

Cilantro, Chinese Parsley, Coriander

Coriandrum sativum is a member of the Apiaceae (parsley) family.

Cilantro is an annual plant that grows 2 to 3 feet tall. Its leaves 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. Coriander seeds are hard, brownish yellow, spherical ($\frac{1}{8}$ inch diameter), and ribbed, and grow in symmetrical clusters. Cilantro is native to the eastern Mediterranean region and southern Europe.

Other names: *Joh tsu* (Hmong); *koendoro* (Japanese); *yuan sui* (Mandarin Chinese); *yim sai* (Cantonese Chinese); *yun tsai* (Chinese); *kinchi* (Filipino); *rao mui* (Vietnamese).

Market Information

Organically grown cilantro is a marketable product, since it is thought to have a better flavor than cilantro grown conventionally on a large scale.

Use. The leaves, known as cilantro or as Chinese or Mexican parsley, are used for flavor in Mexican salsas and Chinese dishes. When dried, the leaves lose their fragrance and flavor. The dried fruit, coriander seeds, are used whole or ground as a spice. The seed's aromatic essential oil is extracted and used to scent perfumes and cosmetics. Thai cuisine uses the root fresh and minced in salads and relishes.

Culture

Climatic requirements. Cilantro will grow in a wide range of conditions. The plants are sensitive to heat, and will bolt to seed quickly in warm weather. For continuous cropping, re-seed every 3 weeks through cool weather.

Propagation and care. Coriander is a hard seed and may need to be cracked or scarified before planting. Plant the seed $\frac{1}{2}$ inch deep every 2 inches in rows 12 inches apart. Thin to one plant every 6 to 8 inches. If you harvest the older, outside leaves, 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. Some growers cut it off 1 inch above the ground, thus allowing the plant to regrow for a second cutting.



Fresh cilantro leaves displayed for market. (Photo: Alf Christianson Seed Co.)

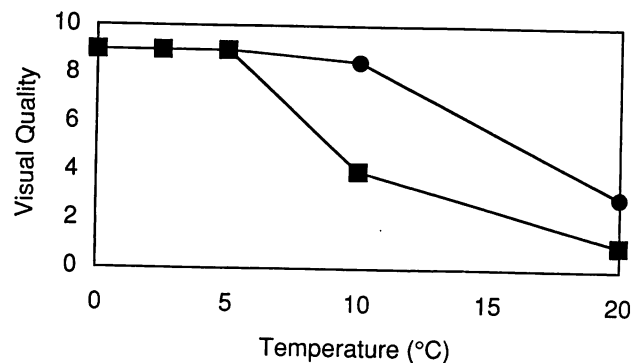


Chart: Effect of holding temperature on the quality of fresh cilantro after 1 (●) and 2 (■) weeks' storage in perforated polyethylene bags. Visual quality was assessed on a 5-point scale (1, 3, 5, 7, 9, where 1 = low quality and 9 = high quality). From Joyce, Reid, and Katz 1986.

Harvest the coriander seed when the entire plant is dried and crisp, but before the seed pods break open and scatter seed. Cut the whole plant, threshing it out for further drying, or hang it to dry, gathering the seed as it falls. Undried seed has a bitter taste.

Disease Problems

Bacterial leaf spot. At least as early as 1988 a leaf spot disease appeared on cilantro in Southern California. 1990 and 1991 saw moderate to severe infections of this disease in Monterey, Santa Cruz, and other central coast counties. The disease has been identified as bacterial leaf spot caused by the pathogen *Pseudomonas syringae*.

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Symptoms consist of angular, vein-delimited leaf lesions that are at first water-soaked or translucent. The spots characteristically penetrate the entire leaf; that is, any one particular spot will be visible on the top and bottom of the leaf. 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. Researchers in England state that some stunting and yellowing are also associated with this disease, but we are not certain these symptoms have occurred on infected cilantro in California.

Very little information is available on the development of *P. syringae* on cilantro. The disease has been reported only in England, Hungary, and California. Under experimental conditions the pathogen will also infect parsley. Of particular note is the pathogen's seedborne transmission. Infected or infested cilantro seed is an important means by which the disease spreads and establishes itself.

Very few control options are currently available to growers. In attempting to manage this disease, growers should consider the following:

1. Splashing water enhances disease development and spread, so rain and sprinkler irrigation favor the pathogen.
2. Infested or infected seed is probably the main way the pathogen enters fields. Pathogen-free seed

is therefore very important, but researchers have not yet developed a test to detect the pathogen in seed.

3. Seed treatments using antibiotics gave effective control of the disease in experiments in England, but no such treatments are registered in California. No data are available on the effect of hot-water treatments of cilantro seed.

4. We have no data on the efficacy of bactericides, nor are any such materials registered for use on cilantro in California.

Carrot motley dwarf. Several plants in the Apiaceae family, including carrot and cilantro, are affected by the viral disease carrot motley dwarf. Symptoms on cilantro consist of bright yellow and red coloration of the normally green foliage. Some stunting of the plants may be observed. The virus is vectored only by the carrot willow aphid and has been confirmed strictly in the coastal regions of the state. Plant pathologists are currently researching the nature of the virus pathogen and disease epidemiology. No control measures are suggested at this time.

Postharvest Handling

Use only the highest-quality plant material for the fresh market. Some of the detailed postharvest handling information provided for basil also applies to cilantro and other herbs.

Sources

Seed

NOTE: Cilantro seed is widely available, and the seed sold in supermarkets that carry Mexican spices will probably grow just fine. However, some seed intended for use as a seasoning may be unusable for propagation, whether because of heating, other processing, or age.

More information

Federal-State Market News Service. 1988, 1989. *Los Angeles fresh fruit and vegetable wholesale market prices 1988 and 1989*. California Department of Food and Agriculture Bureau of Market News and USDA Marketing Service.

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Organic Gardening Magazine. 1978. *The encyclopedia of organic gardening*. Rodale Press, Emmaus, PA.

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