

Onions belong to the amaryllis family. Used primarily as a flavoring agent, onions contain vitamins, minerals, and are low in calories. Green onions in particular are high in vitamin A.

Onion Types

Onions form bulbs in response to day length and are classified as short-day, intermediate-day and long-day plants. Short-day onions form bulbs earlier than intermediate-day plants, and intermediate-day plants form bulbs earlier than long-day varieties. Intermediate-day onions are best adapted to Kansas conditions for those looking to grow large onions. Kansas gardeners can grow short-day varieties, but bulbs will be smaller than if grown further south because plants are small when they are triggered to form bulbs. For large onions, choose an intermediate-day type such as Candy, Red Candy Apple, or Super Star. Water and fertilize as directed below.

Growing Onions

Onions can be grown using sets, plants, or seed. The planting method depends on availability, use, and variety.

Sets. Green onions or scallions are usually grown from sets although they will produce bulb onions later in the season. Onions from sets grow rapidly in the early spring. Sets originate from small onion bulbs that were planted thickly the previous season to suppress large bulb development. The small bulbs are stored through the winter and sold in the early spring. Sets may be poorly identified by variety, creating uncertainty as to the flavor, use, or keeping quality of the mature bulbs. Before planting, separate the onions into two groups — those smaller than a nickel and those larger than a nickel. Large sets usually “bolt” or produce a seedstalk and should be planted early in the season for green onions. Small onion sets produce better mature bulbs. Place sets 1 to 1½ inches deep and close enough to touch each other in a single row or a wide bed. When plants are 6 inches tall or more, they can be pulled as green onions, thinning to 2 to 3 inches apart and leaving the rest to grow into mature bulbs.

Plants. Plants are onion transplants grown in southern areas in the fall or winter, bundled 50 to 100 plants per bunch, and sold in the spring. Some greenhouses offer market packs of onion transplants similar to other bedding plants. Onion plants usually are well identified as to variety. They make excellent mature bulbs, allowing gardeners to choose varieties adapted for Kansas conditions. Choose

healthy, green, and fresh transplants, setting them 1 to 1½ inches deep in rows 12 to 16 inches apart (or wider). Onions should be spaced 2 to 4 inches apart, depending on the size of the mature bulbs.

Seed. Onion seeds can be sown in a potting mix indoors for transplants. Grow seedling plants indoors under artificial lights in early January.

Fertilization and Water

Onions have a shallow, poorly developed root system, so fertilization and watering are essential. Organic material should be added in the fall to loosen the soil and improve fertility. Before tilling, apply ¼ cup of an all-purpose fertilizer such as a 10-10-10 per 10 feet of row spread 18 inches wide, or as prescribed by a soil test. Other fertilizers can be used following the directions on the bag.

Onions respond well to a second fertilizer application or sidedressing about three weeks after plants start to grow. Use a high-nitrogen fertilizer such as nitrate of soda (16-0-0) applying ½ cup per 10 feet of row. High-nitrogen lawn fertilizers such as a 27-3-3, 30-3-4, 29-5-4 or similar are also good as long as they do NOT contain weed killers or weed preventers. Apply ¼ cup per 10 feet of row. Sidedress again when the plants have 6 to 8 leaves, and for a third time when plants have 9 to 11 leaves. Use the same fertilizer and rate as the first sidedressing. Skip the third sidedressing if plants have started to form bulbs. Regular, uniform watering is essential for high quality and yields. Onions should receive 1 inch of water per week if not supplied by rainfall. Remove weeds regularly.

Varieties

The size, color, flavor, and keeping quality of onions are determined by the variety.

Sets. Most common varieties are Ebenezer or Golden Globe though many sets are unlabeled. Sets are best used for green onions.

Seed. Many onion varieties, including those listed, are available from seed sources. Note the size, shape, and use from catalog descriptions. Kansas growers should plant intermediate-day onions from plants or seeds. Intermediate-day varieties include Candy, Red Candy Apple, and Super Star.

Bunching onions. Selected varieties have been developed for use as green onions because they do not produce bulbs. These include Beltsville Bunching, Evergreen, or White Portugal.

Plant Varieties	Color	Notes
Bermuda	Yellow or White	Smaller, flattened, bulbs, mild flavor, poor keepers
Candy	Yellow	Globe, sweet, intermediate-day variety
Early Harvest	Yellow	Medium, round to flat shape
Granex	Yellow	Flattened, crisp and sweet
Red Candy Apple	Red	Flattened, sweet, intermediate-day variety
Super Star	White	Globe, sweet, intermediate-day variety

Harvesting and Storage

Onions grow rapidly during cool conditions in early spring. The production of large plants early in the season is essential for supporting large bulb development. Bulb development starts in relation to temperature and day length later in the season.

When the onion bulbs are as large as they will grow, the tops become weak and fall over. When one half or more of the tops have fallen over, onions are ready to harvest. Pull or dig the onions with the tops attached. Then hang in bunches or spread them out in a warm, airy location out of direct sun for two to four weeks until the tops and necks are dry. An electric fan can be used to speed drying. Nothing improves the keeping quality of onions more than thorough drying or curing. After the onion tops and necks are thoroughly dry, clip the tops and roots ½ inch from the bulb and place them in storage.

Onions should be stored in loose baskets, crates, or mesh bags to allow air to circulate through them. Onions should be kept at 32 to 40°F at low humidity (75% or less) for best results. A cool, dry basement or an unheated garage work well. At warmer temperatures, onions begin to sprout. If storage conditions are too moist, roots may begin to develop. Sweet, mild-flavored onions will keep for a shorter period because the bulbs are more succulent. More pungent onions are best for winter storage. Mild-flavored onions should keep two to four months, while other onions should keep all winter. If onions freeze, they will thaw and still be edible for several months.

Onion Relatives

Several relatives of onions can be grown in Kansas. General fertilization and culture conditions are similar.

Shallots. Shallots are smaller than onions and are grown by dividing the bulbs into small cloves. Shallots

can be used as green onions or mature bulbs, which can be hung up to dry in midsummer for winter storage.

Garlic. Garlic is propagated by planting bulb divisions (cloves) in the fall or early spring. Select large, healthy cloves and space them 2 to 4 inches apart. Garlic often produces a cluster of small bulblets on stalks above ground, which can be collected, dried, and planted.

Multiplier onions. These are usually used as green onions in the spring because they split and divide at the base. They produce bulblets or “top sets.”

Chives. A common relative of the onions, chives are usually grown in clumps. The tops are trimmed for use as a mild flavored, green herb. Chives are perennials and produce attractive purple flowers in late spring.

Leeks. Leeks require a long cool season for best results and are difficult to grow in Kansas.

Pest Problems

Onions are not seriously affected by pests, but there are a few pests that can reduce yields.

Onion thrips. These tiny, sucking insects cause elongated, white blotches on the leaves as onions develop. General-use insecticides will control this pest if a spreader-sticker is used. Thrips seldom kill plants, but severe infestations will reduce yields.

Bulb and neck rots. A soft, sunken area on the top of bulbs can develop in the field or in storage causing the leaves to die. Rapid, thorough drying is the best method of control. Many varieties are resistant to this disease.

Smut and smudges. A blackish growth on bulbs just underneath the skin indicates this disease. Severe infestations can cause leaf or bulb losses. White onion varieties are more susceptible than other varieties. If smut problems develop, rotate by planting onions in another area the following season.

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Kansas State University Agricultural Experiment Station and Cooperative Extension Service

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