Horticulture

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Summer and Winter Squash in the Garden

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Summary

Squash grow best in sunny locations and in fertile, well drained soils. Incorporate organic matter and a complete fertilizer into the area before planting. Plant 4-6 squash seeds directly in the garden when soils are 65°F. Seeds should be planted 1-2 inches deep, in mounds 4 feet apart. Thin the mounds after emergence to two plants. Transplant summer squash 2 feet apart through black plastic for early maturity. Use row covers or hot caps to protect the plants when planting before the frost-free period. Plant winter squash at same time as pumpkins. After the vines develop runners, side dress with additional nitrogen fertilizer. Irrigation should be deep and infrequent. Plastic and organic mulches help conserve water and reduce weeding; however, do not apply organic mulches until soils have warmed to 75°F. Control insects and diseases throughout the year. Harvest summer squash shortly after they flower and winter squash when the skin is hard and not easily broken when pressure is applied with a fingernail. Store in a cool, dry place. Excellent winter varieties include Pink Banana, Early Butternut and Table Ace. Most summer squash varieties perform well in all areas of Utah.

Varieties

Most varieties of yellow squash, zucchini, crookneck, and patty pan summer squash do well throughout Utah. Pink banana is a large (25-40 lb.) fruited pink skinned winter squash. There are numerous varieties of butternut, buttercup, and acorn squash varieties featured at local gardening outlets and through seed catalogs. Most produce smaller (3-10 lb.) fruits that vary greatly in rind and flesh color, fruit texture and flavor.

How to Grow

Soil: All squash prefer organic, rich, well-drained, sandy soils for best growth. Most soils in Utah will grow squash provided they are well drained.

Soil Preparation: Choose a site in your garden that receives full sun. Before planting, incorporate up to 2 inches of compost into the garden area or apply 4-6 cups of all-purpose fertilizer (16-16-8 or 10-10-10) per 100 square feet of garden area before planting.

Plants: Squash are mostly grown from seed, though transplanting is possible. Seed should be planted 1-2 inches deep. Transplants should have 2-3 mature leaves and a well-developed root system.

Planting and Spacing: Squash should be planted when soils are 65°F or after all frost danger has past. Plant 4-6 seeds in mounds 4 feet apart. After they have two leaves, thin to two plants per mound. Transplants should be planted 2 feet apart in the row with rows 4-6 feet apart. Avoid damaging the roots when planting which slows establishment and growth.

Mulch: Black plastic mulches warm the soil, conserve water, and help control weeds. Plastic mulches allow earlier planting and maturity of seeded or transplanted squash. After laying out the mulch, secure the edges with soil and cut holes for the seeds or transplants. When using plastic mulches and row covers, seeds or plants can be set out 2-3 weeks before the last frost. Do not apply organic mulches (grass clippings, straw, newspapers, etc.) until soils are warmer than 75°F.

Both plastic and organic mulches help conserve water, control weeds and help keep the fruits clean.

Row Covers: Row covers enhance growth and earliness. Hotcaps, plastic tunnels, fabric covers, and other devices help protect seedlings and transplants from cool air temperatures. Use a thermometer to help determine the temperature under row covers. Plants grown under row covers require ventilation when air temperatures exceed 80°F. Covers need to be removed when plants start to flower or when temperatures exceed 90°F. Remove covers when weather has stabilized.

Irrigation: Water squash deeply and infrequently, 1-2 inches per week. Use drip irrigation if possible. Mulch around the plants will help conserve soil moisture and reduce weed growth. Irrigate so that moisture goes deeply into the soil. Reduce watering amounts as the fruits ripen to avoid fruit rots.

Fertilizer: After the vines develop runners, side dress each plant with 3-4 tablespoons of a nitrogen fertilizer (21-0-0), sprinkled around the plant, then water in the fertilizer.

Problems

Weeds: Plastic and organic mulches effectively control weeds. Hand weeding is often used to control weeds in other areas. Heathy vigorous vine growth by squash will also smother weeds.

Insects and Diseases: For more detailed information on insect and diseases visit the Utah Pests website (www.utahpests.usu.edu).

Insect	Identification	Control
Aphids	Green or black soft-bodies insects that feed on underside of leaves. Leaves become crinkled and curled. May transmit virus diseases. Honeydew secreted by aphids make the plants appear shiny, wet or sticky.	Use insecticidal soaps or strong water stream to dislodge insects.
Squash Bugs	Adults are gray or brown and 5/8 inch long. Adults and immature forms suck the sap from leaves leaving them speckled before they wither and die.	Trap adults under boards, check each morning and kill pests. Hand pick adults, immatures and eggs off leaves.
Cucumber Beetles	Adults have stripes or spots and feed on leaves and vines which reduces vigor. They transmit bacterial disease. Larvae bore into roots and stems causing plants to wilt and die.	Application of chemicals at first appearance is needed to control this pest.
Disease	**Symptom**	**Control**
Powdery Mildew	White fungal patches start on older leaves. The disease eventually spreads to all plant parts. The foliage dies, exposing fruits to the sun, which causes premature ripening.	Plant resistant varieties.
Wilt Diseases	Leaves wilt on one or more vines. Plants often die. Streaking, slime formation, or gummy exudates visible on stems. Diseases are caused by different pathogens.	Identify causal disease. Treat disease as recommended once identified.
Virus	Leaves are light green, mottled, malformed, dwarfed and curled. Early infection affects fruit shape and flavor. An aphid transmitted disease.	Control aphids. Destroy severely infected plants.

Harvest and Storage

Summer squash take 35-45 days to come into flowering, depending on temperature and variety. Summer squash are generally harvested immature (3-5 days after the flower opens). If left on the vine longer, the skin begins to toughen and quality decreases. Handle carefully as the fruits bruise easily. Store at 45-55°F for 2-4 days. Winter squash take 45-55 days to mature from flowering. Use the following guide to determine maturity. Squash are mature when fruits are fully colored, when vines begin to die back, and when the rind is hard and impervious to scratching from a fingernail. Mature fruits should be harvested with the stem attached

and stored in cool (50-55°F), dry conditions. Check fruits monthly for softening and rots. Buttercup and banana squash store longer than butternut and acorn squash.

Productivity

Plant 1-3 hills per person for fresh use and an additional 1-3 hills for storage, canning and freezing. Expect 75-100 lbs. per 100 feet of row.

Nutrition

Winter squash are a good source of complex carbohydrates (sugar and starch), fiber and are rich in potassium, niacin, iron and beta carotene (Vitamin A). Because summer squash is eaten immature, they are considerably lower in nutritional value than winter squash. A cup of cooked or raw squash is considered a serving size.

Frequently Asked Questions

Why don't the first flowers that open on my pumpkins form fruits? This condition is natural for cucurbits (cucumbers, melons, pumpkins, and squash). The first flowers are almost always male.

Female flowers will have small fruits behind the flowers. By producing male flower first, the likelihood of getting the female flowers pollinated by bees is greatly improved.

I have vine borers in my squash. Can I control them with insecticides? Vine borers cannot be controlled effectively with insecticides. Reduce future damage by disposing of infested plants. You can achieve some control by carefully splitting open the stem and removing the larvae or use a long needle to stab the larvae through the stem.

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