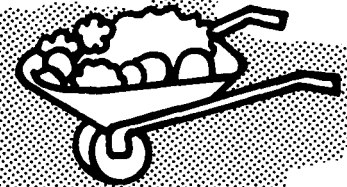
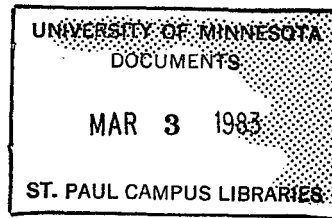


AGRICULTURAL EXTENSION SERVICE—UNIVERSITY OF MINNESOTA

YARD'N'GARDEN

Growing Cole Crops

FACT SHEET 111
C. GUSTAV HARD



Broccoli, brussels sprouts, cabbage, cauliflower, kale, collards, and kohlrabi are the most commonly grown cole crops. They all belong to the mustard family and have similar cultural requirements. They are all hardy and grow best in cool weather. The cole crops, with the exception of kohlrabi, are grown for the heads they produce. Kohlrabi is grown for the turnip-like enlargement or "bulb" formation on the stem.

Preparing the Soil and Fertilizing

The cole crops grow well in any soil that is well-drained and moisture retentive. You can improve both heavy clay soils and lighter sandy soils by adding organic matter. Till well-rotted manure or other organic matter and a complete fertilizer, like 10-10-10, at a rate of 2 pounds per hundred square feet into the soil before planting. In midseason you should apply a side dressing of the same fertilizer at a rate of 1 pound for each 25 feet of row. Do not use a combination fertilizer and herbicide on vegetables. They contain weed killers that will kill vegetable plants.

The optimum pH range for cole crops is between 6 and 6.5. Liming the soil will increase the pH of acid soils. Use a soil test to determine if any special fertilization or liming is required.

Planting and Transplanting

Start cabbage, broccoli, kohlrabi, and cauliflower indoors in April and transplant them to the garden May 10. Cabbage may be set out earlier if the season permits. Space them 18 inches apart. You can seed them directly in the garden July 1 for a fall crop. Chinese cabbage should only be grown as a fall crop. Seed it directly in the garden July 1. Space plants 12 inches apart. Start brussels sprout indoors April 15 and transplant them to the garden June 1. Space them 18 inches apart. Seed kohlrabi directly in the garden May 1. When they start to grow, thin them to a 4-inch spacing.

Cauliflower must be blanched to maintain the desired white head. To blanch, tie the leaves up around the head as soon as the small curds are two inches across.

Note: Planting dates given are for the Minneapolis-St. Paul area. Plant one week earlier or later for each 100 miles south or north.

Watering

Proper watering can mean the difference between good production and poor production. Vegetables need 1 inch of water from rainfall or irrigation each week during the growing season. Always soak the soil thoroughly when watering. There is little or no value in a light watering that only wets the surface of the soil. On most soils, watering once a week is sufficient. Very sandy soils may require more frequent watering.

Controlling Weeds

The cole crops cannot successfully compete with weeds. Frequent, shallow cultivation will kill weeds before they become a problem. The roots of the cole crops are very close to the surface of the soil, so it is important not to cultivate too deeply. Cultivate just deeply enough to cut the weeds off below the surface of the soil. Be careful not to damage the plants when cultivating.

Harvesting

Harvest cabbage when the heads reach a useable size. To harvest, cut the head off above the outer leaves. Heads will split if they are left on the plant too long.

Harvest cauliflower by cutting when the head or "curd" reaches a useable size. If they are left on the plant too long, they will discolor and become loose or ricey.

Broccoli, unlike cauliflower, produces useable heads for several weeks. Lateral shoots will develop after the central cluster has been removed. Harvest the heads, by cutting, before the yellow flowers open.

Instead of producing one large head like cabbage, brussels sprouts produce many small heads. Pick the lowest heads on the plant each time you harvest. As the lower heads are picked, more will develop at the top. Start picking before the lower leaves on the plant turn yellow. After freezing weather occurs, remove the leaves, cut the plants off, and stack them upright in a cool cellar. The sprouts still on the plant can be picked during the winter.

Harvest kohlrabi when the "bulb" is 2-3 inches in diameter. If the bulb gets too large, it will become tough and woody.

The leaves are harvested from kale and collards. You can harvest one leaf at a time or cut the plant at the ground line.

Problems

Cabbage maggots are small maggots that attack the roots of most cole crops. Do not apply poisonous insecticides to plant parts that are to be eaten. There are biological controls available commercially.

Cutworms chew stems off at the surface of the soil. Control by putting a paper collar around the plant stem.

Aphids are small, soft-bodied insects that feed on the plant's juices.

Cabbage loopers are velvet-green loopers that feed on the foliage.

Cabbage worms are chewing insects that feed on the foliage. See Extension Folder 593, Controlling Insects in the Home Vegetable Garden.

Cabbage yellows is caused by fungus. Control by using resistant plant varieties.

Clubroot is caused by fungus. It is worse in acid soils, so maintain pH in the recommended range.

Split heads are caused by heavy rain after several weeks of drought, excess fertilizer, insects, or by not harvesting soon enough. Is more of a problem on the earlier varieties.

Early heading is a problem in hot, dry weather. Start plants at proper times so they will head in cool weather and water them regularly.

Buttoning is premature formatin of the head in cauliflower. Do not crowd plants in flats or allow them to become starved for nutrients.

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