

KALE

Brassica oleracea var. acephala

Brassicaceae

ECHO® PLANT INFORMATION SHEET

Description

Kale is a very hardy form of cabbage that is native to the northern Mediterranean and western Europe where it has been cultivated as a green leafy vegetable for five thousand years. There are many varieties of leaf shape, color and height from a low mat of curled shoots to 2 m (6 ft) high. The very nutritious leaves can be eaten raw, steamed or lightly stir-fried.

Uses

In high altitude areas of New Zealand and Great Britain, Kale is used as part of a diet to overwinter calves and sheep. It has a higher protein yield than maize.

Cultivation

- Elevation: over 500 m (1640 ft), more successful at higher elevations in the tropics
- Rainfall: grows with as little as 300 mm (12 in); however, keep watered because low moisture will cause wilting, which hastens bolting.
- Temperature: as low as -15°-12° C (5-10° F), flavor improves with lower temperatures
- Soil: slightly acid soil (6-6.5 pH), fertile

Harvesting and Seed Production

Kale can be propagated by stem cuttings or direct seeded when soil temperature is 13-24° C (55-75° F), leaving 40 cm (16 inches) between plants. Plants can be closer together in plots 1.2 x 1.2 m (4 x 4 ft) so that the plants will shade out weeds and keep the soil cool and moist. Kale leaves can be harvested continually as needed starting with the outside leaves until the plant begins to form flowers. After that time it can be cut or grazed as livestock feed. This brassica is a biennial that does not flower or produce seed until its second growing season, usually following a period of temperatures below 10° C (50° F). If growing for seed, plant it 1000 m (3280 feet) away from other brassicas (cabbage, broccoli etc.) as it will cross-pollinate. Yellow flowers form on a thick stalk and the resulting pods can be harvested when they have turned brown and the seeds rattle. Let the pods dry completely in a shady spot with good air circulation. The pods can be crushed by walking on them and the seeds will store for 4 years in a cool, dry place. Better seed is produced from plants that have not had their leaves harvested.

Pests and Diseases

The bacterial pesticide *Bacillus thuringiensis* (Bt) or floating row covers will prevent flies and moths from laying eggs on the underneath side of kale leaves. After hatching, the larvae eat the leaves and contaminate them with their feces.

Cooking and Nutrition

Leaves can be eaten raw, steamed or lightly stir-fried to retain the vitamin C, calcium, potassium, iron, manganese, as well as beta-carotenes which the body will use to form vitamin A. Kale also contains compounds that cause the liver to produce enzymes that detoxify cancer-causing chemicals in the body. As air temperatures fall, the Kale plant produces more sugar and stores it in the leaves in order to lower the temperature at which the leaves will freeze. This accounts for the increase in sweetness in cool-season Kale.