

# ONION

*Allium cepa* L

Amaryllidaceae

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## ECHO® PLANT INFORMATION SHEET

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### Description

Onions thrive best in the tropics at higher elevations and can survive periods of low soil moisture. Growth is regulated by temperature and day length. Onions fit into three categories: short day, intermediate day, and long day. Short-day varieties will develop bulbs in the tropics where the day length ranges from 11 to 13 hours. Intermediate-day (or day-neutral) varieties need 12 to 14 hours of daylight to initiate the bulbing process. Long-day varieties require 14 to 16 hours of daylight and so will not actually form bulbs in the tropics.

### Origin

Onion is a hardy biennial from southern parts of Russia and Iran. It was disseminated by the Indo-European peoples during their numerous migrations. Very ancient forms of Onion are still for sale in Middle Eastern markets.

### Uses

Onion bulbs are eaten raw or cooked; often they are used as flavoring for other foods. Sometimes Onion bulbs are preserved dried or pickled. The leaves of some forms are used as scallions. The sprouted seeds also may be eaten.

### Common Names

- Spanish
  - Cebolla

### Cultivation

Soft, fine soil with a pH of 6–7 is ideal, but any fertile soil will give good results. May be seeded either directly in the field or started in seedbeds and transplanted when seedlings are large enough to handle efficiently. Direct seeding on saline soil should be avoided as young seedlings are susceptible to salt drying. Sow into rows 30 cm (1 ft) apart. Thinning to 5 cm (2 in) will give a good crop of medium Onions; further thinning to 10 cm (4 in) will allow you to grow large ones. Onions require lots of phosphorous, potassium, and nitrogen in the root zone. With their sparse, shallow root systems and narrow leaves, Onions are poor competitors for nutrients and light, thus weed control is highly essential. Onions thrive best in the tropics at higher elevations and can survive periods of low soil moisture. Growth is regulated through a combination of temperature and day length. Onion varieties adapted to the tropics will bulb at a day-length of 13 hours or less; for subtropical varieties a somewhat longer daylength is necessary. Onions grow well over a wide range of temperatures. When exposed to prolonged periods of cool (below 55° C or 73° F), some tropical and subtropical varieties will produce seed stalks (bolt). Onions are pollinated by insects.

### Harvesting and Seed Production

Harvest Onions when tops have fallen over but before the foliage has died down completely. Pull by hand and place in windrows until tops are fully dry. The tops are then cut off and bulbs are put into crates or open mesh bags for complete curing. Choose well-formed and firm Onions for seed purposes. Seeds are ripe when the stalk changes to a brown color. The seeds become black, the capsules begin to open and drop seeds if shaken. All plant heads do not come to seed at the same time. Put the heads in a bag and hang in a dry, shady place. When dry, shake and rub the bunch. A mixture of seed, capsule, and stems will result which can be sieved and winnowed or simply blown upon gently until only black seeds remain.

### Pests and Diseases

Onion thrips scrape the onion stems and suck out the sap, causing yellowing of the leaves. They are likely to be destructive during hot, dry periods. Thrips can be controlled through a variety of insecticides including malathion, however, many are destroyed simply by washing off the leaves. Onion maggots are the larvae of a small fly; eggs are laid near the plant base, the maggot feeds on the plant, and burrows into the bulb. Control is helped by the destruction of infected debris and by rotating crops so that onions are never grown on the same land more than one season in three. Onion smut attacks very young seedlings, but does not affect healthy transplants. This disease infects between germination and the emergence of the first true leaf, thus infection risk is minimized by shortening the time the plants are in the vulnerable seedling stage, i.e., sowing when temperatures favor rapid emergence. Downy mildew affects growing plants in cool wet weather, but rarely affects tropical onions. Pink root is caused by a soil-borne organism that is most serious in the hot weather at bulbing time. Rotate crops as a preventive measure. Neck rot infects plants in the field but is unnoticed until rotting occurs in storage. The fungus attacks through bruises or wounds in the bulbs caused by rough handling. Purple blotch bulb rot appears as small, whitish sunken lesions with purple center. Red Creole variety is much more resistant to this rot than either the Grano or Bermuda varieties. Most diseases and pests can be controlled by ensuring that planting material is disease-free, use of a broad-spectrum fungicide, rotating crops, and use of resistant cultivars.