**SITE REQUIREMENTS**

Cabbage does best in full sun (at least six hours of direct sun). It thrives in rich well drained soil with a pH between 6.0-7.5. Mix in a shovel full of composted manure, granular all purpose fertilizer and lime to each planting hole.

**PLANTING**

Planting cabbage from starts usually yields greater success than direct seeding. You can start seeds for early varieties indoors under lights 6-8 weeks before the last frost. In Portland the window is mid February through March. Harden off seedlings to outdoor temperatures by setting them in a cold frame for a week before planting. If you do not have a cold frame, set seedlings outdoors in the day and indoors at night for a week before planting.

Prepare planting area as described above in the site requirements section. Transplants can go into the garden as early as two weeks before the last frost date (April 15th in Portland). Plant seedlings 1-2’ apart in rows 2’ apart, and water in with liquid seaweed or B1. Cover your new planting with floating row cover to prevent attacks from cabbage loopers, aphids and other chewing insects that love cabbage.

Cabbage can be directly sown in your garden April through July in the Portland area. Be sure to amend planting area with 4” of composted manure before sowing seeds. Plant seeds $\frac{1}{4}$” deep in rows 24-36” apart. Seedlings should be thinned 18-24” apart when they have at least two true leaves.

Seeds for a fall harvest should be started in flats in July and early August. Seedlings can go in the ground once they have 2-3 sets of true leaves. Cabbage is very sensitive to heat, so plant in the shade of larger summer crops such as cucumbers or potatoes. Transplants can go in the ground through the end of August.

**WATER REQUIREMENTS**

How much to water your plants will require depends on the soil and weather. Water new transplants daily, or when the top 2” of the soil is dry. Once they reach 12” cabbage need average, evenly moist soil. Avoid overhead irrigation, instead use drip or flood irrigation or hand watering. Mulch around cabbage to retain soil moisture.

**FERTILIZING**

Cabbage is a heavy feeder and benefits from a side dressing of composted manure or all purpose granular fertilizer two weeks after transplanting. Repeat side dressing once a month for the next two months.

**HARVESTING & STORAGE**

Harvest early varieties as soon as they are well-formed and to their mature size. Cut the head at ground level as soon as it feels firm. Gently remove the loose wrapper leaves to avoid bruising. Fall varieties can hold in the garden for several months without splitting. Early types will store refrigerated 1-2 months. Late storage types can keep up to 6 months in the refrigerator or root cellar.

**PESTS & DISEASES**

Many problems that can occur with cabbage are due to weather and cultural conditions. Plants will split in reaction to hot weather and drought. Correct planting time, moderate and consistent moisture, soil amending, and row covers are all strategies to improve growing conditions.

*Damping-off occurs in cool, wet weather and prevents seedlings from emerging or causes seedlings to die off. Replant new seeds in an area with better drainage, or add more compost and wait for warmer weather.*
*Cutworms can often mow down all of your seedlings in one night. They can also eat holes into the leaves and stems. Spinosad is an organic control for cutworms. Nematodes can help control cutworms also.

*Cabbage loopers and imported cabbage worms leave large irregular holes in leaves coupled with bits of green excrement. They can also burrow holes in cabbage heads. For prevention cover new seed beds with floating row cover. Spray with Bt to stop infestation.

*Aphid damage often appears as curled, deformed, or yellow leaves. You may find colonies of green or grey aphids on the undersides of the leaves and growing tips. Also, sticky sap on leaves and stems and white aphid skeletons are quite prevalent. There are numerous sprays and control measures to help combat aphids.

*Flea beetles chew dozens of tiny holes in the leaves. For prevention, cover new seed beds with floating row cover until plants are 8” tall. Dust with diatomaceous earth or spray with pyrethrin.

*Mildews appear as white patches, preceded by reddish patches, on the leaves and stems. Both downy and powdery mildew are fungal issues. Downy mildew can also cause roots to be misshapen with rough, cracked skin. First remove as much of the infected areas as possible. There are numerous fungicides listed for edibles, such as Serenade, that can prevent the spread of powdery mildew.

*Root rot may appear as pale or yellowing leaves and stunted plants. Roots will be dry and black at the center. It is caused by a soil fungus initiated by overwatering and/or very heavy soil. There is no recovery from root rot. Amend soil with at least 2” of compost and allow the area to become slightly dry between waterings to avoid root rot.

*Snails and slugs leave large holes in leaves or eat new transplants when they feed at night. They often leave iridescent trails on leaves and the ground. Slug baits and beer traps are just two ways to control them.

*Club root is a soil fungus that stunts and deforms roots. It may kill seedlings or weaken older plants. Infected plants become stunted and wilt on warm days and leaves may turn slightly yellow. There is no cure for club root, and the fungus will persist in the soil for many years. Remove and destroy infected plants, including the soil ball around the roots. Plant new transplants in a different area of the garden. Do not plant brassica crops in an area that has had club root for at least 7 years.

*Fusarium Wilt is also known as cabbage yellows. Leaves turn yellow and they may twist and eventually drop off. There is no cure, and the fungus will remain in the soil for many years. Remove and destroy infected plants. Start new plants in a different area.

**VARIETIES**

*All-Seasons mix- A great mix of the best cabbages, ranging in color from silvery blue to light green to deep red. High yielding hybrids producing heads of various sizes and densities over an extended growing season.

*Danish Ballhead- A late storage variety good for fall and winter harvest. Light green 7-10” head, weighs 5-6#. Mild flavor, versatile uses, excellent keeper. Tolerates hot, dry weather. 125 days to maturity.

*Early Jersey Wakefeild- An heirloom variety with pointed heads, great flavor and compact growing habit. A fast early variety maturing in 65 days.

*Golden Acre- An extra fine, early cabbage with resistance to fusarium wilt. Round heads are 6-7” across, uniform and solid. Compact plants. 60 days to maturity.

*Late Flat Dutch- A traditional favorite for fall harvest. Flat, green, 6-7” heads weigh 3-4#. Sweet and juicy flavor. Mature in 95 days.

*Ruby Ball- Firm, round, red, 6-8” head weighs 3-4#. Keeps in the garden without losing quality. Great for winter storage.