

Arugula Seed

Eruca sativa (Cruciferae)

Fast Facts:

Acres in Washington: 100- 120 Per Acre Value: \$1,000-1,200 Value of Production in Washington: \$100,000-\$145,000
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Description of crop:

Arugula is a leafy green used in a manner similar to spinach. The seed crop is direct seeded in early April and harvested in early September of the same year. Fields are plowed prior to planting, hoed to control weeds, and rogued during the growing season to remove plants not demonstrating true varietal characteristics. At harvest, the crop is cut, dried in the field for 10 to 14 days and combined. The seed is then sent to a conditioning plant, where it is cleaned to 90% purity. When growing arugula seed, an issue that must be dealt with is the isolation distance from other cruciferous seed crops. The length of rotation time is 4 to 5 years because the seeds go dormant and cause problems for successive seed crops.

Key pests:

Several insect pests of arugula 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 bedstraw. Shepherdspurse is one of the more problematic weeds. Weeds are serious pests due to two issues. 1). seeds that weeds produce are often very difficult to sort out of the seed crop and if the contaminating seeds are too costly or impossible to sort out, the seed crop is considerably lowered in value or rendered unmarketable. 2). weeds also serve as a host for insects and diseases. The most serious diseases are powdery mildew, downy mildew, Alternaria black spot and white mold, (*Sclerotinia sclerotiorum*).

Key pesticides:

Chlorpyrifos and permethrin are used for insect control, and endosulfan is applied mid-bloom to control seedpod weevil, cabbage maggot, cutworms and loopers. Trifluralin is used as a preplant incorporated to control broadleaf weeds, and fluazifopbutyl is applied occasionally after harvest to control grasses. Poast also controls grass weeds. Iprodione and strobilurin fungicides (azoxystrobin or pyraclostrobin) are applied to control Alternaria and Sclerotinia. Cyprodinil + fludioxonil are also applied for *Sclerotinia*. Metalaxyl and mefenoxam controls downy mildew, and *Pythium*

seedling blight and mancozeb and clorothalonil are used for general disease control.

**Critical pest
control issues:**

There has been no replacement for benomyl. It is critical that growers maintain efficacious and economical herbicides. The loss of dimethoate use was significant. Mitigation to comply with urbanization, salmon and water buffer issues are expensive. The profit margin is quite narrow on small seeded vegetable crops. If the margin is reduced by higher weed control costs, higher sorting costs or lower value due to weed seed contamination the result could be economic loss to the grower.

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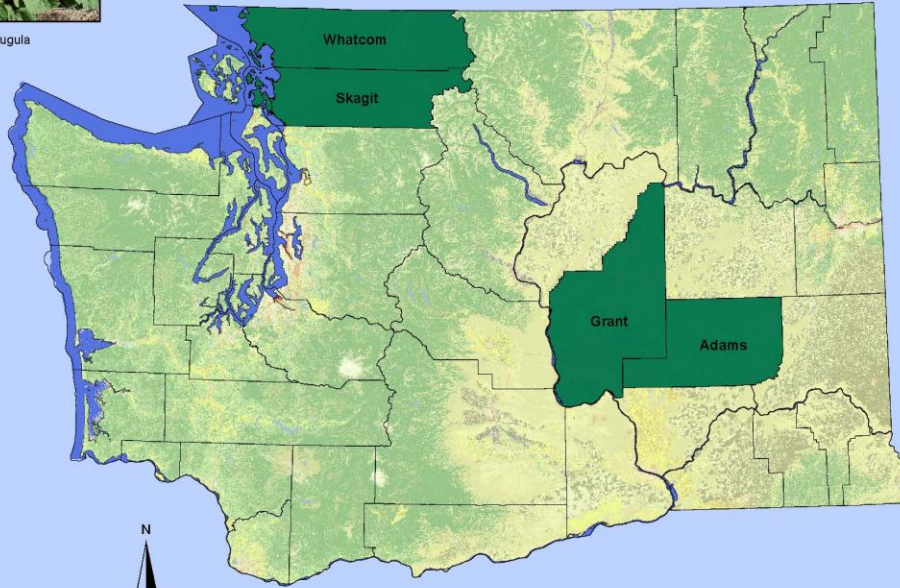
Location

of production: Arugula is grown in Skagit, Grant, Whatcom and Adams Counties.



Arugula

Arugula Seed Production in Washington State



Deborah Bahs - April 2007

0 25 50 100 Miles

Counties Producing Arugula Seed*

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