



## Broccoli

### Climatic requirements

Broccoli grows best under moderately cool conditions (60–70°F), especially toward the harvesting stage. The compactness of the head (bud formation), which is the important characteristic in broccoli, develops best under cool temperatures, although the early development of the plants can occur during fairly warm weather.

### Varieties

In warm lowlands in Hawaii, ‘Greenbud’, ‘DeCicco’, ‘Green Comet’, ‘Blue Ocean’, and ‘Express Corona’ are best adapted because of their ability to produce a large central head and numerous lateral shoots. ‘Waltham 29’, ‘Atlantic’, ‘Premium Crop’, and ‘Express Corona’ are best adapted to cool uplands, above 2000 feet elevation.

### Soil preparation

Broccoli will do well in any soil that has a fair degree of fertility, a high water-holding capacity, and good drainage with a pH range of 6–7. Work the soil to break up any hardpan that prevents good drainage. Then incorporate manure or compost into the soil to a depth of 6–8 inches. If the soil must be treated<sup>2</sup> for nematodes, do this after the soil is prepared, and allow an interval of 2–3 weeks after treatment and before planting.

### Planting

Broccoli can be transplanted or seeded directly into the garden. If transplants are to be used, sow seed in seedling flats, beds, or pots. Seeds will germinate in 4–7 days and can be ready for transplanting (4–6 inches high) in 4–6 weeks. Water seedlings every day, preferably in the morning so that plants will dry as soon as possible. Seedlings that are overcrowded and kept wet will often become infected with diseases.

Transplant seedlings into rows 3–4 ft apart, placed 2–3 ft apart within rows, depending upon the varieties grown.

### Cultivation and irrigation

Cultivate the soil frequently to control weeds and break up surface crusting to improve water penetration. Cultiva-

tion should be shallow to prevent root injury.

Irrigate regularly, as often as needed to prevent plants from wilting. Irregular irrigation may cause hollow stems just below the sprouts.

### Fertilizer application

A general garden fertilizer, such as 10-30-10, can be applied at 2.5–3.5 pounds per 100 square feet. Apply the fertilizer in three applications: at transplanting, 4–5 weeks after transplanting, and 12–14 weeks after transplanting. Additional nitrogen fertilizer may be necessary after harvesting begins to maintain lateral shoot production.

### Insect control

Insects that infest broccoli, such as aphids, cabbage looper, cabbageweb worm, and cabbage worm, can be controlled with insecticides<sup>2</sup>. Red spider mites can be controlled with sulfur-containing miticides<sup>2</sup>.

### Disease control

The most common diseases of broccoli are wire stem and black leg disease in the seedling stages, and black rot and downy mildew in the mature stages. Wire stem disease can best be controlled by treating with a seed disinfectant<sup>2</sup> or by preplant soil application of fungicides<sup>2</sup>. Black leg and black rot are usually transmitted through the seed. The best control is hot-water seed treatment at 122°F for 15–20 minutes. Downy mildew may become serious in cool, wet areas and seasons. It appears as a fluffy, purple-white growth on the lower leaf surfaces, leaving yellow spots on the upper surfaces. Spraying with fungicides<sup>2</sup> will control this disease.

### Harvesting

Broccoli is ready for harvest when the heads, whether large or small, central or side, are well developed and compact, with buds unopened. Any appearance of yellow petals in the heads indicates overmaturity.

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<sup>2</sup>Read any pesticide’s label carefully to ensure that its use on broccoli is allowed, and follow the label directions.

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