

Green Onions

COMMERCIAL VEGETABLE PRODUCTION

THE UNIVERSITY OF GEORGIA COLLEGE OF AGRICULTURAL
& ENVIRONMENTAL SCIENCES • COOPERATIVE EXTENSION SERVICE

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Most green onions (also called salad onions) grown in Georgia are Vidalia onions. These varieties are short-day, mild-flavored onions. The terms "short-day" and "long-day" when used with onions describe the day length under which the particular variety bulbs. Because Vidalia onions are short-day onions, they will begin to bulb slightly before harvest as salad onions when planted in the fall for winter harvest. Figure 1 shows a Vidalia onion with the larger bulb compared with a typical green onion that shows no bulbing.

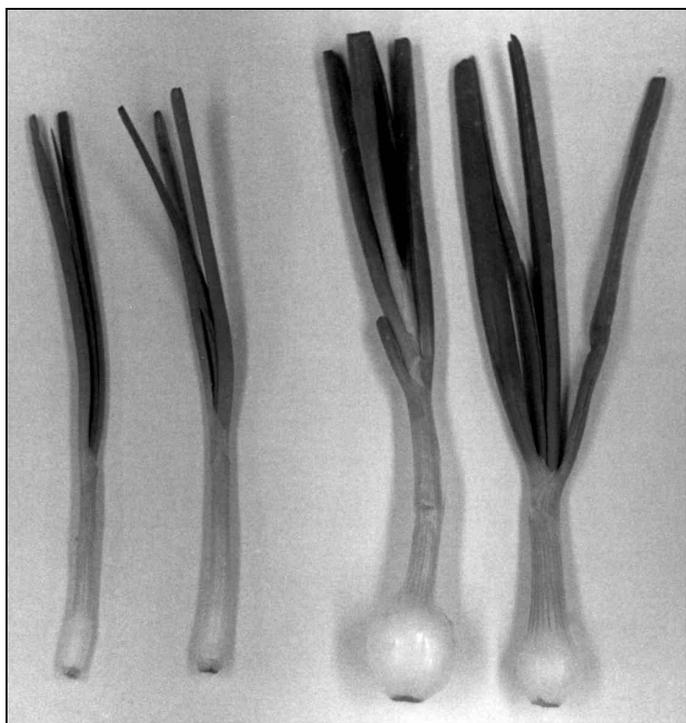


Figure 1. A Vidalia-style green onion (right) and the smaller, more traditional type green onion (scallion).

Before you begin growing green onions, you need to decide what type of onion you will grow. The larger Vidalia-style green onions meet the demands of a smaller and more specialized market. Vidalia green onion production, as with Vidalia dry bulb onion production, is governed by a federal marketing order,

and the varieties grown and area of production are governed by a legislative act. Onions produced outside this area cannot be marketed as Vidalias. The use of the name Vidalia is controlled and the name protected by a trademark. Contact the Vidalia Onion Committee for rules concerning the use of the name Vidalia onions. It can be reached at (912) 537-1918. Production of onions not to be sold as Vidalias is not regulated.

Market preferences and needs help determine which onions to grow and how many and when they should be grown. As with other vegetable crops, green onions should be planted only after you have developed your market.

VARIETIES

Green onions grown as Vidalias must be the same varieties as those authorized for dry bulb production: Granex type yellow onions. Varieties chosen for green onion production should have attractive tops because the onions are marketed intact (with tops). Varieties such as 'Rio Bravo,' 'Sweet Vidalia,' and 'Granex F₁' are commonly grown for salad onions. Many other varieties also meet these criteria, and new varieties are constantly being developed. Check with your potential buyers for their preferences.

White Granex hybrids also can produce excellent salad onions but, due to legislative constraints, cannot be classed as Vidalia onions. Long-day onions also can be grown in the state as green or salad onions. Typically, the long-day onions used are white onion types, including the varieties 'Beltsville Bunching,' 'Southport White Bunching,' 'Tokyo Long,' 'White Lisbon,' and 'White Sweet Spanish.'

SITE SELECTION AND SOIL PREPARATION

Green onions, like dry bulb onions, can be produced on any well-drained soil. In Georgia, production is most prevalent on the sandy-loam soils of South Georgia. Onions grown on clay soils may be more difficult to harvest and clean. The soil pH should be between 6.0 and 6.5. Avoid soils that have been planted to onions within the past three

years. Because onions are shallow rooted and weak competitors with other plants, avoid sites with histories of perennial weeds, particularly Bermuda grass and nutsedge.

Soil preparation should begin four to six weeks prior to planting by shredding any litter on the surface and deep turning the soil. Just before planting, rototill the soil to form a smooth, firm surface for planting. This is a good time to incorporate preplant fertilizers. The soil may require irrigation to achieve uniform moisture before seeding onions. Do not plant into a dry seed bed.

FERTILIZER AND LIME

Onions are heavy feeders and require a considerable amount of fertilizer, particularly nitrogen. However, because green onions are harvested before reaching maturity, they will not require as much fertilizer as dry bulb onions.

Nitrogen (N) is important for proper foliage growth and good green color. At least 25 percent of the nitrogen applied should be in the nitrate form because high rates of ammonium-containing fertilizers can be toxic to onions. Nitrate nitrogen is readily leached by heavy rains, so apply it in small amounts in regular sidedressings.

Phosphorus (P) is important for proper root growth. It is not leachable and is usually found in ample amounts in many soils. Availability is limited, though, in cool soils, so it is best to band at least part of the phosphorus 2 inches below and 2 inches to the side of the seed.

Potassium (K) enhances the plant's ability to tolerate/resist disease and cold injury. Like nitrogen, potassium is easily leached from soils, particularly sandy soils; therefore, potassium may need to be sidedressed in small amounts.

Sulfur (S) is essential for onion growth. As the plant uses nitrogen, it also uses sulfur to make proteins. Sulfur is also important in forming pungent compounds. Apply 50 to 80 pounds of sulfur per acre at planting.

Micronutrients are also important in onion production. Apply 1 pound per acre of boron (B) and 5 pounds of zinc (Zn) per acre.

In one method of fertilization, nitrogen may be applied in a split application with all of the phosphorus and potassium applied preplant. Typically, 800 to 1,000 pounds of 5-10-15 (with 5 percent sulfur) is applied preplant and incorporated. In addition, 100 to 150 pounds of 10-34-0 should be applied after seeding to help establish the new planting.

Sidedress with a nitrogen fertilizer such as calcium nitrate or sodium nitrate when plants are 3 to 4 inches tall. A second sidedress may be needed three to five weeks later depending on when the onions will be harvested or if there have been leaching rains.

PLANTING

Transplanting is a more dependable method of getting a stand than direct seeding. Vidalia green onions are transplanted or direct seeded; scallions are usually direct seeded. Locally grown plants should be used when available to avoid introduction of diseases such as pink root.

To grow transplants, space rows 9 to 14 inches apart and sow seed at 20 to 30 pounds per acre. The seeding rate should be 60 to 70 seeds per linear foot. Plants should be ready to transplant in the field 45 to 65 days after sowing. A properly grown transplant will be about ¼ inch in diameter. After pulling the transplants, trim the roots to ¼ inch and the tops to 4 to 6 inches. Transplant only strong, disease-free plants to insure a healthy, uniform harvest of high quality green onions.

Set plants 2 inches deep into a moist, well-prepared bed. Irrigate immediately after transplanting (pegging) to settle the soil around the plants. Transplanted onions require one to two weeks longer than direct seeded onions to reach harvest.

Green onions are seeded in the fall and late winter or early spring. Fall seeding begins in August and continues into early October. Spring and summer crop onions can be seeded from January into April. Green onion crops seeded in late winter (January and February) run a greater risk of being killed by freezing weather. Onions sown in late February or March have the best chance of producing a spring crop of green onions under average conditions. Most of Georgia's green onions, particularly Vidalia onions, are grown as a fall crop. Successive crops can be planted at two- to three-week intervals to provide a continuous supply.

Final row spacing for transplants or direct-seeded onions will vary from 9 to 24 inches. A common spacing would be four rows, 14 inches apart on a 6-foot-wide bed. In-row spacing would depend on the type of onion to be grown. Seed the smaller, scallion-type (long-day) onions at 21 to 27 seeds per foot to get a final spacing of 12 to 15 plants per foot of row. This will require 5 to 8 pounds of seed per acre for four rows per bed, 7 to 12 pounds of seed per acre at six rows per 6-foot-wide bed.

For the larger Vidalia onions, halve the seeding rate to give a 2 inch in-row spacing or a final plant population of about 120,000 plants per acre on four rows on a 6-foot bed. You can increase the number of plants per acre, as with scallions, by using five or six rows per bed. Place transplants 2 to 4 inches apart in the row. Management of fertility and disease must be more exacting when growing on narrow row spacings.

When seeding during hot weather, the beds must be kept moist to insure proper germination and to prevent stress on the plants. This means that beds may have to be irrigated several times a day with 0.1 to 0.2

inches of water. After three weeks, irrigation can be cut back to about $\frac{1}{2}$ to $\frac{3}{4}$ inch of water twice a week.

WEED CONTROL

Weed control is vital to producing high quality onions. Onions compete poorly with weeds, so weeds can drastically reduce yield and quality. Weeds make the onion crop harder to harvest and can make other pest-control measures less effective. There are several options for weed control.

Cultivation is difficult in onions because of their shallow root system. Cultivate shallowly early in the season but avoid throwing extra soil around the plants. Cultivations can be combined with fertilizer applications (sidedressing) and can improve aeration after heavy rains. Avoid late cultivation because it will cut roots and break the foliage.

Chemical weed control probably offers the most efficient and effective method of control, particularly for large plantings. The latest edition of the *Georgia Pest Control Handbook* or your local county Extension agent should be consulted for the latest information on the use of herbicides in onions. Care should be exercised in the use of these chemicals because crop damage is a real danger if rates are not followed exactly. In addition, care should be taken to prevent injury to adjacent crops and to avoid polluting the environment.

DISEASES

Onion diseases are best controlled by using good cultural practices and resistant varieties along with a good spray program. Consult the latest edition of the *Georgia Pest Control Handbook* or your local county Extension agent for the latest methods on controlling diseases.

With green onions, consumers eat the foliage along with the bulbs. This means that harvest intervals (the time from the last spray to harvest) may be longer than in dry bulb onion production. Consult the label to determine harvest intervals for chemicals and follow these exactly. Failure to follow these guidelines may result in condemnation of your crop.

INSECTS

Seed-corn maggots and onion thrips are the two major insect pests of onions. Control recommendations can be found in the *Georgia Pest*

Control Handbook. Be careful to observe all safety precautions and harvest intervals.

COLD AND WIND DAMAGE

Cold damage may appear as a discoloration of the foliage, wrinkling of the leaf tissue or, in severe cases, actual wet spots where the cells have ruptured due to ice formation. Susceptibility to cold is determined by variety and cultural practices, especially fertilization. Heavy nitrogen fertilization can make onions more susceptible to cold injury. Adequate potassium helps onion plants better withstand injurious cold.

A silver streak on one side of the onion foliage is good evidence of wind damage. Wind damage is often associated with abrasion caused by wind-blown sand particles. Plant small grain windbreaks every 10 beds to reduce this damage.

HARVEST

Green onions are harvested when they reach the proper diameter for the particular market. For example, scallions are usually from $\frac{1}{4}$ to $\frac{5}{8}$ inches in diameter or larger at harvest. This can be from 60 to 90 days after seeding, depending on the variety and the season. The larger Vidalia onions are typically harvested when the bulb is 1 inch or larger. Be careful during harvest to prevent damage to the onions, especially the tops.

Tops are usually clipped to 12 inches for scallions whereas Vidalia onions are often sold with unclipped tops. Scallions are banded together with 12 to a bunch. Vidalia green onions are banded three to six to a bunch. Boxes are packed with two or four dozen bunches for shipping, often in wax boxes with open tops for top icing. Check with your buyers or potential markets for their requirements on packaging.

After harvesting, reduce field heat as quickly as possible by icing to cool onions to 40°F. About 2.2 pounds of ice is required for every 4 pounds of produce to achieve proper cooling. Hold green onions at 32° to 34°F and 95 percent to 100 percent relative humidity for best storage life. Top icing is advisable, especially during transport. Storing onions at higher temperatures causes a slimy rot of the foliage. Under the best conditions, green onions will only store for three weeks, so get them to market as soon after harvest as possible. For more information on postharvest handling, consult Extension Bulletin 971, *Handling, Packing, and Cooling Quality Vegetables*.

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