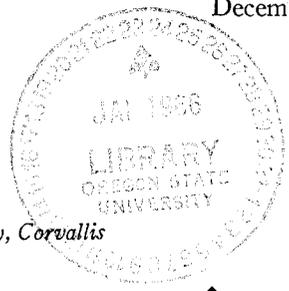


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Vegetable Seed Production



Lettuce

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Nearly all of the lettuce grown for seed purposes in Oregon is produced in the Malheur irrigated area. Some growers in the Willamette Valley have produced satisfactory crops of the earlier maturing varieties, although proper maturity is often a problem especially during seasons when fall rains are early. Warmer temperatures are required for lettuce seed production than for the production of marketable heads. Most varieties require temperatures of 70 degrees F. or higher for proper seed stalk formation.

Lettuce for seed is handled as an annual. It is planted in early spring as soon as soil conditions permit and harvested in late summer when the seeds have swelled and turned yellow in color.

Soils selected for growing lettuce for seed should be fertile and well supplied with organic matter. Because of the lettuce plant's demand for a plentiful supply of moisture during the growing season, heavy silt and clay loam soils are preferred. Soils known to harbor *Sclerotinia* should be avoided. Preparation of the soil and shaping of raised beds are the same as for market lettuce.

The seed should be planted thinly, at the rate of 1 to 1½ pounds per acre. Several weeks after planting, the seedlings are thinned in the row—the large-heading types 10 inches to 12 inches apart, and the smaller heading or leaf types 6 inches to 8 inches apart.

When the plants begin to head, off-types should be removed. For some of the harder headed lettuce types it may be necessary to split or pull the head leaves apart to allow the seed stalks to emerge. Proper timing of this operation is important. If split too early, the plant will continue to head; if delayed too long, seed stalk injury will result. The use of hormone sprays, which prevent heading and encourage elongation of the seed stalks, may eventually eliminate slashing.

Lettuce responds to careful cultivation. One of the most serious weeds in wild lettuce, because the seed is very difficult to separate from the commercial lettuce seed in the cleaning operations.

Fertilize by sidedressing with light applications of complete fertilizer during the growing period. A little nitrogen broadcast or sidedressed at time of bolting increases seed yield.

Lettuce seed ripens unevenly. If seed is allowed to go to full maturity, losses from shattering may be

severe. The highest yields are obtained by hand harvesting methods. If fields are small, shake the flower heads into picking sacks when one-third to one-half of the seed is firm and dry. Successive harvests in this way will recover nearly all the seed and reduce losses from shattering. If fields are large, swath the crop when the majority of the seeds are yellowish in color, let dry and then run through a combine which has some of the teeth removed.

Seed yields of 400 to 500 pounds per acre are considered good and can be attained by growers who give close attention to the requirements of the crop.

Outdoor production of lettuce seed free from common lettuce mosaic virus could be quite difficult in western Oregon. Mosaic-free seed has been produced in other areas by a combination of isolation, applied control, and rouging. Mosaic-free seed offers an effective means of controlling this disease. Lettuce mosaic virus is seed borne, and this is one of the ways the disease is introduced into lettuce plantings. Seed transmission from seed fields where introduction and spread of the disease are not rigidly controlled may exceed 50%. Several wild hosts, such as wild lettuce, are susceptible to common lettuce mosaic virus and may serve as sources of the virus. Infected lettuce plants within the field also serve as points from which the disease spreads.

Several species of aphids spread lettuce mosaic virus. The amount of mosaic in a field depends on the presence of the disease and the size and movement of the aphid population. To prevent the spread of this virus, it is essential to check the field frequently and to control the insects. Methods of insect control are outlined in the *Oregon Insect Control Handbook*.

When rouging, do not remove a diseased plant from the field without first killing the aphids or first placing the plant in a plastic sack. Otherwise, the aphids may leave the rogued plant and carry the virus to healthy ones.

Aster yellows, spotted wilt, and big vein are other virus diseases of lettuce; they are not seed borne, but sometimes they are difficult to control. Aster yellows is transmitted by leaf hoppers.

When roguing lettuce for disease or off-type plants, cut the stem at least 1 inch below ground to prevent regrowth and the production of undesirable seed stalks.

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This is one of a series of *Fact Sheets* reporting Cooperative Extension work in agriculture and home economics, Gene M. Lear, associate director. Printed and distributed in furtherance of Acts of Congress of May 8 and June 30, 1914. Oregon State University, Oregon counties, and U. S. Department of Agriculture cooperating.