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Chicory in the Garden

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Summary

Chicory is a cool-season vegetable that prefers a sunny location and fertile, well-drained soils. Two garden types of chicory include witloof (grown for its root), and radicchio (grown for its head of leaves). Plant chicory seeds ¼ inch deep in early spring. Thin seedlings or transplant witloof 9 inches apart in the row with rows 20 inches apart. Plant radicchio 8 inches apart in the row with rows spaced 12 inches apart. Avoid excessive nitrogen fertilization to retain tight heads and healthy root formation. Irrigation should be uniform and frequent to ensure healthy growth. Control insects and diseases throughout the year. Harvest witloof 3-5 weeks after forcing, and radicchio after heads reach full size.

Recommended Varieties

Chicory comes in many types; two of the garden types are witloof and radicchio. Witloof is grown for its root, which is forced in the winter to produce a tight, white set of leaves. Radicchio is grown for its head of leaves, with some producing loose leaves and others producing a tight head. Planting a range of different types makes salads and meals more interesting. There are many good varieties for sale through seed catalogs. Suitable varieties of witloof include Daliva, Flash, and Zoom. Suitable varieties of radicchio include Rossa di Treviso, Rossa di Verona, Giulio, and Firebird. Check with local garden centers or seed catalogs for specific varieties.

How to Grow

Soil: Chicory prefers fertile, well-drained soils rich in organic matter for best growth. Most soils in Utah are suitable for chicory production provided they are well drained and fertile.

Soil Preparation: Before planting, determine fertilizer needs with a soil test and then follow the recommendations given with the test report. If fertilizer applications are warranted, work the fertilizer into the top 6 inches of soil. If you fertilize with compost, apply no more than 1 inch of well-composted organic matter per 100 square feet of garden area.

Plants: Chicory can be grown from seeds or transplants. Seeds germinate best at 65-70ºF, while temperatures above 80ºF reduce germination. Seeds of chicory types should be planted ¼ inch deep and thinned when plants have 3-4 true leaves. Plants removed at thinning can be used to transplant adjacent areas. Transplanting is 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:

Witloof: Seeded or transplanted witloof should be spaced 9 inches between plants in the row with rows 20 inches apart. Dense planting will reduce weed pressure. Seeded witloof may be planted 3-4 weeks before the last frost-free date for the growing area. Transplants should be planted shortly after the last frost-free date for the growing area. Witloof grows best when temperatures do not exceed 75°F. High summer temperatures reduce growth, decrease quality, and may cause bitter or off-flavors to develop.

Radicchio: Seeded or transplanted radicchio should be spaced 8 inches between plants in the row with rows 12 inches apart. Sow several seeds for each plant desired, as not every seed will germinate. Dense planting will reduce weed pressure. Seeded radicchio may be planted 3-4 weeks before the last frost-free date for the growing area. Transplants should be planted near the last frost-free date for the growing area. Radicchio grows best when temperatures do not exceed 75ºF. Temperatures down to 20ºF do not seriously damage young plants. High summer temperatures reduce growth, decrease quality and cause the plant to go to seed. For fall planted radicchio, select early maturing cultivars and plant 75-85 days before the anticipated maturity date. The maturity date should be about 3-4 weeks after the first fall frost.

Mulches and Row Covers: Fabric covers are used to protect seedlings and transplants from frost. Apply organic mulches such as grass clippings, straw and newspapers to help cool the soil during high temperatures, reduce water stress, and control weeds.

Water: Water chicory regularly to maintain a uniformly moist soil, applying 1-2 inches per week. Water requirements depend on soil type and temperatures. Using organic mulch around the plant also helps conserve soil moisture and reduce weed growth. Drought stress during growth will cause slow leaf development and bitter flavors to develop.

Fertilization: Apply 1/4 cup of a nitrogen-based fertilizer (21-0-0) per 10 feet of row 4 weeks after transplanting or thinning. Place the fertilizer to the side of the plants and irrigate it into the soil. Avoid adding additional nitrogen after heads begin to form.

Problems

Weeds: Chicory does not compete well with weeds, so weed control is particularly important during establishment. Closely spaced plants will help control weeds. Cultivate shallowly to avoid root damage and ensure uninterrupted plant growth.

Insects and Diseases: Rotating locations from year to year helps control most diseases in radicchio.

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.
Worms and Loopers	Light to dark green insects that chew holes and hide in leaves. Adult loopers are gray or brown moths while cabbage worms are white butterflies.	Control worms and loopers with appropriate insecticides or biological measures.
Diseases	**Symptoms**	**Control**
Fungal Root Rots	Wilting and reduced plant vigor which occurs during forcing.	Cultural practices that facilitate air movement will reduce disease severity.
Viruses	Stunting of growth. Interveinal yellowing and brittleness in older and lower leaves.	Control aphids which transmit the disease.

Harvest and Storage

Witloof: Witloof used for greens should be harvested when leaves are young and tender. Witloof roots, used for forcing chicons, should be harvested just before the first frost date. Cut leaves 1 inch from the crown, lift the root from the soil, and trim roots to uniform size. Trimmed roots should be stored for 3 to 7 weeks at temperatures of 32-34ºF before forcing. Forced witloof heads are harvested 3-5 weeks after roots have been transferred to pots. Heads are snapped from the root and the loose outer leaves removed. Chicons can be stored for 2-4 weeks at 32ºF and 95% relative humidity.

Radicchio: Radicchio should be harvested when the leaves or heads reach full size. Delaying harvest causes radicchio to develop bitter flavors and toughness. Cut the stem just below the leaves to keep the head together. Radicchio can be stored for 2-3 weeks at 32ºF and 95% relative humidity. Avoid storing radicchio with fruits such as apples and pears as bitter flavors will develop.

Forcing

Witloof: While witloof leaves can be eaten during the summer, most force new growth during the winter. This new growth is called a chicon. Prepare buckets to transplant roots into by adding 2-4 inches of water to the bottom. Add a dilute, soluble fertilizer to the water and mix thoroughly. Add enough sand to soak up the water, and imbed the roots upright and side by side in the sand. Add additional moist sand around the roots, leaving the crowns exposed, and cover the top of the bucket with another bucket or black plastic. Witloof must be forced in complete darkness and in a cool cellar, where temperatures are 50-60ºF. Bitter flavors and green color develop when light reaches the plants. Chicons are ready for harvest in 3-5 weeks.

Radicchio: Some varieties of radicchio require cool temperatures to induce head formation. To force radicchio, leave plants in the ground past the first frost date to expose the plant to temperatures that favor heading. Remove dead outer leaves and harvest the head.

Productivity

Witloof: From 10 pounds of root, expect 1½ - 2 pounds of chicons. One root produces one chicon.

Radicchio: Expect 6-8 pounds per 10 foot row.

Nutrition

Witloof: Witloof has no fat, no cholesterol and is an excellent source of Potassium, Vitamin C, Vitamin A and Folate.

Radicchio: Radicchio is low in calories, has no fat and no cholesterol. It is a good source of Vitamin C, Vitamin E, Folate and anthocyanins.

Frequently Asked Questions

Why don't my radicchio plants form heads? There are many types of radicchio that require cool temperatures to force a head to grow. If the temperatures are not cold enough where you are growing your radicchio, you may cut out the top leaves, lift the plants out of the soil, place them in a sack and store them in a cool place until the heads form.

Can I force Witloof roots more than once? Yes, witloof roots can be forced more than once, but the second chicon produced will be smaller than the first. The roots will also require a resting period of at least one to two months between the first and second forcing.