

# Cauliflower Seed

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*Brassica oleracea* (Cruciferae)

## Fast Facts:

Acres in Washington: 100
Percent Acre Value: \$1000-\$1200
Number of Growers: 10-12
Value of Crop: about \$100,000-120,000

## Description of crop:

Cauliflower seed is a biennial crop typically grown from seedlings that are transplanted to the field beginning in mid-August. Occasionally, the crop is direct-seeded in April, although this is not common. All acreage in Washington is for hybrid seed. The crop is hand-hoed to remove weeds and rogued to remove plants not displaying true varietal characteristics. Cauliflower seed is harvested in August the year following planting. At harvest, the crop is cut, windrowed and dried in the field for 10 to 14 days. After drying, the crop is threshed, and the seed is sent to a conditioning plant, where it is cleaned to 99 percent purity.

Hybrid seed crops must have specific isolation distances to prevent cross pollination. Isolation distances must be maintained for both different varieties of the same crop and different members of the same family of crops. Hybrid seed crops are also often nicked. Nicking involves removing flowers (generally the male) and then allowing them to re-grow thereby narrowing the pollination window. If nicking is done too late in the season the females can self pollinate or not produce viable seeds which lower the production rate in the field.

## Key pests:

Severe insect pests include cabbage aphid, turnip aphid, seedpod weevil and cabbage maggot. Other insect pests include cabbage looper, springtails, webworms, diamondback moth, cutworms, symphylans and wireworms. Weed pests include shepherdspurse, mustards, lambsquarter, pigweeds, smartweed, henbit, groundsel, chickweed, wild turnip, quackgrass, wild oat, Canada thistle, bolt thistle, vetch, nightshades and bed straw. Shepherdspurse, groundsel and hen bit are the more problematic weeds. Weeds are serious pests due to two issues. The seeds that the weeds produce are often very difficult to sort out of the seed crop. If the contaminating seeds are too costly or impossible to sort out, the seed crop is considerably lowered in value or rendered unmarketable.

Weeds also serve as a host for insects and diseases. The most serious diseases are powdery mildew, downy mildew, *Alternaria* and *Sclerotinia*.

Additional diseases are caused by *Cladosporium*, *Fusarium*, *Rhizoctonia*, *Stemphyllium*, *Pythium* and *Phytophthora*.

## Key pesticides:

Lorsban and Pounce/Ambush are used for insect control, and endosulfan is applied mid-

bloom to control seedpod weevil, cabbage maggot, cutworms and loopers. Treflan is used as a pre-plant incorporated to control broadleaf weeds, and Fusilade is applied occasionally after harvest to control grasses. Iprodione is applied to control Alternaria and Sclerotinia. Ridomil controls downy mildew, Pythium and Phytophthora, and chlorothalonil is used for general disease control. Due to over-wintering damage, copper hydroxide frequently is applied to ward off disease.

**Critical pest control issues:**

Fusarium wilt has no control at this time. There has been not chemical that has replaced benomyl. The loss of dimethoate was significant. Mitigation to comply with urbanization, salmon and water buffer issues are expensive. Efficacious herbicides are critical for seed production. Weeds not only compete with the seed crop but act as host for insects and diseases. Weed seeds if they cannot be easily sorted out from the seed crop will cause the value of the seed crop to drop or even cause the crop to be unmarketable.

**Expert contacts:**

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