Lettuce, which is nearly synonymous with "salad" to many people, is one of the most widely grown vegetables in home gardens. It is a popular, tasty, low-calorie food that is easy to grow and takes little space in the home garden. Lettuce is a native of Asia and Europe.

Lettuce grows best at temperatures of 55 to 60°F. For crisphead varieties, day temperatures of 70 to 75°F and night temperatures of about 45°F are important for high quality yields. High temperatures cause lettuce plants to bolt or produce a seedstalk before the plants are ready to harvest. In addition, the leaves may become bitter and have a poorer texture. In cooler-than-desirable temperatures, lettuce plants will grow very slowly. However, lettuce plants are capable to survive temperatures as low as 29°F without damage.

Know your lettuce

Of the four main types of lettuce, three are easy to grow in home gardens: looseleaf, butterhead (bibb), and romaine (cos) lettuce. The fourth kind, called crisphead or iceberg lettuce, demands more exacting climatic and cultural conditions.

The looseleaf varieties, which form clusters of leaves rather than heads, are probably the most common home garden lettuces. Because looseleaf lettuce is highly perishable, they are sometimes unavailable in grocery stores—so they are especially valuable to grow at home. Looseleaf lettuces do not require exacting conditions; they mature quickly and tolerate some shade.

Looseleaf varieties include green leaf varieties Slobolt, Salad Bowl, Black Seeded Simpson, Grand Rapids, and Waldmann's Green. Red leaf varieties include Ruby, Oak Leaf, Dazzler, Red Sails, and Prizehead. Leaf lettuce varieties vary considerably in appearance, with leaves that range from smooth to wrinkled and green to red in color.

Butterhead or bibb lettuces are often favored by home gardeners because the loose heads have an attractive appearance, and the leaves taste exceptionally good. These leaves are relatively thick and have a smooth buttery texture as well as a distinctive flavor.

Butterhead lettuces are sometimes not available in supermarkets because the leaves tend to tear and bruise easily; so like looseleaf lettuces, the butterhead varieties are a bit of a delicacy. Popular butterhead and bibb varieties are Buttercrunch, Bibb, Big Boston, Dark Green Boston, Butter King, and Tania.

Romaine or Cos varieties produce tall, upright-growing heads. As the

N.S. (Bill) Mansour, Extension vegetable crops specialist, and Carolyn A. Raab, Extension food and nutrition specialist, Oregon State University. Adapted for use in Oregon from a University of Idaho Cooperative Extension publication. It replaces EC 879 and EC 881.
heads grow, the leaf tips curl inward, thereby blanching the inner leaves. The leaves are usually fairly heavy and coarse and have large ribs. However, they are sweet and tender to eat. Common romaine varieties include Parris Island Cos, Valmain Cos, and White Parris.

Crisphead or iceberg lettuce varieties produce the familiar firm heads with a White Parris. Parris Island Cos, Valmain Cos, and Common romaine varieties include coarse and have large ribs. However, leaves are usually fairly heavy and crisphead varieties take 60 to 70 days from seed to maturity, Butterhead and romaine varieties take 40 to 50 days from seeding to maturity. Looseleaf varieties usually require only 60 to 70 days from seed to maturity, and crisphead varieties take 65 to 85 days to mature.

Know your spinach

Spinach is a native of Asia. It is one of the most important of the greens or pot herb plants. Besides its traditional use as a hot vegetable side dish, spinach seems to be gaining in popularity as an ingredient in tossed salads and mixed casseroles. Not only does spinach offer a delight to the taste and an appetizing, dark green color, but it is also highly nutritious.

The two types of spinach are cool season or broadleaf, and warm season or New Zealand spinach, which is entirely different taxonomically from broadleaf spinach, but similar in look and appearance. New Zealand spinach welcomes long, hot days and will yield well until frost. New Zealand spinach is particularly suited to small container vegetable gardening because it grows back after cutting.

Cool season spinach forms a rosette of foliage 8 to 10 inches across. The leaves are smooth in varieties such as Hybrid No. 7 or savoyed or crinkled in varieties such as American. They require cool weather and will blossom and form seeds with the coming of long, hot days averaging more than 75°F.

Some spinach varieties are slower to bolt (produce seed stalk) than others. The name long-standing is often applied to slow-bolting varieties such as Olympia, Jade, Symphony, melody, and Long Standing Blomsdale, which are especially good for spring planting. Varieties more suited for fall harvest are Wolter, Hybrid 124, Baku, St Helens, and Skookum in parts of Oregon where winters are mild. Spinach may be grown over winter by seeding in mid- to late September. Suitable varieties are St Helens, Jade, Chinook II, Mazurka, and Polka.

Other vegetables can be successfully grown in Oregon gardens to yield leaves for use either uncooked in salads or cooked as greens. Such vegetables include Chinese cabbage, collards, cress, endive, kale, mustard greens, parsley, and beets and turnips for tops. They can be grown following the same guidelines.

Seedbed

Lettuce, spinach, and Swiss chard are widely adapted to different soils as long as they are moist, fertile, and of good tilth. Start preparing your seedbed when the soil has sufficient moisture to form a ball that will crumble into medium-sized fragments. Cultivation should mix previous crop residues and organic matter in the top 7 to 8 inches of soil. It should destroy current weed growth and provide a small, granular-type bed for transplanting. Overcultivated soil becomes powdery and has a tendency to crust. The ideal pH for growing these vegetables is from 6.0 to 7.0, but they do well in soils that range from 7.0 to 8.0.

Seed time

Lettuce. Seed lettuce as soon as you can cultivate the soil in the spring, usually about 4 to 6 weeks before the last killing frost (see table 1). Minimum soil temperature for planting is 50°F or above. When the soil temperature is 50 to 60°F, lettuce and spinach seed should germinate in 5 to 10 days.

<table>
<thead>
<tr>
<th>Seed per foot</th>
<th>Lettuce</th>
<th>Spinach</th>
<th>Swiss chard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thinned spacing</td>
<td>6-12&quot;</td>
<td>2-4&quot;</td>
<td>4-8&quot;</td>
</tr>
<tr>
<td>Row width</td>
<td>18-24&quot;</td>
<td>12-18&quot;</td>
<td>18-24&quot;</td>
</tr>
<tr>
<td>Seed depth</td>
<td>1/4&quot; - 1/2&quot;</td>
<td>1/4&quot; - 1/2&quot;</td>
<td>1&quot;</td>
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<table>
<thead>
<tr>
<th>Seed time</th>
<th>Lettuce seedlings</th>
<th>Spinach seedlings</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 to 10 days</td>
<td></td>
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</table>
After the initial planting, make subsequent plantings every 2 weeks to provide season-long harvest. Place early plantings where they get full sunlight. Make your later plantings, in the hotter summer months, under a shade screen to filter sunlight. This practice prevents bolting (seed stalk development) and bitterness.

For an exceptionally early crop, start lettuce indoors and transplant seedlings outdoors when temperatures allow. Sow seeds indoors 6 to 8 weeks before the anticipated time of planting in the outdoor garden. When the plants have four to five leaves, harden them off by gradually exposing them to cooler temperatures and direct sunlight. In addition, reduce the amount of water they receive. After the plants are properly hardened, you can transplant them into the garden even though light frosts may still occur.

The average packet of lettuce contains 1 ounce, about 2,000 seeds. Many gardeners tend to overplant a given planting. One technique to obtain a more orderly cropping is weekly sowings of 10 to 12 seeds in pots or flats rather than sowing directly in the garden.

With diligent sowing and transplanting, the home gardener can have just enough lettuce—not too much and not too little. This transplant approach saves garden space for other vegetables, and you can transplant the lettuce between vegetables that take longer to mature like tomatoes, eggplant, cucumbers, and corn. This practice also saves additional garden space.

Flower beds are also ideal spots for tucking away a lettuce plant or two. Lettuce, because of its small size, fast growth, and close to being grown in small containers, suits areas deep to regular watering, a trait also necessary to remove weeds. Deep cultivation close to the plants will destroy much of the root system and reduce vigor. This reduces yield and quality.

Cultivation and watering

Cultivation should be shallow when necessary to remove weeds. Deep cultivation close to the plants will destroy much of the root system and reduce vigor. This reduces yield and quality.

Lettuce has a shallow root system and requires frequent watering to stimulate rapid leaf development. Too much water on heavy soils may lead to burning of the leaves and root diseases. Don’t use the foliage any more than necessary when watering.

Insects and diseases

The most serious pests of lettuce, spinach, and chard are aphids, cutworms, leafminers, and beet leafhoppers. All can be controlled with insecticides and baits.

Note: This publication does not recommend pesticides for specific situations. Recommendations change from time to time. For the latest information, see your county Extension agent or consult the latest edition of the Pacific Northwest Insect Control Handbook or the Pacific Northwest Plant Disease Control Handbook (see the back page).

Lettuce. The disease most frequently found on lettuce in home gardens is white mold (Sclerotinia sclerotiorum). Symptoms include wilting and dropping of leaves with a white, downy growth around the base of the plant at and below the soil line. White mold is a problem in gardens that are kept too wet and particularly in gardens that are flood-irrigated. Do not plant lettuce in a poor water drainage area. Lettuce plantings on raised beds help prevent white mold. Rotating plant sites reduces lettuce diseases.

Spinach and Swiss chard. Curly top is a virus disease problem on late spring-planted spinach during most years east of the Cascade Mountains. Symptoms include clearing of veins in leaves and leaf curling with sharp protuberances from the veins on the leaf underside. An increase in the number of rootlets may also occur. Leaves may be thickened and somewhat brittle. Beet western yellows virus and several mildew diseases can occur in western Oregon on spinach. Curly top virus is transmitted by the beet leafhopper, which overwinters on
For longer-term storage, spinach and chard may be canned or frozen. For both methods select young, tender leaves that are not wilted, diseased, or insect-damaged. Wash well in small batches. Continue rinsing and draining until water is clear and free of grit. Cut out tough stems and midribs, if necessary.

Canning. Place 1 pound of greens at a time in a cheesecloth bag or blanch basket and steam 3 to 5 minutes, or until well wilted. Fill pint or quart jars loosely with greens and add fresh boiling water, leaving 1-inch headspace. Add 1/4 teaspoon salt per pint, if desired. Adjust lids and process pints for 70 minutes, quarts for 90 minutes.

After pressure is reached, process at 11 pounds in a weighted-gauge canner, use a 13-pound pressure from 2,001 to 4,000 feet, 15 pounds if you use a dial gauge. The pressure must be adjusted at higher altitudes. With a weighted-gauge pressure canner, use 12 pounds pressure above 1,000 feet altitude. With a dial-gauge canner, use 12 pounds pressure from 2,001 to 4,000 feet, 13 pounds from 4,001 to 6,000 feet, 14 pounds from 6,001 to 8,000 feet altitude.

Blanch Swiss chard for 3 to 4 minutes. Cool in cold running water (or ice water). Drain and pack into moisture- and vapor-resistant freezing containers, leaving 1/2 inch headspace. Seal and freeze at 0°F or below for best quality.

Pacific Northwest Pest Handbooks

Pacific Northwest Insect Control Handbook and Pacific Northwest Plant Disease Control Handbook are published annually—be sure to use the latest edition. Order either book from one of these sources:

Agricultural Communications Publications Order Line Oregon State University Corvallis, OR 97331-2119 Single copy $15.00 plus $2.25 shipping and handling


Preserving greens

You can store unwashed fresh greens for a few days in the refrigerator if you use appropriate containers. Plastic bags or covered plastic containers will prevent loss of moisture needed to maintain freshness. After several days, greens can be expected to wilt and lose flavor and nutritive value.