

Reviewed by Dan Drost, June 2010

Basil in the Garden

Lindsay Pearson and Dan Drost

Summary

Basil loves warm weather, lots of sun and plenty of moisture. It prefers nutrient-rich and well-drained soils. Before planting, amend the soil with compost and fertilizer and plant after the last frost. Plant the seeds 1/8 inch deep and thin to 3 to 4 inches apart after emergence. The plants germinate in 5-14 days. Irrigate basil with about 1½ inches of water per week. To maintain rapid leaf growth, sidedress with liquid fertilizer every 14 days. When the plants have 6 to 8 leaves, harvesting can begin; remove enough of the stem so that only 2 to 4 leaves remain.

Basil Varieties

Most varieties perform well in Utah so experiment with some of the following:

Culinary Varieties: Piccolo verde fino, Red Rubin, Purple Ruffles, Lemon, Genoa Green, Napoletano, Greek, Lesbos, Anisi', and Thai.

Other Varieties: Cinnamon, Green Ruffles, Italian Dwarf, Lemon Mrs. Burn', Lettuce Leaf, Miniature, Mexican Spice, Sweet, and many others.

How to Grow

Soils: Basil prefers fertile, well-drained loamy soils rich in organic matter. Most soils in Utah are well suited for basil production. Choose sites that have good air circulation around the plants.

Soil Preparation: Before planting, add 4-6 inches of compost or 1-2 inches of manure and a complete, all-purpose fertilizer (16-16-8). Work compost and fertilizer into the top 6-8 inches of soil.

Plants: Basil can be grown from seed or transplants. Plant seeds or transplants after the last frost of the season. Basil seeds germinate best when soil temperatures are 65-85 degrees F and take about 5-14 days to sprout. Transplants take 4-6 weeks to grow to size and should be planted after frosts in mid to late May.

Planting and Spacing: Sow seeds 1/8 inch deep, cover lightly with soil, and water regularly so that the soil doesn't

dry out. Basil grown in full sun has more of the essential oils associated with flavor than shade grown basil. After the seedlings emerge, thin the plants to 3-4 inches apart leaving larger



ones. Continue to thin the seedlings until the final plant stand is 12 inches apart. Thinned plants can be eaten or transplanted to adjacent areas. High summer temperature and other stresses are responsible for basil going to seed, developing off flavors, or stopping leaf production.

Water: Water basil regularly supplying 1½ inches of water per week to maintain vigorous growth. Water requirements depend on soil type and temperatures. Irrigation will prevent wilting that slows growth, damages roots, and stunts plants. Drip irrigation systems can work well for watering basil plants.

Fertilization: Basil requires some additional nitrogen to sustain rapid leaf growth, especially when pinching it back to constantly produce more leaves. Once the plants reach the harvestable stage, sidedress with organic or all-purpose liquid nitrogen sources by applying 1/3 cup of fertilizer per 25 square foot of growing area every 2 to 3 weeks.

Problems

Weeds: Basil does not compete well with weeds so control during seedling establishment is critical. Cultivate shallowly and avoid root pruning to ensure growth is uninterrupted. Organic mulches such as grass clippings, straw and newspapers can help control weeds.

Pests and Disease: Basil is not susceptible to many production problems provided you rotate planting locations and maintain hygienic conditions near the plants.

Insects	Identification	Control
Japanese Beetles and Grasshoppers	Holes eaten in the leaves.	Apply a ground treatment that kills immature insects developing underground. For adults, cover plants with garden fabric.
Slugs	Soft-bodied or shelled mollusks that chew holes in leaves.	Control with appropriate pesticides or traps. Avoid moist conditions that favor these pests.
Disease	Symptom	Control
Root Rot Diseases	Fungal diseases that cause decay and rotting of the roots and premature plant death.	Do not over water, practice crop rotations, and solarize the growing area.
Basil Shoot Blight	Fungal diseases that cause leaf spotting and premature loss of leaves. Dark streaks appear on the stems of older plants.	Keep the plants spaced far enough apart for adequate air circulation to keep plants dry.

Harvesting and Storage

Regular leaf removal before flower heads form will force the plant to grow more leaves and branches. When the plants have 6-8 leaves, harvest the leaves from the plant using a sharp knife or scissors to remove enough of the stem to leave only 2-4 leaves. If you alternate the plants that you harvest, you can have a steady supply of basil. For fresh use cut just before use. To store fresh basil, re-cut the stems and place in a jar of water away from direct sunlight. For longer storage (7-10 days), cover the jar and stems with a plastic bag and put in the refrigerator.

Drying: Drying basil leaves for long term preservation is relatively easy. Tie the harvested leaves into bunches, and then hang them indoors or in a shady place to dry. Do not dry basil in direct sun. Hang stems in bunches of 3-5 leaves in a well-ventilated area out of direct sunlight. Leaves should dry in 5-10 days. Any non-dried leaves can be dried in an oven for 3-5 minutes at 150-200°F. Pack dried leaves in a jar with an air tight lid and store in a cool dark place. Dried basil has a shelf life of about 1 year.

Freezing: Basil leaves can be frozen, but they are mushy when thawed and don't retain their flavor well. To retain more of the flavor, freeze whole leaves in

ice cubes or chop with olive oil and freeze in ice cube trays. Frozen basil should be used in 3-6 months.

Productivity

Leaf production depends on the variety planted and the amount of pinching back done to the plant. 'Genoa Green' variety is a top foliage producer and 'Purple Ruffles' is a low foliage producer. Plant 5-10 plants per person for fresh use and an additional 5-10 plant for storage purposes.

Nutrition

Basil is high in vitamin E, folate, and antioxidants. Basil is low in calories, sodium and carbohydrates, and can supply dietary fiber and protein. Dried, it is much higher in all categories.

Frequently Asked Questions

Q. Does pinching off the flowers make more leaves grow? Pinching off the flowers as they form does not stimulate new foliage; in fact it encourages flowers to form in the axils of the leaves thus reducing the yield of the plant. Planting basil every other week and avoid stressing the plants will help keep them from flowering too quickly.

Utah State University is committed to providing an environment free from harassment and other forms of illegal discrimination based on race, color, religion, sex, national origin, age (40 and older), disability, and veteran's status. USU's policy also prohibits discrimination on the basis of sexual orientation in employment and academic related practices and decisions.

Utah State University employees and students cannot, because of race, color, religion, sex, national origin, age, disability, or veteran's status, refuse to hire; discharge; promote; demote; terminate; discriminate in compensation; or discriminate regarding terms, privileges, or conditions of employment, against any person otherwise qualified. Employees and students also cannot discriminate in the classroom, residence halls, or in on/off campus, USU-sponsored events and activities.

This publication is issued in furtherance of Cooperative Extension work. Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Noelle E. Cockett, Vice President for Extension and Agriculture, Utah State University. (HG/Garden/2006-01pr)