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# Cauliflower in the Garden

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## Summary

Cauliflower is a cool season vegetable that prefers a sunny location and fertile, well-drained soil. Incorporate plenty of organic matter and a complete fertilizer into the area before planting. Plant seeds  $\frac{1}{4}$ - $\frac{3}{4}$  inch deep, 2-3 weeks before the last frost. Thin seedlings or transplant cauliflower 12-18 inches apart in the row with rows 2-3 feet apart. Avoid growing during the heat of summer, as yield and quality are reduced. Irrigation should be deep and infrequent. Use plastic or organic mulches to conserve water and reduce weeding. Control insects and diseases throughout the year. Tie the leaves over the head to avoid developing off colors. Harvest cauliflower when the heads are white, large and compact.



## Recommended Varieties

There are many good cauliflower varieties for sale in local gardening outlets and through seed catalogs. Most grow well in Utah. Early Snowball (65 days), Snow Crown (65 days), White Contessa (heat tolerant, 65 days), Self Blanche (60 days), and Ravelle (70 days) have excellent production and eating quality.

## How to Grow

**Soils:** Cauliflower prefers fertile, well drained soil rich in organic matter for best growth. Most soils in Utah are suitable for cauliflower production.

**Soil Preparation:** Before planting, incorporate up to 2-4 inches of well composted organic matter and apply 4-6 cups of all-purpose fertilizer (16-16-8 or 10-10-10) per 100 square feet.

**Plants** Cauliflower can be grown from seed or transplants. Seeds should be planted  $\frac{1}{4}$ - $\frac{3}{4}$  inch deep and thinned when plants have 3-4 true leaves. Plants removed at thinning can be transplanted to adjacent areas. Transplants are used to provide earlier harvest. Transplants should have 4-6 mature leaves and a well developed root system before planting out. Avoid shocking the plant when transplanting or premature heading (buttoning) may occur. Buttoning often occurs in plants exposed to dry soils, low temperatures, low nitrogen, or other shocks at planting. Larger, more mature transplants are also more prone to form small heads (buttons) prematurely.

**Planting and Spacing:** Seeded or transplanted cauliflower should be spaced 12-18 inches between plants in the row with rows 2-3 feet apart. Cauliflower grows best when temperatures do not exceed 75°F. Low (32°F) or high (greater than 80°F) temperatures decrease plant growth, lower yields and decrease head quality. Cauliflower grown for transplants should be sown 5-6 weeks before the expected planting date in the garden. Transplants may be planted 1-2 weeks before the last frost free date for the growing area. Seeded cauliflower may be planted at the same time. For fall maturing cauliflower, select early maturing cultivars and plant 50-75 days before the anticipated maturity date. The maturity date should be about 1-2 weeks after the first fall frost.

**Water:** Water cauliflower deeply and infrequently while trying to maintain even soil moisture. About 1-2 inches of water are required per week. Use drip irrigation if possible to conserve water. Mulch around the plant also helps conserve soil moisture and reduce weed growth.

**Fertilization:** Apply 1/2 cup per 10 feet of row of a nitrogen based fertilizer (21-0-0) 4 weeks after transplanting or thinning. This encourages vigorous leaf growth which is necessary for high yields. Place the fertilizer 6 inches to the side of the plant and irrigate it into the soil.

**Mulches and Row Covers:** Plastic mulches help conserve water, reduce weed growth and allow earlier planting and maturity, especially with transplants. Hot caps and fabric covers are used to protect seedlings and transplants from frosts and insect pests. Apply organic mulches when temperatures increase. These will cool the soil and reduce water stress. Organic mulches such as grass clippings, straw, and shredded newspaper also help control weeds.

## Problems

**Weeds:** Weeds: Plastic and organic mulches effectively control weeds. Be sure to control weeds when plants are small, and be careful not to damage roots when cultivating.

**Insects and Disease:**

Insect	Identification	Control
Aphids	Green or black soft-bodied insects that feed on underside of leaves. Leaves become crinkled and curled.	Use insecticidal soaps, appropriate insecticides, or strong water stream to dislodge insects.
Cabbage Worms and Loopers	Worms and loopers are light to dark green. Adult loopers are gray or brown moths while cabbage worms are white butterflies. Worms and loopers chew holes in leaves and hide in cauliflower heads.	Control worms and loopers with appropriate insecticides or biological measures.
Flea Beetles	Small black beetles that feed on seedlings. Adults chew tiny holes in cotyledons and leaves. Beetles can reduce plant stands or may kill seedlings.	Control beetles with appropriate insecticides at seeding or after seedlings have emerged from the soil.

Disease	Symptom	Control
Alternaria Leaf Spot	Damping off of seedlings. Leaf spots on leaves or heads are more common symptom. Spots form concentric circles and have a black sooty color.	Apply appropriate fungicide. Avoid overhead irrigation. Practice good sanitation. Rotate crops.

Deficiency	Symptom	Control
Boron	Nutrient deficiency which causes brown spotting on the head and hollow discolored stem below the head.	Avoid excess fertilizer. May occur in high pH soils or where plants have been water stressed.
Molybdenum	Nutrient deficiency which causes stunting of the plant and narrow, incompletely developed leaves to form.	Use a complete fertilizer when growing transplants. Apply trace element mix to plants.

## Harvest and Storage

As the head enlarges, it will discolor and develop bitter flavors if exposed to the sun. Blanch the head by tying the leaves together with strong twine or rubber bands when the heads are the size of silver dollars. This keeps the sun off the head and helps whiten them. Harvest the heads when they are fully developed (6-12 inches in diameter), compact and blanched white. Cauliflower can be stored for 3 weeks at 32°F.

## Productivity

Plant 3-5 cauliflower plants per person for fresh use and an additional 5-8 plants for storage, canning, or freezing. Expect 100 lbs per 100 feet of row.

## Nutrition

Cauliflower is low in fat and calories, high in vitamin C, and is a good source of fiber, calcium, and iron.

## Frequently Asked Questions

***Some years many of my cauliflower plants only produce very small heads and they do this soon after planting. What's wrong?*** Buttoning is the development of pre-mature flower heads in broccoli and cauliflower. Plants that button have been exposed to cold weather, or were stressed for water or nutrients shortly after planting.

***Why do the cauliflower heads open up during the summer?*** Cauliflower is a cool season vegetable. During hot weather, plants may not get enough water which leads to poorer quality heads that are more open. Keep plants well watered during the heading period. Plants that are stressed often flower prematurely as well.

***I often get yellow heads forming and they taste funny. What's wrong?*** Cauliflower heads need to be protected from the sun to maintain their white color and sweet flavor. Tying the leaves over the head helps. Hot weather conditions also affect head flavor. Keep the soil moist during heading.

***Why do leaves grow up through the cauliflower head?*** Water stress and high temperatures can cause leaf growth in the heads. Keep plants well watered and fed to avoid this disorder.

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