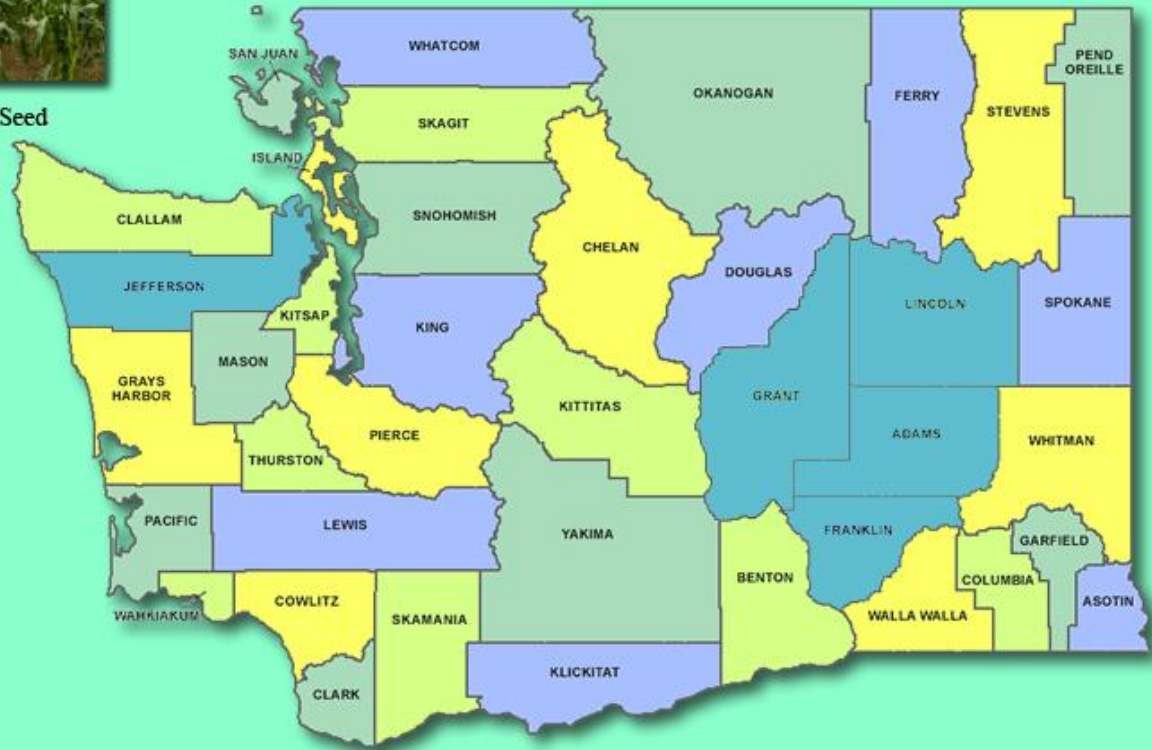


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# Field Corn Seed Production in Washington State



■ Area of Field Corn Seed Production