

ONIONS

by Joyce Gemmell

PLANTING DATES (coastal and inland)

Short Day varieties (e.g. Grano, Granex, Crystal Wax - White Bermuda) - Sow seed in October or set out transplants in mid-November-December.

Intermediate Day varieties (e.g. White sweet Spanish, Italian Red) – Sow seed in February or set out transplants mid-March-April.

The common onion (*Allium cepa var. cepa*) is grown to produce scallions (green onions) and bulbs. The plant is a biennial. During the first growing season it is vegetative, producing leaves and then a bulb (enlarged bases of leaves). Reproduction occurs during the second growing season. Exposure to cool temperatures (below 45 degrees F) causes the bulb to produce a flower stalk and develop seed. This can also occur with small bulbs sold as sets. Exposure to cold weather when plants are 6-10 weeks old may also cause some varieties to 'bolt' and prematurely form a seed stalk.

The bulbing process is triggered by day length (photoperiod) and occurs from spring to summer as day length increases. Short day varieties begin to bulb when day length is about 12 hours, intermediate day varieties bulb when day length is about 14 hours, and long day varieties bulb when day length is about 16 hours. New day neutral onion varieties have been developed but the selection is very limited. Superstar has a mild flavor; Candy hybrid and Whitewing hybrid have a pungent flavor.

It's important to select onion varieties that will bulb well in the region (latitude) where they are grown. Maximum day length in the San Diego area (about 33° latitude) is about 14 hours in late June. Short day and some intermediate day varieties produce good bulbs here. Long day varieties (sold as onion sets) usually do not bulb well in the San Diego area. Sets can be planted to grow a quick crop of scallions (green onions) although most varieties have a strong flavor.

A crop of bulbs can be grown by planting seed or young plants of a well-adapted variety at the correct time of year. Short day onions like Grano, Granex and Crystal Wax – White Bermuda grow best in San Diego County when seed is sown in October or transplants are set out in mid-November. Bulbing begins about March 20 and bulbs are ready to harvest in June or July. Intermediate day varieties like White Sweet Spanish, and Italian Red grow best when seed is sown in February or transplants are set out in mid-March. Bulbing begins about June 20 and bulbs are ready to harvest in July or August. Planting early will produce the largest bulbs. If you plant later, you will still get bulbs but they will be smaller. To obtain the largest bulbs you want to produce a plant with the maximum size and number (about 13) of leaves at the time bulb formation begins.

Bolting, the premature flowering of plants before bulb formation is complete, can be a problem when onions are grown. Bolting occurs when plants are exposed to temperatures below 45 degrees F for a sufficient length of time. Some varieties like sweet Spanish types are more prone to bolting than others and older plants including sets are more sensitive to cold temperatures than young plants. Bolting often occurs if there is a long period of cool weather in spring or when cool weather follows a period of warm weather. Once bolting is initiated it cannot be stopped by cutting off the seed stalk. Plants that begin to bolt should be harvested and used as soon as possible. When onions form seed stalks the center of the bulb becomes woody, undesirable to eat, and not suitable for long storage.

Onions contain sulphur compounds which make them pungent, and different varieties can have a mild or strong flavor. The degree of pungency influences the storage life of bulbs. Varieties with a mild flavor have a relatively short storage life compared to varieties with a strong pungent flavor.

SOIL PREPARATION

Onions grow best in well-drained soil where they will receive full sun all day. They prefer loamy soil but can be grown in other types that are amended with compost and managed properly. Since onions should

not be watered when bulbs begin to mature, it is best to plant them alone in a separate area and not with other crops that require regular irrigation.

To prepare an area for planting dig soil 8-12 inches deep and mix in composted organic matter and a pre-plant (starter) fertilizer. Break clods into small pieces and mix soil so it has a uniform consistency, at least 6 inches deep. Use a rake to smooth and level the planting surface.

When soil is prepared, spread fertilizer evenly over the surface and mix it in about 6 inches deep. You can use a chemical or organic fertilizer or a combination of both types. If you use chemical fertilizer, for every 100 sq. ft. of garden area, apply 0.75 pounds (about 1 1/2 cups) of ammonium phosphate (16-20-0) fertilizer or 2 pounds of 5-10-5 fertilizer or another starter fertilizer according to label directions. Slow release chemical fertilizers that feed plants for 2-4 months can also be used. Chemical fertilizers contain nutrients that are in a form that plants can immediately use and should be mixed into soil just before planting. Organic fertilizers release nutrients as they decompose and should be mixed into soil several weeks before planting. If you use animal manures for every 100 sq. ft. of garden area apply about 20 pounds of dry poultry manure or 60 pounds of dry steer or dairy manure. Mix manures into the soil a month before planting and irrigate several times to leach harmful salts from the surface soil.

PLANTING

Always plant fresh onion seed. The viability of onion seed decreases rapidly when stored. Sow seed lightly about ¼ inch deep in rows spaced 12" or more apart. Keep soil moist to germinate seed. Remove weeds as soon as they appear and thin young seedlings early to prevent overcrowding which can stunt plant growth. The final spacing for bulbs should be 4-6 inches apart. Young plants removed during thinning can be used for scallions.

To save space in the garden onions can be seeded in a flat or other container (filled with good potting soil) placed in a sunny location. Seedlings can be transplanted into the garden when they are 3-4 inches tall.

Sow seed 6-8 weeks before transplants are needed. Keep the soil moist and provide good fertility to promote vigorous growth. Plant young seedlings in moist soil, spacing them 4-6 inches apart in rows. The tops and roots can be trimmed a little if needed when transplanted.

To grow a crop of scallions, plant seed directly in the garden and thin seedlings early, spacing them ½ to 1 inch apart. Scallions are ready to harvest when plants are ¼ – ½ inch in diameter. Scallions are usually produced using white onion varieties such as Evergreen White, Southport White, White Sweet Spanish, White Lisbon, and Tokyo Long White.

CARE

Onions are shallow rooted and need frequent irrigation to keep the top 6 inches of soil moist. They are also heavy feeders. A chemical fertilizer mixed into soil before planting will not provide onions with enough nitrogen for the entire growing season. Apply more fertilizer containing nitrogen when plants are 4-6 inches tall and again when bulbs begin to form. Scatter fertilizer evenly a few inches from the plants along each side of the row and water well. Apply 1 pound (about 2 cups) of ammonium sulfate (21-0-0) for 100 feet of row or about 1/8 cup (2 tablespoons) for six feet of row. Other fertilizers containing nitrogen can be used and applied according to label directions.

Remove weeds as soon as they appear. Onions are poor competitors and their growth will be stunted if weeds are allowed to grow. Also, thin crowded seedlings early to prevent stunting.

After bulb formation begins the onions “shoulders” will grow above the soil surface. Do not cover the bulbs with soil when this occurs. As bulbs reach their full size new leaves will stop growing from the center of plants and the necks will begin to soften. When this occurs, stop watering the onions and let the soil dry. If you continue irrigation the bulbs will rot. The foliage will turn yellow and the tops may fall over as the necks become weaker. If the necks are soft and the tops have not fallen over, they can be pushed down along the row to shade the bulbs from sunburn. When most of the leaves are brown dig the

bulbs and let them dry for a few days on top of the ground. Cover the bulbs with the tops to prevent sunburn. Mature onions can also be dug and placed in a shady well-ventilated place like a garage or shed and allowed to dry. When the tops and necks are completely dry, remove the tops and store the bulbs in a cool, dry place or leave the tops on and braid them together, then hang them in a cool, dry place. The entire neck where onion leaves meet the bulb should be dry all the way to the surface of the bulb. The neck should not “slide” when you pinch it. Onions may rot if you store them before the necks are completely dry.

VARIETIES TO PRODUCE BULBS IN THE SAN DIEGO AREA

Short Day (in San Diego plant seed in October or transplants in mid-November)

Granex – This is the Vidalia onion grown in Georgia and the Maui onion grown in Hawaii. The bulb has a thick, flat shape and mild, sweet flavor with short to medium storage. Granex hybrid 33 has a light, straw colored skin and mild, sweet flavor.

Grano - This onion is grown in Texas and other southern states. It is similar to Granex but the bulb is globe or top shaped. It has a sweet, mild flavor with short to medium storage. Texas Grano 502 is bolt resistant.

Red Burgundy – This onion produces a large, flattened globe 3-4” in diameter. It has a mild, sweet flavor but not as mild as Grano, Granex or Walla Walla.

Intermediate Day (in San Diego plant seed in February)

White Sweet Spanish – This onion produces a globe shaped white bulb. It has a mild flavor and medium storage life.

Italian Red Torpedo – This onion produces a long, torpedo shaped bulb with a purple red skin. It has a mild flavor but stores poorly.

Long Day (most varieties do not produce good bulbs in the San Diego area)

Walla Walla Sweet – This onion is grown in Washington State and seed may have been brought from Corsica, which is at the same latitude. Although this is a long day variety it grew well in my garden in El Cajon in 1985-86. I acquired seed harvested in May from a gardener and planted it in November. The bulbs had a mild flavor but were not as sweet as Grano or Granex.

SOURCES OF SEED AND PLANTS

Buy fresh onion seed and only get what you can use. It only stores well for about a year and should be refrigerated. Bulbs of short day onions and some intermediate day onions can be grown in San Diego County (latitude 32.5 to 33.2). Finding a source of seed or plants can be difficult. Some garden centers sell short-day onion seed or transplants but the selection is usually very limited. A wider selection is available from mail order catalogs. A few sources (2013) which sell short and intermediate day varieties are listed below. Other sources also offer a variety of onion seed sets and plants. Before you buy sets or plants find out when they are shipped and if they could be damaged by cold temperatures in transit.

Eden Brothers <http://www.edenbrothers.com> - (seed) Short day: Texas Early Grano, Yellow Granex, Red Burgundy, Red Grano, Red Creole, White Grano. Intermediate day: White Sweet Spanish.

Park Seed <http://parkseed.com/> - (seed) Short day: Yellow Granex Hybrid 33. Long day: Walla Walla Sweet.

Burpee <http://www.burpee.com/> - (seed) Short day: Red Creole, Granex Yellow. Intermediate day: Red Italian Torpedo.

Southern Exposure <http://www.southernexposure.com/> - (seed) Short day: Granex, Texas Early Grano.

Baker Seed <http://www.rareseeds.com/> - (seed) Short day: Red Creole

Dixondale Farms <http://www.dixondalefarms.com/> - (plants) This nursery in Texas sells bunches of about 60 bare root plants that are shipped from late December through April. Short day: Texas Supersweet Yellow, Southern Belle Red, Red Creole, Texas Early White, Texas Legend, White Bermuda, and Yellow Granex. A rainbow sampler includes three short day varieties. Intermediate day: Red Torpedo 'Tropea'

OTHER TYPES OF ONIONS

Multiplier onion or Potato onion (*Allium cepa – Aggregatum group*) – This onion is similar to shallots but it produces larger bulbs that range in size from ½ to 3 inches diameter. They have yellow skins and white flesh tinged purple. Bulbs planted 6 inches apart in fall are ready to harvest in July or August. They are easy to grow and store well.

Egyptian or Tree onion (*Allium xproliferum*) – This clumping onion tolerates summer heat. It forms a flower stalk but instead of seed it produces small bulblets with green, red, or purple skin. Mature bulblets can be planted in fall and harvested as scallions in spring.

Shallots (*Allium cepa var. aggregatum*) – This onion relative produces bulbs that split like garlic but are loosely connected at the base. Break clumps apart and plant individual bulbs in fall for spring harvest. It produces clusters of leaves like chives that can be used for seasoning before the bulbs form. When the tops stop growing, withhold water so the bulbs will mature, and dig them when dry.

Welsh onion or Japanese bunching onion (*Allium festulosum*) – This perennial onion looks like supermarket scallions. They are grown from seed (put seed packet in a freezer for 1-2 days before planting in fall for better germination) and self-divide producing scallions each year from one sowing. Clumps can be divided in the second summer and replanted to produce a new crop. It is a non-bulbing, clumping onion with white or yellow skin. When other onions are gone, these will still be in the garden and the tops and bottoms can be used for seasoning.