

College of Agriculture & Life Sciences
 Department of Horticultural Science

HOME GARDEN LETTUCE

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Head lettuce is the most important salad vegetable grown in the United States. Per-capita consumption exceeds 25 lb annually. Lettuce is adapted to cool growing conditions with the optimum temperatures for growth of 60 to 65°F. At 70 to 80°F the plants flower and produce seed. Lettuce can tolerate a few days of temperatures from 80 to 85°F provided nights are cool.

Lettuce seed will germinate at 35°F, but optimum germination is 70 to 75°F. If the plants are sufficiently hardened, they will withstand freezing. Repeated exposure to subfreezing temperatures, however, can seriously injure or kill the crop.

Lettuce has a relatively high water requirement. Soil moisture shortage rainfall will seriously stunt growth and head quality. Irrigation greatly reduces risk of crop failure.

There are considerable differences among lettuce varieties in heat tolerance. These differences are the primary reasons some lettuce varieties can be grown in warmer climates.

In North Carolina, the crop can be grown in both the spring and fall in eastern N.C. and even during midsummer in western N.C. at elevations over 3,000 ft. In the Piedmont, lettuce is intermediate in season and probably is best as a late spring and early fall crop.

Romaine has requirements similar to head lettuce except it can stand more heat. Butterhead and leaf types can stand even more heat and have a longer season of production.

Varieties — Request mosaic-tested (M.T.) seed from your seed supplier.

- **Head:** Strains of Ithaca, Salinas and Pennlake have performed best in N.C.
- **Romaine/Cos:** Romulus or Signal
- **Leaf:** (green) Salad Bowl, Slobolt, Grand Rapids, Green Vision; (red fringe) Red Sails, Royal Red; (red) Ruby.
- **Butterhead:** (loose head) Buttercrunch, Nancy (a.k.a. Boston head), Esmeralda, Ermosa.

Soils and Fertilizers — Successful production of lettuce depends on vigorous growth. A wide range of well-drained soils can be used; however, the crop does best on fertile, high organic matter soils that have good water-holding capacity.

Adequate nutrients and a continuous moisture supply are essential to vigorous growth. A soil test is the only way of knowing the amount of lime and fertilizer required, and soil samples should be taken well ahead of field preparation. Your county Extension center can advise you in having your soil analyzed.

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The pH should be 6.0 to 6.7. If soil potassium and phosphorous level is high, 2 lb per 100 ft² of 10-10-10 should be adequate. At least one-half of the fertilizer should be broadcast and raked in prior to making the rows. Side-place the remainder in either one or two bands 4 inches to the side and 2 inches below the seeded row. One or more sidedressings of 3 oz of 10-10-10 per 10 ft of row should be made. The first sidedressing should be made soon after plants begin to grow. The decision of whether to apply the second sidedressing will have to be based on the appearance of the crop and the rate at which it is growing.

Spacing—Choose a row width that complements your tillage equipment. For head lettuce, rows 30 to 42 inches apart are common. Regardless of the row width, the in-row spacing between each head lettuce plant should be 12 inches. If 42-inch rows are used, yield can be increased by planting 2 seed rows per bed. Leaf and butterhead types should be grown in double rows 12 inches apart and 8 to 10 inches in row spacing.

Planting the Crop—Lettuce can be either transplanted or seeded. The method you choose will depend mostly on availability of transplants and the season in which you will grow the crop. Spring head lettuce often fails because it is planted too late, and for this reason you should consider transplants. Fall crop lettuce is most often started when the climatic conditions are hot and dry. In this period direct seeding would be a good choice provided irrigation is constantly available until the plants are well established.

Plant the seed $\frac{1}{4}$ to $\frac{3}{8}$ inch deep. Be sure the seed is treated with a fungicide to reduce damping-off. About 0.1 oz of seed is needed per 100 ft of row.

When to Plant—Lettuce is relatively cold-tolerant. Even the seedlings will withstand short periods of freezing temperatures, provided they are reasonably acclimatized. Soft, succulent seedlings can be injured by exposure to freezing. The crop can be transplanted or direct-seeded in late January and early February in eastern N.C. and during late March or early April in the west. The fall crop should be seeded about 80 days before the expected first hard freeze (August 15 to September 1 in the East and July 25 to Aug. 15 in the West).

Growing Transplants—Lettuce seed for transplants can be sown directly in a coldframe or hotbed, or they can be grown in plastic trays. Growing plants in plastic containers is likely too expensive except for home garden use.

In coldframes, 10 to 12 weeks is required to grow an acceptable transplant, while a heated greenhouse or hotbed requires 4 to 5 weeks. The seeds should be planted in rows 4 to 6 inches apart. Thin the plants to a uniform spacing of 1 to 2 inches. This will produce stocky plants and reduce the chances of damping-off.

You can reduce transplant shock by avoiding too rapid growth during plant production and by hardening the plants. Expose the plants to outside conditions during the last 7 to 10 days before transplanting. The beds should be thoroughly watered the day before transplants are pulled so that minimum root damage will occur. Consult Horticulture Information Leaflet 8104, *Growing Vegetable Transplants for the Home Garden*.

Irrigation—Irrigate to establish a stand and to keep the crop growing.

Cultivation—Lettuce is shallow-rooted, and shallow cultivation ($1\frac{1}{2}$ inches or less) is all that is necessary. Late cultivation, especially when soil is moved toward the plant, may result in excessive soil in the lower part of the head. Herbicides are available for weed control in lettuce. Check the current *North Carolina Commercial Vegetable Recommendations* (AG-586) for current recommendations.

Insects and Diseases—Lettuce is attacked by aphids, armyworms, imported cabbage worm, and loopers. The pest pressure on summer and fall crops is much greater than on spring crops.

Damping-off is a serious disease of young seedlings, whereas mildews and sclerotinia are serious on the more mature plants.

Both insects and diseases can be controlled if the correct chemicals are properly applied. Consult your Cooperative Extension agent regarding pest buildup, proper diagnosis, and control.

Harvesting and Packaging—In most instances, the head lettuce will be ready for harvesting in 70 to 80 days after seeding or 60 to 70 days after transplanting. Cut only those heads that are firm. Leave 3 to 4 wrapper leaves to protect the head. You will have to harvest every 2 to 3 days, depending on moisture and temperature.