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# Mustard in the Garden

*Dan Drost and Michael Johnson*

## Summary

Mustard is a cool season vegetable that prefers a sunny location and fertile, well-drained soils. Plant seeds  $\frac{1}{2}$ -1 inch deep. Thin seedlings or transplant mustard 3 inches apart in row with rows 12 inches apart. Plant 2-3 weeks before the last frost for your production area. Mustard greens tastes best when plants grow rapidly and leaves mature before the heat of summer. Minimize water or fertilizer stress during growth to ensure uninterrupted growth. Mustard is best grown as a spring and fall vegetable. Control insects and diseases throughout the year. Harvest mustard when the leaves reach full size.



## Recommended Varieties

Mustard comes in a variety of leaf types, colors, and textures. Plant a range of different types to make salads more interesting. There are many good varieties for sale in local gardening outlets and through seed catalogs. Most grow well in Utah. Florida Broadleaf, Green Wave, Giant Curled, and Giant Red have a variety of leaf colors and shapes.

## How to Grow

**Soils:** Mustard prefers fertile, well-drained soil rich in organic matter for best growth. Most soils in Utah are suitable for mustard 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. Work this into the top 6 inches of soil. Work soils in the fall for very early spring plantings.

**Plants:** Mustard can be grown from seed or transplants. Mustard can be sown after soils reach 40°F. Seeds germinate best at 55-65°F and require 7-10 days to emerge. Temperatures above 80°F reduce seed germination. Seeds should be planted  $\frac{1}{2}$ -1 inch deep. Thin stands when plants have 3-4 true leaves. Plants removed at thinning can be used to transplant adjacent areas if some roots are maintained. Thinned plants can also be eaten. Transplants are used to provide earlier harvest. Transplants should have 4-6 mature leaves and a well-developed root system before planting out. Generally 5-6 weeks are required to grow transplants to this size.

**Planting and Spacing:** Seeded or transplanted mustard should be spaced 3 inches between plants in the row with rows 12 inches apart. Dense plantings will reduce weed pressure. Mustard grows best when temperatures do not exceed 75°F and temperatures down to 32°F do not seriously damage young plants.

Transplants should be planted near the last frost-free date in the spring for a growing area. Seeded mustard may be planted 3-4 weeks earlier. High summer temperatures reduce growth, decrease quality, and cause the plants to go to seed and cause bitter or off-flavors to develop. For fall planted mustard, select early maturing cultivars and plant 50-75 days before the anticipated maturity date. The maturity date should be about 2-3 weeks after the first fall frost. Fall plantings are usually of higher quality because they mature under cooler conditions in most locations.

**Water:** Water mustard regularly to maintain a uniformly moist soil. Water requirements depend on soil type and temperatures. Mulch around the plant also helps conserve soil moisture and reduce weed growth. Moisture fluctuations will cause leaves to become tough, slow leaf development and contribute to off-flavors.

**Fertilization:** Apply ½ cup per 10 feet of row of a nitrogen-based fertilizer (21-0-0 or 34-0-0) 4 weeks after transplanting or thinning to encourage rapid plant growth. Place the fertilizer to the side of the plants and irrigate it into the soil.

**Mulches and Row Covers:** Fabric covers are used to protect seedlings and transplants from frost and may protect plants from insect damage. Organic mulches help offset temperature increases. These will cool the soil and reduce water stress. Organic mulches such as grass clippings, straw, and shredded newspapers also help control weeds.

## Problems

**Weeds** Mustard does not compete well with weeds. Weed control is particularly important during establishment. Closely spaced plants will help control weeds. Cultivate shallowly to avoid root damage which ensures uninterrupted plant growth.

**Insects and Diseases:** Most mustard is fast growing and is not susceptible to many production problems. Rotating locations from year to year helps control most diseases.

Pests	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 kohlrabi leaves.	Control worms and loopers with appropriate insecticides or biological measures.
Slugs	Soft-bodied or shelled mollusks that chew holes in leaves.	Control with appropriate pesticides or traps. Avoid moist conditions that favor these pests.
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.

## Harvest and Storage

Mustard should be harvested when the leaves reach full size. Leaves may be picked anytime before the seed stalk forms. Older leaves are often stripped off the plants first allowing the young leaves to continue to grow. Provided the growing point is not damaged, all leaves can be cut off to within 2 inches of the soil. Mustard can be stored for 1-2 weeks at 32°F and 95% relative humidity.

## Productivity

A 10-foot row at recommended spacing will produce 4-6 pounds of mustard greens.

## Nutrition

Mustard is low in calories, fat, and cholesterol. Mustard is a very good source of dietary fiber, and contains large amounts of iron, beta carotene, and vitamin C.

## Frequently Asked Questions

***How do you keep mustard from developing a bitter flavor?*** Avoid growing mustard in temperatures above 75°F as high temperatures cause the undesired bitter flavor.

***What causes flowers to develop in my spring mustard?*** Mustard is a cool-season vegetable that naturally flowers during the long, warm days of summer. Harvest before hot weather arrives and preferably, before flower stalks develop. Plant a second crop in the fall when temperatures cool.

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