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Growing Scallions (Green Onions) for Market Gardeners

By Laurie Hodges, Extension Horticulturist

Growing scallions (green onions) can provide market gardeners with early cash flow and customers with quality increases in storage life, freshness and flavor. Growing quality scallions is easier than growing quality bulb onions simply because they are in the field for a shorter time and bulb formation is not an issue when growing true scallions.

The scallion is not the same as the leafy top of a bulbing onion. Often young bulbing onions are sold as scallions at farmers' markets. The two are distinctly different. The desirable part of the scallion is the long, white shank; a characteristic for which plants have been selected over many generations to develop the high quality cultivars available today. Many times the tender green part of the scallion is chopped finely and used as a garnish. Long white shanks are encouraged through selection of appropriate cultivars and close plant spacings. Bulb onions do not produce the long white shank of tightly compressed leaves. The leaves of bulb onions are fibrous, tough and strong-flavored, while scallions are tender and mild. For those who prefer a small bulb on the base of the scallion or want a small bulb for creamed onions, "White Lisbon" (also known as "Southport White") is commonly used; "Crystal Wax" is used for the small white pickled onions.

Scallions are specific cultivars of the bulbing onion, *Allium cepa*, selected for non-bulbing, tenderness and mild flavor in the immature state. The true bunching onions are cultivars of *Allium fistulosum*. The cultivar "Beltsville Bunching," often found in catalogues under the listing for "green onions" or "scallions," actually is a tetraploid cross of the true shallot, *Allium ascalonicum*, with *A. fistulosum*. Since the scallion is a staple in Asian cuisine, the primary breeding efforts for scallions are by Japanese seed companies such as Takii and Sakata. Small quantities of scallion seed may be purchased through local garden centers and retail catalogues. For larger quantities, wholesale seed catalogues and seed company sales representatives may provide a wider selection of cultivars as well as wholesale

pricing. For a list of seed sources, see NebFact 92-80, General and Specialty Mail-Order Seed Sources, and NebFact 96-274, Seed Sources for Commercial Vegetable Production. A few suppliers are listed at the end of this publication.

Optimum growing conditions for scallions include well-drained sandy loam soil and cool conditions. The soil must be prepared to create a fine, smooth seed bed because the seeds are planted very shallowly and the seedlings are not vigorous. Soil crusting should be avoided and all clods must be removed or pulverized prior to planting.

Side-dressing nitrogen several times over the short growing period contributes to a steady and rapid growth rate and less nitrogen leaching away from the shallow root zone of the scallions. Very little or no pre-plant nitrogen is necessary but once the seedlings are established, weekly applications of 15 to 20 pounds of actual nitrogen per acre provide the nitrogen for rapid growth. Pre-plant fertilizers may be banded below the planting bed in heavier soils where leaching is less of a problem. Scallions are sensitive to ammoniacal nitrogen and at least 25 percent of the nitrogen should be in the nitrate form. Phosphorus and potassium may need to be applied based on soil tests. Sulfur is essential for onion growth. Often 50 to 80 pounds of sulfur per acre is applied to the soil at planting. Scallions respond well to micronutrients and may benefit from one pound of boron and five pounds of zinc per acre, also applied pre-plant. Nebraska growers should only apply zinc or boron based on a soil test as an excess in the soil can be toxic to plants. Calcium or potassium nitrate often is used for side-dressing when plants are three or four inches tall. Frequent, shallow sprinkler irrigation is required throughout the growing season to ensure even moisture levels. Because of the close spacing, drip irrigation usually does not work as well as sprinkler irrigation.

Scallions are direct seeded in rows approximately 6 inches apart with spacing within the row of 21 to 27 seeds per foot to get a final spacing of 12 to 15 plants per foot of

row. This requires 7 to 12 pounds of seed per acre for 6 rows on a 6 foot wide bed. A scatter-shoe is often used to create a two- or four-inch wide band of seed rather than a single row. Successive crops can be planted at two- to three-week intervals through the season to provide a continuous supply for the market. Seeds germinate in soils as cold as 35 degrees Fahrenheit but seeds will germinate and grow best if not seeded until soil temperatures average 45 degrees. Some growers will blanch shanks by gradually mounding soil around the base of the plants as they grow, similar to what is done with leeks.

Since scallions are environmentally sensitive, each cultivar has its own strengths when grown in different seasons and locations. Growers are encouraged to try several cultivars planted for both spring and fall crops to see which ones produce the best crop of highest quality under their own conditions. Scallions can be forced under row covers or in cold frames. Wind protection is strongly recommended in Nebraska as it will improve quality and reduce problems caused by wind-driven soil particles.

Weed and pest control can be a challenge in this closely spaced, shallow rooted, non-competitive crop. Since consumers eat the foliage of scallions along with the bulbs, harvest intervals (the time from the last spray to harvest) may be longer than in dry bulb onion production. Consult the pesticide label to determine harvest intervals for chemicals and follow these exactly. The most common insect pests of scallions are thrips, which arrive in mid-June and are a particular problem in dry weather, and occasionally cutworms or armyworms. Common onion diseases include damping off, botrytis leaf blight, downy mildew, and bacterial blight.

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 because of ice formation. Susceptibility to cold is determined by cultivar and cultural practices, especially fertilization. Heavy nitrogen fertilization can make scallions more susceptible to cold injury. Adequate soil potassium (100 ppm) 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 soil particles. Although the injury may not be visible, the wound allows pathogenic bacteria and fungi to infect the plant. Small grain windbreaks planted every 40 to 60 feet across the field perpendicular to the prevailing wind will reduce wind damage.

Scallions are harvested when they reach the right size for the specific market, usually when the shank is 1/4 to 3/4 inch in diameter, or roughly 60 to 90 days after seeding, depending on the cultivar and the weather conditions. The diameter of a pencil is a good guide. Scallions are considered a "quick" crop since many cultivars are ready to harvest about two months after planting. Scallions are pulled by hand and bunched with 6-9 scallions, or 4 ounces,

held together with small rubber bands, usually two per bunch. Pulling is usually done without undercutting. Bunching is usually done in the field with the outer leaves stripped off and the roots clipped. Field boxes are moved to the processing sheds within two to three hours of being harvested. The scallions are run through a washer/cooler machine which automatically washes them in a 33 to 35°F chlorinated water bath or spray, after which the green tops are trimmed. The wash water should contain 75 to 100 ppm free chlorine to reduce postharvest decay. The final length varies, but 12 inches long is a typical length for scallions for the wholesale market. In some cases, harvested scallions are bunched in the packing shed after washing and then trimmed.

Top quality in a scallion includes a white shank *at least* 2-3 inches long above the root; straight leaves properly trimmed with the removal of 1-3 outer leaves and tops and roots clipped.

Common commercial shipping containers include 13 lb cartons with 48 bunches and 11 lb cartons with 36 bunches. To maintain quality, the scallions must be kept cold (32°F) with high relative humidity. The shelf life is short, only 7-10 days. Locally produced scallions that are harvested and chilled just before market day should give the customer a product that will last longer if it is refrigerated immediately upon arrival home.

The odor of scallions will be absorbed by corn and rhubarb and so they should not be stored or transported with these products.

A few sources of scallion (green bunching onion) seeds:

Harris Seeds telephone: 800-554-7938 **www.growers.harriseseeds.com** (Kincho Bunching, Tokyo Long White, and Southport White Bunching. Untreated seed is available.)

Stokes Seeds telephone: 716-695-6980 **http://www.stokeseeds.com** (White Lisbon, Ishikura, Evergreen White Nubuka, White Sweet Spanish, Tokyo Long White, Long White Summer Bunching, Kincho, Feast, etc.)

Johnny's Selected Seeds telephone: 207-437-4395 **http://www.johnnyseeds.com/catalog/index.html** (White Spear, Evergreen Hardy White, Deep Purple, assorted specialty colored "mini" onions untreated seed is available.)

Additional Resources

<http://oregonstate.edu/Dept/NWREC/oniongr.html>

<http://www.ces.uga.edu/pubcd/C821.htm>

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