Growing and Marketing Cilantro in Massachusetts

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INTRODUCTION:

Cilantro (*Coriandrum sativum*) is an annual herb that closely resembles parsley and is in the same family of plants (Apiaceae). This pungent herb is native of southern Europe and is commonly known as Coriander, Cilantro, or Chinese Parsley. Its name is said to be derived from *koris*, Greek for "bedbug" since the plant smelled strongly of the insect.

The leaves of cilantro are light green, feathery, and flat. The distinctive flavor of cilantro leaves is quite different from that of parsley. While the leaves are used as an herb, the dried fruits, called coriander seed, are used as a spice and have an entirely different taste.

GROWING CILANTRO:

Cilantro grows best in full sun. Plant the seed 1/4 to 1/2 inch deep every 1 inch in rows 12 inches apart. Keep moist until seeds germinate, which should take about 7 to 10 days. No thinning is required. Some growers will seed cilantro thicker than this (30 – 40 seeds/foot). The denser plant population competes more effectively with weeds in the row. In addition, the thicker planting makes harvesting easier since plants are bunched in the field.

The "seed" of cilantro is actually the whole fruit with two embryos inside. This means that if you plant 10 "seeds" and get 100% germination you will have 20 cilantro plants.

Cilantro can be started in the greenhouse and transplanted into the field. This is done most often in the spring in order to get an earlier harvest; however, if the plants become stressed they will go to seed (bolt) quicker than if they were direct seeded.

Cilantro grows best under cool conditions while hot weather encourages it to flower. Cilantro will withstand temperatures as low as 10 degrees, which makes it an excellent fall crop. Plantings of cilantro are usually made every 7 to 10 days to ensure a steady supply.

There is little information available about the fertility management of cilantro. Have the soil tested and use the same fertility management used for leafy vegetables such as lettuce or spinach.

PEST MANAGEMENT:

Diseases

Bacterial leaf spot (*Pseudomonas syringae)* is the most important disease of cilantro. Symptoms consist of angular, vein-delimited leaf lesions that are at first water-soaked or translucent. Over time and with drying conditions, the leaf spots may turn black or brown. If infection is severe, leaf spots may coalesce and cause a blighting effect. Under experimental conditions the pathogen will also infect parsley.

This is a seedborne pathogen. Contaminated seed is an important means by which the disease spreads and establishes itself. Splashing water enhances disease development and spread, so rain and sprinkler irrigation favor the pathogen.

Weed Management

As mentioned earlier, seeding thickly (20 – 30 seeds/foot) helps to control weeds in the row. Cultivation is needed for controlling weeds between rows. The only herbicide registered for use in Massachusetts for cilantro is Scythe. This is a fatty acid based, NON-SELECTIVE, contact herbicide that is labeled for use in the stale seedbed technique and shielded application (see label for use).

One method to consider for weed management in cilantro is a stale seedbed technique. With this technique, the soil is prepared well in advance of planting. Weeds are allowed to germinate, then killed without disturbing the soil. This provides adequate weed control because most weeds that have the potential to germinate, because of their placement in the upper 1" to 2" of the soil, will actually do so within two to four weeks after the soil is prepared. Adequate soil moisture and temperature (at least 50°F at a depth of 2") are necessary for good weed emergence. Scythe or flaming can be used to kill these weeds. By not redistributing the soil any more than is absolutely necessary during the seeding or transplanting process, no new weed seeds will be brought closer to the soil surface.

Finally, any cultivation which is performed after planting should be kept extremely shallow (3/4" to 1") so as not to reposition any additional weed seeds.

Here are the steps:

1. Prepare the soil as if you are about to seed or transplant. The soil should have good moisture (irrigate with 1/4" of water if necessary).
2. Wait as long as possible so that the weeds will germinate and emerge. Allow weed seedlings to grow to the third leaf stage, or at least to the first leaf stage. As the soil sits after field preparation, some soils can crust and interfere with seeder operation. Be sure that good seed placement can be achieved with your equipment or this technique may be unusable.
3. When using transplants, flame the soil or make an application of Scythe to the soil surface before transplanting. Transplant the crop without dragging any additional soil off the bed.
4. If the crop will be seeded, Scythe or flaming may be applied just before or just

after seeding (see label). After seeding, apply any preemergence herbicide, which you would normally use, to the soil surface. Caution: If the crop has already been seeded, be careful that the flaming process does not injure the crop seed or the unemerged crop seedling.

Insects

Growers in Massachusetts have not reported any serious insect pests of cilantro.

HARVESTING:

Cilantro is ready to be harvested as soon as the plant is 4 – 6 inches tall, which can take 40 to 60 days after planting. It can take up to 120 days to produce mature seed (coriander).

If the older, outside leaves are harvested, the plant will continue to produce new foliage until it goes to seed. Large-scale commercial growers clip the plant just below ground level and bunch it. Many growers cut it off 1 inch above the ground. The plant can regrow for a second cutting; however, it does not regrow as efficiently as parsley. For that reason many growers just harvest it once.

Cilantro can also be harvested by pulling out the whole plant. Some ethnic groups (e.g. Latinos and some Asians) prefer to buy the plant with the roots intact. The roots are used in making soups or as condiments.

To harvest seeds, let the plants grow until the first set of seeds dries enough to crack when pinched. At this time, cut and hang the plants to dry over a catch-cloth. To thresh, put dry plants into a large cloth bag and beat the bag against a post to dislodge the seeds. Then sift seeds through a 3 -inch mesh hardware cloth to remove the chaff.

POST HARVEST HANDLING:

Cilantro has a fairly high respiration rate, similar to that of other green leafy vegetables. Therefore, in order to maintain optimum post harvest quality, cilantro should be harvested at the coolest times of the day (either early morning or in the evening), and stored under low-temperature, high humidity conditions. Although aromatic quality decreases before visual quality does, a shelf life of 14 days can be expected if cilantro is stored at temperatures close to 32°F. Because of cilantro's high water content, storage slightly above 0°F is necessary to avoid freezing damage.

A high surface to volume ratio makes cilantro very susceptible to water loss. Specially designed bags (either those with perforations for ventilation or those constructed of a partially permeable polymer) may be

used as packaging; however, cool temperatures must be maintained.

Where refrigeration is not an option, wilting can be delayed by placing harvested cilantro in water and keeping the plants shaded from sunlight.

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