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Sustainable Gardening for School and Home  
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## **Sustainable Gardening for School and Home Gardens: Lettuce**

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# SUSTAINABLE GARDENING

FOR SCHOOL AND HOME GARDENS

## Lettuce

*Lactuca sativa*



### QUICK FACTS

- Plant family: Asteraceae (Aster or Sunflower)
- Season: Cool
- Life cycle: Annual
- Seed to first harvest: 30-60 days



Create a Sustainable Garden by improving soil health, relying on locally available materials and resources, and practicing environmentally sound horticultural practices

# History

## Varieties

Lettuce is a member of the Asteraceae family, also known as the aster or sunflower family, which includes crops such as globe artichokes and endive, but also garden ornamentals like sunflowers, dahlias, marigolds and zinnias (Figure 1).



**Figure 1.** Lettuce belongs to the Asteraceae plant family, along with globe artichokes, endive, sunflowers, dahlias, thistles and many more.

Cultivated lettuce likely developed from wild lettuce from the Mediterranean area of the Middle East and was first recorded in ancient Egypt around 2500 B.C. in tomb paintings but may have been as early as 4500 B.C. This original lettuce had two main types: one with much thicker stems (like celery) and another that produced seeds used for cooking oil. The stem lettuces (similar to present-day romaine lettuce) were documented in China between the 5th and 7th centuries. Nonheading lettuces (similar to leaf lettuce) were common in the Mediterranean area in red and green leaf forms. Around the 15th century, new butterhead and crisphead lettuce varieties moved into

Western Europe and were likely brought to North America by Christopher Columbus in 1494. By the 1600s romaine lettuce was very common in Italy and by the 1700s was cultivated in the Americas (Figure 2).



**Figure 2.** Map showing the origin and migration of lettuce to the U.S.



In the U.S. until about 1970, the crisphead (or iceberg) type was the most popular lettuce and dominated the market. After 1970, butterhead, romaine and leaf lettuce types began to gain popularity. Along with these market changes came the salad bar, where mixed leaf lettuce

became the more practical type, along with the popular Caesar salad, which uses romaine lettuce. During this same time period, processed and value-added lettuce became the market standard, such as mixed, shredded salad bags containing toppings and dressing.

## Growing

Lettuce is a fast and easy to grow cool-season crop generally grouped into four main types: (1) butterhead, (2) crisphead, (3) leaf (red or green), and (4) romaine/cos (Figure 3). These types vary in appearance, taste and resistance to disease and weather extremes.

**Butterhead lettuce**, also known as Boston or bibb lettuce, forms a loose head with sweet, buttery and tender leaves. Butterhead lettuce is considered more delicate than romaine and much tastier than crisphead.

**Crisphead lettuce**, also referred to as iceberg lettuce, forms a large, dense head (similar in shape to cabbage) with crisp, crunchy leaves and ribs. Crisphead lettuce is not heat tolerant and, therefore, is most prone to bolting. Because of this intolerance to heat and lengthy harvest time (60-85 days), Crisphead is not recommended to plant in Louisiana. There are a few moderately heat-tolerant varieties (Crispino, Great Lakes and Ithaca) but planting should be restricted to the coolest recommended months of planting (e.g., January and October) for the highest chance of success.

**Leaf lettuce** is a loose-leaf lettuce that grows in a rosette and varies in leaf shape, texture and color (green, red and even freckled hues). Leaf lettuce is commonly grown as baby lettuce, which can be harvested from seed in as little as 28 days. A new innovation in leaf lettuce is Salanova, which is a mix of several varieties selected for productivity, uniformity, extended storage ability and excellent leaf flavor and texture. See this [video](#) for an overview of growing and preparing Salanova leaf lettuce mix.

**Romaine lettuce**, also known as cos lettuce, has a tall, dense head with crispy leaves and a tender heart. Romaine lettuce is less prone to bolting (more heat tolerant) than crisphead or butterhead.

Lettuces have either open-pollinated (including heirloom) or hybrid varieties. Some lettuces are heirloom varieties, like Oak Leaf, Black Seeded Simpson and Rouge D'Hiver, meaning these seeds have been



**Figure 3.** Main types of lettuce are butterhead, crisphead, leaf and romaine.

saved for at least 50 years, can be saved each season and replanted, and are open-pollinated. Lettuce produces perfect (both male and female flower parts), self-pollinating flowers, but a small amount of natural cross-pollination can occur when two varieties are grown side by side. If saving seed, different varieties should be separated by a distance of 10-20 feet to avoid cross-pollination. Generally, it is not recommended to save seed for future planting with hybrid varieties as they are usually not expressed properly in the next generation.

When selecting lettuce varieties for Louisiana's warm climate, look for resistance to bolting (i.e., heat tolerance/resistance), which causes bitter lettuce, and opt for varieties with shorter days to harvest.

See the recommended lettuce varieties for Louisiana in Table 1.

**Table 1. Recommended Lettuce Varieties for Louisiana**

Variety Name	Description	Days to Harvest	Resistance
<b>Butterhead</b>			
<b>Adriana</b>	Dark green, full heads; flavorful; open-pollinated	Full size: 48 days	Bolting, tipburn, downy mildew, lettuce mosaic virus
<b>Buttercrunch</b>	Reliable; dark green leaf; crisp and buttery; very flavorful; open-pollinated	Baby: 28 days Full size: 46 days	Bolting
<b>Harmony</b>	Rich, deep green, glossy leaves; large, flavorful, uniform heads; open-pollinated	Full size: 68 days	Bolting, tipburn, downy mildew
<b>Skyphos</b>	Large, dark red, flavorful leaves; very adaptable; open-pollinated	Full size: 47 days	Downy mildew, aphids, lettuce mosaic virus
<b>Summer Bibb</b>	Flavorful green leaves; heirloom variety	Full size: 62 days	Bolting
<b>Tom Thumb</b>	Miniature head with tender, green, crumpled leaves; heirloom variety	Full size: 48 days	
<b>Leaf (Green and Red varieties)</b>			
<b>Oak Leaf (Red or Green)</b>	Fine-lobed, dense head; bright red or green leaves; heirloom variety	Baby: 30 days Full size: 55 days	Bolting, aphids, downy mildew, tomato bushy stunt virus
<b>Salad Bowl (Red or Green)</b>	Big, burgundy or bright green lobed oak leaves; cool season variety; open-pollinated	Baby: 28 days Full size: 50 days	Bolting, tipburn, fall mildews
<b>Leaf (Green)</b>			
<b>Black Seeded Simpson</b>	Curly green, tender leaves; adaptable, cold tolerant; fast-growing heirloom variety	Baby: 28 days Full size: 45 days	Bolting, tipburn, downy mildew, lettuce drop
<b>Grand Rapids</b>	Bright green, ruffled leaves; open-pollinated	Full size: 48 days	Tipburn.
<b>Nevada</b>	Large, thick, bright green leaves; warm season variety; open-pollinated	Full size: 48 days	Bolting, tipburn, downy mildew, lettuce mosaic virus, bottom rot
<b>Prizehead</b>	Bright green, ruffled leaves with maroon tips; flavorful heirloom variety	Full size: 45-55 days	Bolting
<b>Royal Oakleaf</b>	Sea green, lobed leaves; very flavorful and tender; open-pollinated	Full size: 50 days	Bolting
<b>Sierra</b>	Batavian variety with an open head, glossy green leaves and red veins; heirloom variety	Full size: 54 days	Bolting, tipburn, bottom rot
<b>Tango</b>	Very frilly, lobed, pale green leaves; cool-season variety; open-pollinated	Baby: 32 days Full size: 45 days	
<b>Tehama</b>	Dark green, incised leaves with large heads; open-pollinated	Full size: 50 days	Bolting, tipburn, corky root rot
<b>Two Star</b>	Dark green, frilled-edge leaves with heavy head; open-pollinated	Full size: 50 days	Bolting, tipburn

Variety Name	Description	Days to Harvest	Resistance
<b>Leaf (Red)</b>			
<b>Cherokee</b>	Dark red leaves with crunchy, nutty flavor; open-pollinated	Full size: 48 days	Bolting, bottom rot, downy mildew
<b>Lollo Rosso</b>	Deep red Italian variety with tightly curled leaves and bright green heart; open-pollinated	Baby: 30 days Full size: 53 days	Bolting
<b>New Red Fire</b>	Intensely red, uniform, ruffled leaves; open-pollinated	Baby: 28 days Full size: 55 days	Bolting, tipburn, bottom rot, downy mildew
<b>Red Sails</b>	Crinkled, maroon, fast-growing leaves; open-pollinated	Baby: 27 days Full size: 55 days	Bolting, lettuce mosaic virus
<b>Ruby</b>	Ruffled, red-tipped leaves; smaller head; early; heirloom variety	Full size: 53-58 days	Bolting, bottom rot, downy mildew, aphids, lettuce mosaic virus
<b>Romaine</b>			
<b>Cimarron Red</b>	Upright, red leaves with green centers; heirloom variety	Full size: 65 days	
<b>Flashy Trout Back</b>	Green with speckled red leaves; heirloom variety	Baby: 27 days Full size: 55 days	
<b>Green Forest</b>	Attractive, dark green, tall head; open-pollinated	Full size: 56 days	Bolting, tipburn, corky root rot
<b>Green Towers</b>	Tall, consistent, dependable, full-bodied heads; hybrid	Full size: 60 days	Corky root rot, aphids
<b>Jericho</b>	Tall, sweet, light green head; heirloom variety from Israel	Baby: 28 days Full size: 57 days	Bolting, tipburn, powdery and downy mildew
<b>Outredgeous</b>	Outrageously dark red, ruffled leaves with loose head; open-pollinated	Baby: 28 days Full size: 55 days	
<b>Parris Island Cos</b>	Dark green heads or baby leaf; flavorful; open-pollinated	Baby: 29 days Full size: 56 days	Bolting, tipburn, lettuce mosaic virus
<b>Rouge D'Hiver</b>	"Red of Winter"; red-tipped, sweet leaves; heirloom variety from France	Baby: 28 days Full size: 60 days	Tipburn, lettuce drop, cold tolerant
<b>Winter Density</b>	Compact, dense, cool-season variety; open-pollinated	Baby: 28 days Full size: 55 days	Frost tolerant

Notes: \*From seed to harvest.

Table varieties selected from recommendations from LSU AgCenter, UF Extension, Texas A&M Extension and Southeastern U.S. Vegetable Crop Handbook. Variety descriptions compiled from High Mowing Organic Seeds, Johnny's Selected Seeds, Reimer Seeds, Southern Exposure Seed Exchange, Sow True Seed, Hoss Tools and Jordan Seeds.

Other recommended lettuce varieties for Louisiana include:

Butterhead: Caliente, Ermosa, Esmeralda.

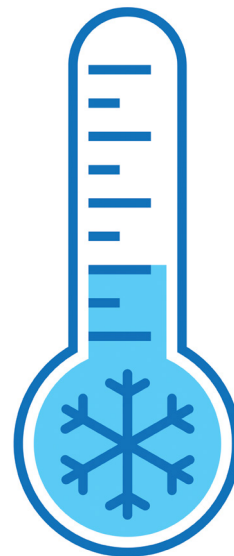
Crisphead: Keeper, Maverick, Raider.

Romaine: Cuore, Musena, Red Eye, Ridgeline, Tall Guzman Elite.

## When and How to Plant

Lettuce is an annual (with a life cycle of one season/year), cool-season crop and can be grown in Louisiana during the cooler spring, fall and winter months. Lettuce is best seeded in late winter or early fall as plants thrive in temperatures during this time. If the soil temperature is at least 40 degrees Fahrenheit, lettuce may be direct-seeded outside; however, starting seeds indoors may speed plant growth.

**Starting seeds inside:** Begin seeding indoors approximately 4 weeks before the first planting date (see Table 2). Using seed germination trays (with at least 1.5-inch diameter cells), plant one seed per cell (unless germination rate is low or conditions are less than ideal, then plant 2-3 seeds per cell) at a very shallow depth (1/8-inch) and lightly cover with a thin layer of soilless potting mix (see Figure 4).



**Figure 4.** Planting seeds in a germination tray.

Make sure to keep the seed trays in a well-lit area around 75 F. Keep soil moist, which usually requires daily light watering. A seedling heat mat and plastic dome lid are helpful in maintaining ideal germination conditions. If multiple seeds were planted per cell, thin seedlings to one plant per cell once a few true leaves develop. Lettuce is generally very transplant hardy, and seedlings can be transplanted outside approximately 2 weeks later or when 4-6 true leaves develop, if soil temperature is above 40 F. A few days before planting transplants outside, it is recommended to follow a hardening off process to transition seedlings to outdoor conditions.

**Direct-seeding or transplanting outside:** The optimum temperature to direct-seed outside or transplant outside

is a soil temperature of 40-85 F (optimum 75 F). The use of a soil temperature map can help guide planting decisions. Either follow the recommended plant spacing when transplanting (refer to Lettuce Planting Guide, Table 2) or scatter seeds (broadcast) in a 2-inch wide furrow or line that is very shallow (1/8-1/4 inch deep) when direct-seeding. Lightly cover with soil and water in. Some of the seeds will actually be uncovered and visible. Thin to the recommended plant spacing after true leaves develop, if needed. Adequate irrigation is needed to ensure coolness, moisture and germination success. Because lettuce grows so quickly, multiple successions can be planted within the recommended planting dates. For a steady supply of lettuce, seed every 2-3 weeks.



**Table 2. Lettuce Planting Guide**

Planting Outside Dates	Category	Plant Spacing (inches)	Row Spacing (inches)	Days to Harvest*
<u>North LA:</u> Jan.-Feb., Sept.-Oct. <u>South LA:</u> Sept.-Feb.	Head (Butter, Crisp)	10-15	12-18	60-80 days (45-60 days)
	Leaf	4-8	12-18	60-80 days (45-60 days)
	Romaine	10-14	12-18	60-80 days (45-60 days)

\*Days from seed to harvest; days in parentheses are transplant to harvest

Note: Table adapted from LSU AgCenter, *UF Extension Planting Guides* and *Southeastern U.S. Vegetable Production Handbook*.

The optimum temperature for lettuce growth and development is 60-65 F with a minimum of 45 F and maximum of 75 F. Properly hardened lettuce transplants can tolerate temperatures as low as 20-25 F.

## Where to Plant

Lettuce require well-drained soil and prefer a sandy loam soil with a soil pH between 6.0 and 6.8. Lettuce fares well in a wide range of soil types — sandy to clay — but will not tolerate acidic soil. Lettuce prefers full sun (6 hours/day) but some varieties may tolerate partial shade. It is recommended to plant lettuce in box beds or in traditional raised garden rows that are about 12 inches tall to ensure good drainage. In all types of gardens, it is recommended to add a layer of compost, peat moss, rotted hay or other organic matter and mix into the soil to optimize plant health. This is especially important for lettuce, which thrives on soils with a high level of organic matter.

Reflective plastic mulch — or a plastic fabric/film — is recommended to deter aphids that transmit viruses, to increase soil temperature and to control weeds. Drip irrigation is also recommended when using plastic mulch to maintain ideal soil moisture and encourage productive plants.

Lettuce tends to bolt (go to seed, see Figure 5), causing very bitter-tasting lettuce, when temperatures are above 80-85 F for several days and/or the days are longer. Consider applying mulch, using shade cloth and/or intercropping lettuce with taller vegetables to provide shade to keep the soil cool and prevent bolting.

Each season rotate plant families — avoid planting crops from the same plant family in the same area of the garden — to reduce disease and pests.



**Figure 5.** Lettuce bolting into a conical shape that will soon form a seed stalk.

## Plant Care

It is recommended to follow [sustainable gardening](#) principles.

**Watering:** Lettuce needs regular, light watering due to a shallow root system — usually several times a week or daily in warmer temperatures. If the leaves look wilted, increase watering frequency and duration. Avoid inefficient watering during the heat of the day as water will evaporate before it reaches the roots. Take care not to overwater as this may cause tipburn and other diseases.

**Fertilization:** Do not over-fertilize lettuce. Fast growth caused by nitrogen can lead to tipburn, the most common defect of lettuce. Tipburn is caused by calcium being unable to move through the leaf quickly enough toward the end of the crop, when heads are large and nearly ready to harvest. Although it is a calcium deficiency, it is more related to how quickly calcium is able to move through leaves that are expanding too fast,



rather than to calcium levels in the soil. To avoid overly fast growth, avoid adding more than the recommended amount of nitrogen or use a slower-release organic form. Inadequate potassium may interfere with proper head formation. Soil testing may be helpful when growing head lettuce.

Organic fertilizers, such as compost, fish emulsion, composted poultry litter or manure, worm castings, and blood or bone meal, originate from living organisms. They are safer and far more environmentally sustainable than traditional synthetic fertilizers. They naturally release nutrients more slowly and over a longer period of time. When applying organic fertilizer, it is important to use in unison with compost, cover crops and crop rotation, which all work together to build soil health. Learn how to convert inorganic fertilizer recommendations to organic fertilizers [here](#).

Alternatively, a synthetic fertilizer may be used at a rate of about 1.5 pounds (3 cups) of 13-13-13 for every 25 feet of row or 75 square feet. Broadcast, or sprinkle evenly, over the soil and then mix in about 3-6 inches deep using a rake. Supplemental side-dressing, or reapplication of synthetic or organic fertilizer, is recommended 3-4 weeks after planting. Side-dressing is the addition of fertilizer to the soil around already established plants when the plant begins to fruit or vine, primarily to provide nitrogen. If using synthetic

fertilizer, sprinkle lightly around each plant or along the side of the row, keeping it about 6 inches away from the plant stem, and water into the soil. Additional side-dressing may be applied every 3-4 weeks. Because of their slow, steady release of nitrogen, crops fertilized with organic fertilizer do not usually need to be side-dressed, but fish emulsion, a quick-release form of organic nitrogen, may be used if needed.

**Weeds:** Plastic mulch will control most of the weeds; hand pull weeds close to the plant, especially in the planting holes. It is especially important to control weeds since the shallow roots compete directly with weeds; take care not to damage the plant when weeding.

**Insect pests and diseases:** Common insect pests for lettuce are aphids and cabbage worms. Regular monitoring can help to identify symptoms of these insect pests and allow for early treatment and further prevention. Lettuce is fairly susceptible to diseases such as damping off, downy mildew, lettuce drop, bottom rot, lettuce mosaic virus and tipburn. Many varieties of lettuce are resistant to specific diseases and these should be selected and planted. Refer to Table 3 to aid in diagnosis and management of some common lettuce insect pests and diseases.

**Table 3. Organic and Natural Management for Common Lettuce Insect Pests and Diseases**

Symptoms	Diagnosis	Organic and Natural Management
<ul style="list-style-type: none"> <li>• Curled and yellowed leaves</li> <li>• Stunted crops</li> <li>• Sticky honeydew on leaves</li> </ul>	Aphids	<ul style="list-style-type: none"> <li>• Timely planting and harvest</li> <li>• Reduce water stress</li> <li>• Weed control</li> <li>• Use water jet to dislodge</li> <li>• Reflective mulches; insect barrier fabric</li> <li>• Beneficial insects: lady bugs, lacewings, predatory stink bugs, syrphid flies</li> <li>• Insecticidal soap, neem oil, pyrethrin, Azera</li> </ul>
<ul style="list-style-type: none"> <li>• Seedling rots and suddenly dies (before or after germination)</li> <li>• Cool and wet weather conditions</li> </ul>	Damping off	<ul style="list-style-type: none"> <li>• Plant fungicide treated seed</li> <li>• Increase plant spacing</li> </ul>
<ul style="list-style-type: none"> <li>• Damp, cool conditions</li> <li>• Small, yellowing, angular patches on leaves</li> <li>• Damping off</li> </ul>	Downy mildew	<ul style="list-style-type: none"> <li>• Crop rotation (2+ years)</li> <li>• Plant resistant varieties</li> <li>• Reduce leaf moisture by improving air circulation; morning irrigation</li> <li>• Remove crop debris and weeds</li> <li>• Organic/natural fungicides</li> </ul>
<ul style="list-style-type: none"> <li>• Slimy or rotted leaves at the base of plant</li> </ul>	Lettuce drop and bottom rot	<ul style="list-style-type: none"> <li>• Mulch</li> <li>• Manage soil fertility</li> <li>• Drip irrigation; morning watering</li> </ul>
<ul style="list-style-type: none"> <li>• Stunted or deformed plants</li> <li>• Mosaic or mottling pattern</li> <li>• Incomplete heads</li> </ul>	Lettuce mosaic virus (LMV)	<ul style="list-style-type: none"> <li>• Plant resistant varieties</li> <li>• Monitor and treat for aphids</li> <li>• Remove infected plants and weeds</li> <li>• Mineral oil or rapid-acting insecticide spray</li> </ul>
<ul style="list-style-type: none"> <li>• Edges of leaves turn brown or speckle</li> </ul>	Tipburn	<ul style="list-style-type: none"> <li>• Plant resistant varieties</li> <li>• Avoid over-fertilizing.</li> <li>• Maintain uniform soil moisture</li> </ul>

*Note: Table adapted from LSU AgCenter, University of Illinois Extension, UMass Extension Vegetable Program, Alabama A&M and Auburn Universities Extension. The Louisiana Pesticide Law regulates the use of pesticides in schools to protect children and staff from harmful exposure to chemicals and is enforced by LDAF. The recommended alternative to routine pesticide use is integrated pest management (IPM), which combines pest control, disease management techniques and organic/natural alternatives, many of which are found in this table.*

# Harvest and Storage

Harvest lettuce when heads reach desired size (baby or full size), though it's best to harvest just before full maturity. There are three main methods to harvest lettuce: (1) single cut, (2) cut and come again, or (3) outer leaf harvest.

For butterhead, crisphead and romaine lettuce types, the single cut method (i.e., harvesting a head of lettuce only once) is most used since the entire head is harvested (rather than loose leaves). For this method, use a knife or shears to cut the root right below or at the soil level to keep all the leaves attached to the root. Discard any bad outer leaves from the head.

For leaf lettuce, the cut and come again method is a great technique to potentially allow for more than one harvest of a single lettuce plant. For this method, cut the leaves a few inches above the crown (where the leaves begin to grow off the stem). When done correctly and under good growing conditions, the new leaves should regrow from the crown in about 2 weeks.

The outer leaf harvest method can also be used for romaine and leaf lettuces, which is simply removing the outer leaves when harvesting and leaving the center leaves and growing point to continue to grow.

Here are some helpful videos showing the three harvesting methods:

1. [Single cut and outer leaf](#) harvest methods.
2. [Cut and come again](#) harvest method.

Lettuce is extremely perishable, especially in warm temperatures. It's recommended to harvest in the early morning when temperatures are lowest and immediately store in the refrigerator (without washing) until use. After harvest, the crop needs to be cooled down to remove field heat and placed in a refrigerator or cooler where there is high humidity. Removing field heat will avoid moisture loss and wilting and preserve quality and shelf life.

Lettuce stores best in a loose plastic bag to retain moisture. At an ideal storage condition of 32 F with high (98-100%) humidity, lettuce will store for 2-3 weeks post-harvest. Avoid storing lettuce with fruits that release ethylene gas (a natural ripening agent) as this decreases shelf life; examples include apples, bananas and pears.

When ready to use the lettuce, wash with cold water and dry in a salad spinner or with a towel. If the lettuce appears wilted, place the head or leaves in a cold ice water bath for about 15 minutes to revive. Avoid cutting/tearing the lettuce until just before serving. Lettuce cannot be preserved, so use when fresh!

## Nutrition

### Lettuce Is Nutritious and Good for You

#### High in vitamin A

*Important for eye health, a strong immune system and cell growth.*

#### Excellent source of vitamin K

*Helps your body heal and is important for bone health.*

#### Good source of potassium

*Essential for body function, especially the heart, kidney, nerves, bones and muscles.*



# Recipes

**Basics of cooking with lettuce:** [extension.purdue.edu/foodlink/food.php?food=lettuce](http://extension.purdue.edu/foodlink/food.php?food=lettuce)

General information on selecting, pairing, preparing and storing. Also includes a list of recipes.

**Video on how to prepare salad greens:** [youtu.be/AUtk3JQrPU](https://youtu.be/AUtk3JQrPU)

Ever wondered what to do with romaine, leaf lettuce or spinach? Chef Allison Kingery shows a couple of options for preparing your salad greens.

## Taste Test Ideas



**Chicken Caesar Salad**



**Lettuce Wraps**



**Sandwich Veggie Wraps**

## Other websites with many lettuce recipes:

### Arizona Health Zone

Visit [www.azhealthzone.org/recipes](http://www.azhealthzone.org/recipes) and search for lettuce recipes.

### USDA MyPlate Kitchen

Visit [www.myplate.gov/myplate-kitchen/recipes](http://www.myplate.gov/myplate-kitchen/recipes) and search for lettuce recipes.

### California's Eat Fresh

Visit [eatfresh.org/find-a-recipe](http://eatfresh.org/find-a-recipe) and search for lettuce recipes.

### Produce for Better Health Foundation

**Leaf Lettuce:** [fruitsandveggies.org/fruits-and-veggies/leaf-lettuce/?view=recipes](http://fruitsandveggies.org/fruits-and-veggies/leaf-lettuce/?view=recipes)

Recipes include Caribbean tuna salad, tuna apple salad sandwich, salad niçoise and more.

**Romaine Lettuce:** [fruitsandveggies.org/fruits-and-veggies/romaine-lettuce/?view=recipes](http://fruitsandveggies.org/fruits-and-veggies/romaine-lettuce/?view=recipes)

Recipes include holiday cobb salad, Thai chicken salad wrap with blueberries and more.

**Butterhead Lettuce:** [fruitsandveggies.org/fruits-and-veggies/butter-lettuce/?view=recipes](http://fruitsandveggies.org/fruits-and-veggies/butter-lettuce/?view=recipes)

Recipes include orange mango chicken lettuce wraps, tuna and black bean salad wraps, and more.

# Sources

- Southeastern Vegetable Extension Workers, 2020 Southeastern U.S. Vegetable Crop Handbook [content.ces.ncsu.edu/southeastern-us-vegetable-crop-handbook](http://content.ces.ncsu.edu/southeastern-us-vegetable-crop-handbook)
- LSU AgCenter Louisiana Vegetable Planting Guide [www.lsuagcenter.com/~media/system/d/e/3/e/de3e7516e68dfee4a21a84b38caa4df8/pub1980%20vegetable%20planting%20guide%20rev%2001%2017pdf.pdf](http://www.lsuagcenter.com/~media/system/d/e/3/e/de3e7516e68dfee4a21a84b38caa4df8/pub1980%20vegetable%20planting%20guide%20rev%2001%2017pdf.pdf)
- LSU AgCenter, Louisiana Commercial Vegetable Production Recommendations [www.lsuagcenter.com/~media/system/3/4/3/1/3431c847fdf6d4cd4dce689cb358b397/pub2433commvegetablebwlowres.pdf](http://www.lsuagcenter.com/~media/system/3/4/3/1/3431c847fdf6d4cd4dce689cb358b397/pub2433commvegetablebwlowres.pdf)
- LSU AgCenter Vegetable Gardening Tips: Lettuce [www.lsuagcenter.com/~media/system/2/c/2/e/2c2ef149a0635f8abdd26144c2264584/pub3363lettuce4cweb.pdf](http://www.lsuagcenter.com/~media/system/2/c/2/e/2c2ef149a0635f8abdd26144c2264584/pub3363lettuce4cweb.pdf)
- UF Extension Planting Guide [edis.ifas.ufl.edu/pdffiles/VH/VH02100.pdf](http://edis.ifas.ufl.edu/pdffiles/VH/VH02100.pdf)
- Vegetable Production Handbook of Florida [edis.ifas.ufl.edu/pdffiles/cv/cv29200.pdf](http://edis.ifas.ufl.edu/pdffiles/cv/cv29200.pdf)
- Texas A&M AgriLife Extension Commercial Crop Guide: Lettuce [aggie-horticulture.tamu.edu/vegetable/files/2011/10/lettuce.pdf](http://aggie-horticulture.tamu.edu/vegetable/files/2011/10/lettuce.pdf)
- Texas A&M AgriLife Extension Vegetable Varieties for Central Texas [aggie-horticulture.tamu.edu/travis/wp-content/uploads/2015/09/VegetableVarieties2015.pdf](http://aggie-horticulture.tamu.edu/travis/wp-content/uploads/2015/09/VegetableVarieties2015.pdf)
- Alabama A&M & Auburn Universities Extension, Crop Production [www.aces.edu/blog/category/farming/crop-production](http://www.aces.edu/blog/category/farming/crop-production)
- UMass Extension Vegetable Program: Disease, Insect, and Mites Fact Sheets [ag.umass.edu/vegetable/fact-sheet](http://ag.umass.edu/vegetable/fact-sheet)
- University of Illinois Extension: Lettuce [web.extension.illinois.edu/veggies/lettuce.cfm](http://web.extension.illinois.edu/veggies/lettuce.cfm)
- USDA SNAP-Ed Connection: Lettuce [snaped.fns.usda.gov/seasonal-produce-guide/lettuce](http://snaped.fns.usda.gov/seasonal-produce-guide/lettuce)
- Purdue Extension FoodLink: Lettuce [extension.purdue.edu/foodlink/food.php?food=lettuce](http://extension.purdue.edu/foodlink/food.php?food=lettuce)
- Ryder, E.J. 2002. The New Salad Crop Revolution. p. 408–412. In: J. Janick and A. Whipkey (eds.), Trends in new crops and new uses. ASHS Press, Alexandria, VA. [hort.purdue.edu/newcrop/ncnu02/v5-408.html](http://hort.purdue.edu/newcrop/ncnu02/v5-408.html)
- Maynard, Donald N & Hochmuth, George J (2007). Knott's Handbook for Vegetable Growers (5th edition). John Wiley & Sons Inc.
- Decoteau, Dennis R (2000). Vegetable Crops. Prentice-Hall Inc.
- Swiader, John M & Ware, George W (2002). Producing Vegetable Crops (5th edition). Interstate Publishers Inc.
- Sukprakarn, S, Juntakool, S, Huang, R, and Kalb, T (2005). Saving your own vegetable seeds—a guide for farmers. AVRDC publication number 05-647. AVRDC—The World Vegetable Center, Shanhua, Taiwan. 25 pp.
- Seed Savers Exchange, Seed Saving: A Guide to Isolation Distances [www.seedsavers.org/isolation-distances](http://www.seedsavers.org/isolation-distances)
- University of Georgia Extension, How to Convert an Inorganic Fertilizer Recommendation to an Organic One, Circular 853. [extension.uga.edu/publications/detail.cfm?number=C853](http://extension.uga.edu/publications/detail.cfm?number=C853)





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