CULTURAL GUIDE

Onions, Leeks, Shallots, Potatoes, and Sweet Potatoes

Thank you for ordering plants from Harris Seeds. We know you will enjoy the pleasures of growing and harvesting your own onions and potatoes. Below you will find some general guidelines on receiving, planting, harvesting, and storing, resulting in high quality, fresh produce you are sure to enjoy!

Onions

Receiving

Remove the plants from the box immediately. Keep them in a well-ventilated, cool area until you can plant them. Do not put them in soil or water. While the enclosed plants may appear dry, don't be alarmed; they're simply dormant. Don't worry if you can't plant them immediately, even if the roots and tips begin to dry out. The onions can live off the bulb for approximately three weeks.

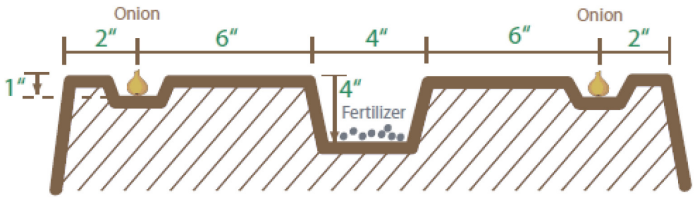
Soil Preparation

Onions require full sun and good soil drainage. Choose a location that gets plenty of direct sun. Onions grow best on raised beds or raised rows at least 4" high and 20" wide. The soil should be loose and crumbly. If it's compacted, work in compost to improve aeration and drainage. To stop weeds for up to six weeks, rake a pre-emergent herbicide, such as Treflan or corn gluten meal, into the top inch of soil before you plant. Don't worry, this type of herbicide will not affect the onion plant roots.

It's helpful to know whether your soil is acid (pH below 7.0) or alkaline (pH above 7.0). Onions prefer soil with a pH between 6.2 and 6.8. Your agricultural extension service can test your soil for you, or you can buy a home test kit at your local garden center. Visit www.csrees.usda.gov/Extension to locate the nearest extension service. If your soil is too acidic, mix in ground limestone, available at your garden center. If it's too alkaline, add peat moss.

Planting

Plant your onions 4 to 6 weeks before the last estimated spring freeze. (Your agricultural extension service can tell you when that is.) For the best growth and yield, onions need fertilizer right from the start. Use a fertilizer with the middle number higher than the other two, such as 10-20-10.



- Dig a trench that's 4" deep and 4" wide. Sprinkle ½ cup fertilizer per 10 linear feet of row. Cover the fertilizer with 2" of soil.
- Plant the onions 6" from the edge of the trench on both sides of the trench. DO NOT plant the onions in the trench! Leave a 2" margin between the onions and the outside edge of the bed.
- Plant the onions 1" deep and no deeper, as this will inhibit their ability to bulb.

If you want the onions to grow to maturity, space them 4" apart in row. If you prefer to harvest some earlier as green onions, space them 2" apart and pull every other onion during the growing season, leaving the rest to grow to maturity. When planting several rows of onions, leave 16" between the outside edge of one bed, and the outside edge of the next. The spacing from the center of one fertilizer trench to the center of the next should be 36".

Watering

Water thoroughly after planting, and regularly thereafter. Onions have shallow roots, so don't let the soil at the base of the plants become dry and cracked. Overwatering is equally problematic. If leaves develop a yellow tinge, cut back on watering. The closer to harvest time, the greater the need for water. However, when the onion tops start falling over, stop watering and let the soil dry out before harvesting.

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Onions (cont.)

Fertilizing

Nutritional needs are different during the growing season. Every 2 to 3 weeks after planting, fertilize with ammonium sulfate (21-0-0) in alkaline soils, or calcium nitrate (15.5-0-0) in acidic soils. Sprinkle it on top of the original fertilizer strip at the rate of ½ cup per 10 feet of row. Water the onions after every application. Stop fertilizing when the onions start to bulb. (See *Bulbing* below.)

Weeding

Controlling weeds is critical to prevent competition for nutrients. An application of Treflan or corn gluten meal raked into the top inch of soil every six weeks during the growing season will prevent annual weeds from germinating. Mulching with a light layer of straw will help control weeds and preserve moisture. Be sure to push the straw back when the plants start to bulb so they'll cure properly.

Bulbing

When the ground starts to crack as the onions push the soil away, the bulbing process has begun. Stop fertilizing at this point.

Harvesting

When the tops of the onions turn brown or yellow and fall over, it's time to harvest. Ideally, the plant will have about 13 leaves at this point. Pull the onions early in the morning on a sunny day. Dry the onions in the sun for two days. To prevent sunscald, lay the tops of one row over the bulbs of another.

Curing

How long your onions will keep depends on how you treat them after harvest. They must be dried thoroughly to avoid problems with rot. If left outside when the weather is dry, this will take two or three days. The entire neck (where the leaves meet the bulb) should be dry, all the way to the surface of the onion, and shouldn't "slide" when you pinch it. The skin will take on a uniform texture and color. If rain is expected, you'll need to dry your onions indoors. Spread them out in a well-ventilated area with room to breathe. Drying indoors may take longer than outdoors. Once the onions are thoroughly dry, clip the roots and cut back the tops to one inch. Now they are ready to eat.

Storage

Store onions in a cool, dry, well-ventilated location, such as a garage or cellar. Place them in mesh bags or netting to permit airflow. Periodically check for any soft onions, and remove them to avoid deterioration of the others. As a general rule, sweeter onions don't store as long as more pungent ones, so use the sweeter onions first.

Troubleshooting Tips for Growing Onions

The most common problems found in growing onions are blight, purple blotch, and thrips. Both blight and purple blotch are caused by fungus, and are more common during periods of high moisture. Blight appears as small white spots surrounded by a greenish halo. Purple blotch causes a purplish discoloration of leaves. Proper plant spacing helps increase air flow and reduces both blight and purple blotch. The best preventative measure, however, is the use of a fungicide every two weeks after planting. Thrips are insects that sometimes attack onion plants, causing the leaves to turn grey. Thrips are barely visible as tiny yellow or dark specks. Treat thrips infestations with an application of insecticide.

Leeks

Leeks are hardy and easy to grow in cool climates. They can be planted according to your climate, not day length like onion plants. The best temperature for growth and production is 55°-75°F.

Receiving

Remove the plants from the box immediately. Do not put in soil or water before planting. Keep cool and dry until you can plant.

Soil Preparation

Leeks are best grown in direct sunlight in well-drained soil that is rich in nutrients.

Planting

Take the handle of a hoe and poke holes 6 to 8 inches deep where each plant will go; then place the seedlings, one to each hole, so the youngest leaf protrudes just above the soil surface. Turn on the sprinkler. This will settle the soil in the hole around the roots at the bottom and provide automatic blanching for the lower part of the stem. Plant leeks in holes 4-6 inches deep, 4-6 inches apart, in rows 6 to 12 inches apart. As your leeks grow, throw dirt up on the shaft to keep it nice and white (blanching).

Fertilizing, Watering and Weeding

Follow same guidelines as Onions

Harvest and Storage

Leeks can be harvested at any time, but because they are so hardy, are usually left in place until needed. Leeks need to be stored near 32°F and at "high humidity." Cool them upon digging. Pack them in plastic bags to prevent their drying out. Leeks can keep this way for two to three months. They can be stored frozen, and for maximum flavor, cooked without thawing.

Shallots

Receiving

Open the box immediately. Keep bulbs in a well-ventilated, cool area until you can plant them. Do not put them in soil or water.

Soil Preparation

Shallots grow best in fertile, well drained soil. Choose a sunny location with a neutral pH (5.0 - 7.0). Amend soil by adding peat, compost or well aged manure. For heavy clay soils or other soils with poor drainage, you may want to consider planting in raised beds.

Planting

Shallots may be planted in the spring or fall. In Fall: Plant in 4-6 weeks before the ground freezes. Cover with 4-6 inches of mulch. When soil warms in the spring, carefully remove excess mulch. In early spring: Plant 2-4 weeks before your last average frost date. Cover with 1-2 inches of mulch to aid in moisture retention. Plant shallot bulbs 4-6 inches apart in row, with 12 inches of spacing in between rows. Plant shallot bulbs at a depth of 1 inch with roots facing down. Hill soil around shallot stems as they grow.

Harvest and Storage

Shallots are ready to harvest in late summer when tops begin to wither and turn brown. Dig from soil, being careful not to wound or damage bulbs. Gently remove as much soil as possible from the bulbs. Allow bulbs to cure in a well ventilated area protected from sun and precipitation for 2-4 weeks. Remove foliage once it has dried down and store bulbs in a mesh bag in a cool, dry space that is well ventilated.

Potatoes

Receiving

Open the box immediately. Keep tubers in a well-ventilated, cool area until you can plant them. Do not put them in soil or water.

Soil Preparation

Potatoes grow best in loose, well drained soil high in organic matter, with a pH between 5.8-6.5. If your soil is low in organic matter, the addition of some compost or a little peat moss is beneficial. Avoid using fresh manure or lime in the soil, as it tends to cause scab on the potatoes. Add a 5-10-10 or 10-20-20 fertilizer as needed. Mix the fertilizer into the soil prior to planting. Till or spade the soil to a depth of ten or twelve inches.

Planting

Select a sunny location and plant in spring, as soon as soil can be worked. No cutting is required. If the seed potatoes are small to medium sized, plant the whole potato. If they are large sized, you may cut them in half, or quarter them. Each section should have two or three 'growth eyes'. After cutting, let the cut surface callus-over for a few days before planting them.

Potatoes can be spaced in many different ways. If you have lots of room the pieces can be planted in a trench 6-8 inches deep, spaced about a foot apart. Space trenches two to three feet apart. Cover tubers with about an inch of soil. Pull in additional soil over the foliage as plants develop. Hilling or mounding is another method of growing potatoes. Three or four pieces of potatoes are planted on a mound of soil, pulling in additional soil as the potatoes develop. Potatoes may also be grown in barrels or potato patio planter bags.

Watering

Consistent soil moisture produces the best results. Black or hollow centers on potatoes are often caused by overwatering. Irregular watering causes irregular shaped or knobby potatoes. As a guideline, water potatoes approximately 1" per week in warmer summer weather.

Harvest and Storage

Potatoes can be harvested in late summer when foliage dies back. Dig potatoes from the soil, taking care not to cause wounds to the flesh of the tuber. Wounds allow disease to enter the tuber and will decrease storage ability. Remove soil by brushing off or washing and allow tubers to dry thoroughly. Minimize light exposure during cleaning. Store in cool, dark spot with high humidity and good ventilation.

Sweet Potatoes

Receiving

Open the box immediately. Remove wax paper and moss from roots. Ideally, transplant your slips within 24 hours.

Soil Preparation

Sweet Potatoes grow best in loose, well drained soil with high organic matter. Add a fertilizer of 8-20-30 as needed, prior to planting. Black plastic can be used in northern areas to help warm the soil, as sweet potatoes prefer a soil temperature of 70°F or higher.

Planting

Create ridged rows 3' feet apart and set plants at 12" spacing within rows. Plant slips so that white part of the root is fully covered. Transplanting near sundown is preferable to avoid exposure to mid day sun. Water well after planting.

Watering

Consistent soil moisture produces the best results. Irrigate if soil becomes too dry.

Harvest and Storage

Dig sweet potatoes when they have reached desirable size, being careful not to wound or bruise them. Dry the sweet potatoes thoroughly and store at 55°-60°F in a well ventilated, dark spot.