



CRABAPPLE (MALUS SPP.)

TREE FACTS

'Crabapple' is a term for any small-fruited apple tree and dozens of species are found across the globe. The Sweet Crabapple (*Malus coronaria*) is native to North America, specifically the Ohio Valley and Great Lakes Region. Crabapples are in the Rose family (*Rosaceae*). Most crabapples planted intentionally are hybrids chosen for ornamental qualities, but their fruit supports many birds and wild animals while also having culinary uses. Crabapples are **small trees reaching 15-20ft** and their bark that is usually a reddish-brown color. They produce sweet-scented 5-petaled flowers that transition from pink to white. Crabapples are **pollinated by many native bees**, including bumblebees and long-tongued bees, as well as some butterflies.

GROWING INFO

Crabapples need **full or partial sunlight** to thrive, prefer a **moist or semi-moist soil**, and tolerate clay in the soil. Crabapples are susceptible to a range of insect pests and diseases, including cedar-apple rust, fireblight, and many moth species. However, their many small fruitlets are more likely to survive damage than their larger cousins. Bloom time is generally March, while fruit reaches maturity during the late summer and fall months.

FALL/WINTER: Once established, 1" of compost may be added in late fall or early spring. Prune during dormancy in late winter, before the tree puts on new growth.

SPRING/SUMMER: Control weed growth around young plant. After tree is established it requires little care. Pest and disease management may be needed for best production.

CULINARY & MEDICINAL INFO

Crabapple fruit tends to be sour and sometimes very small. Some selected cultivars have bigger, tastier fruit and make good cider, sauce, jelly, and desserts. There are also some useful medicinal properties of the fruit and the bark of the plant. The pulp of the fruit (crushed) has **anti-inflammatory properties** and can help heal small cuts. The fruit also has laxative properties due to **high amounts of fiber** and so is used to help relieve some digestive issues. Another traditional medicinal use is to infuse the bark in a liquid which can be drunk to reduce high fevers. Crabapples are also a good source of **Vitamin C**.

PROPAGATION

Cultivars are propagated by grafting cuttings onto new rootstock in late winter. To propagate wild species by seed, plant a fruit as soon as it ripens in the early fall and it should then germinate sometime in the late winter. If sowing from a seed, the seed should be stored at 33F for 3 months before planting. This seed could then take up to 12 months to germinate. Keep the seedlings in pots until they are large enough to put in the ground.

HOW TO ENJOY: SPICED CRABAPPLE BUTTER

- | | |
|--------------------------------|--|
| 4 - 1/4 cup chopped crabapples | 1. Place all ingredients in a saucepan except the brown sugar. |
| 1 - 3/4 cup water | 2. Bring to a boil and simmer for 45 mins. |
| 1/2 tsp ground cloves | 3. Beat the apples into a thick pulp and then push the pulp through a vegetable mill or sieve. |
| 1/8 tsp ground nutmeg | 4. Return the pulp to the pan and add in the sugar. |
| 1- 1/2 tsp ground cinnamon | 5. Bring to a boil and stir until the butter is very thick. |
| 1 cup dark brown sugar | 6. Place in a jar and serve when cooled. |





CRABAPPLE BUTTER

Follow the instructions below for creating a sweet and tart fruit butter that can be enjoyed as a spread or condiment!

1

IDENTIFY

2

HARVEST

3

RINSE

In the early fall, collect firm, unmarked crabapples from trees, either by picking with your hands or shaking the tree and collecting the fallen fruit. Crabapples range in size depending on species and can range in size from half an inch up to 2 inches in diameter. Sort through your pickings to separate out any branches or leaves. Rinse the fruit and drain.

4

QUARTER

5

COOK

6

SIEVE

On a cutting board with a sharp knife, slice the fruit into halves or quarters, keeping the seeds. Next, in a soup pot, fill the pot with a little bit of water to come to half the height of the crabapples in the pot. Cook the crabapples over medium high heat until softened. Using a food mill or strainer, push the pulp through catching the peels, cores, and seeds.

7

RETURN

8

SWEETEN

9

ENJOY!

Transfer the pulp back to the pot. Then add 4 cups of sugar per 4 cups of sieved crabapples along with cinnamon, ginger, nutmeg, or allspice to taste and cook until thickened. Enjoy hot or with yogurt, toasted bread, or cooked oatmeal. Store any uneaten amount to a clean container and store in the refrigerator for up to a month. Or following a canning reference, can your fruit butter in clean, sealed, rimmed Ball jars.

Fruit butters are both useful and delicious. Often, fruit that is gathered in excess is used for butters as it minimizes the volume that needs to be stored. Also, because these butters are often **canned**, it helps to preserve fruit for longer periods of time. **Canning** helps to lengthen shelf-life for extended storage. After preparing the butters from crabapples or from a combination of other pome fruits (apples, pears, Asian pears, etc), ladle the butter into sterilized jars and then boil the sealed jars in a water bath to create a vacuum seal. Check a reference guide for how long to boil your jars depending on your chosen fruit, sweetener, base acidity, and elevation.



Persimmon

PERSIMMON (DIOSPYROS KAKI)

PERSIMMON TREE FACTS

Asian Persimmon (*Diospyros kaki*) is native to China, where it has been cultivated for centuries, and was introduced to California in the mid 1800's. At our community orchards, POP usually favors non-astringent cultivars such as '**Fuyu**'. Asian Persimmons usually grow between 13-20 ft tall and wide and are self-fertile. The native **American Persimmon (*Diospyros virginiana*)** is a much larger tree, growing 30-50 ft tall, but with smaller fruit. Except for a few self-fertile varieties, American Persimmons require a male and female tree for pollination. Persimmons belong to the *Ebenaceae* botanical family, valued for its wood and fruits. Persimmons are usually propagated by grafting scionwood or buds to selected rootstock; seed stratification is also possible. Pollinators of this tree include wild bees, bumblebees, and honeybees.

SEASONAL CARE

Persimmons are easy to grow with few ongoing care requirements. Asian Persimmons grow in **hardiness zones 7-10** and do best in areas that have moderate winters and relatively mild summers. American Persimmons are hardy in zones 5-9.

WINTER/SPRING: Late-winter pruning is helpful for shape and rejuvenation. In the spring, non-blooming persimmons may require an application of bonemeal to boost phosphorous.

SUMMER: Water young trees thoroughly once a week during their first year. Persimmons have few pest or disease problems in our region, thus requiring little other attention.

FALL: Persimmons are one of the latest ripening fruits in our orchard spaces. Harvest and process the fruit from Oct-Dec. depending on the variety. Harvest non-astringent Asian varieties when they are hard, but fully colored (ranging from light yellow-orange to dark orange-red). American and astringent Asian varieties should not be harvested until soft, as fruit picked too early will cause your mouth to feel dry and pucker from the astringency! Sweetness is often improved after the first frost.

NUTRITIONAL BENEFITS

Persimmon fruit is a very good source of dietary fiber with 100 g containing about 9.5% of recommended daily intake of soluble and insoluble fiber. Fresh and dried Persimmon fruit also contain healthy amounts of minerals like potassium, manganese (15% of DRI), copper (12% of DRI), and phosphorus. It is moderately high in calories (provides 70 calories/100 g) but very low in fats. Persimmons can be eaten fresh, dried, and cooked. Dried persimmon fruits are popular in Japan and often used in cookies, cakes, muffins, puddings, salads and as a topping in breakfast cereal.

PERSIMMON BREAD

2 eggs
1 1/2 cups all-purpose flour
3/4 cup white sugar
1/2 teaspoon salt
1/2 cup vegetable oil
1 teaspoon ground cinnamon
1 cup persimmon pulp
1 teaspoon baking soda
Optional: 1/2 cup walnuts, 1/2 cup raisins

1. Preheat oven to 325 degrees F (165 degrees C). Oil a 9 x 4 in. pan.
2. In a small bowl, combine flour, cinnamon, salt, nuts, and raisins.
3. In a large bowl, blend eggs, sugar, and oil. Mix baking soda into pulp, and add to sugar mixture. Fold in flour mixture. Pour batter into prepared pan.
4. Bake for 75 minutes, or until tester inserted in the center comes out clean.





HOSHIGAKI: JAPANESE DRIED PERSIMMONS

Preserving the fall fruit harvest!

Follow the adapted instructions below for drying persimmons in the traditional Japanese fashion.

1

HARVEST

2

PEEL

3

TIE

Harvest the fruits for drying when they are still firm like apples, generally late September to mid-October. Riper fruit must be handled more delicately. Peel the outer skin of the persimmon and tie a string to the stem, or an inserted screw (where the stem would be on the cap of the fruit). Some sources recommend dipping strung fruit in boiling water for 10 seconds before hanging, or spraying with vodka to control mold blooms from excess moisture.

4

HANG

5

MASSAGE

6

AGE

Tie several persimmons to a sturdy string to hang over a pole. Bamboo was traditionally used, but use what you have! After hanging the fruit for 3 to 7 days, the persimmon will form a skin that needs to be massaged to break up the hard inner pulp. The massage process continues every 3 to 5 days for up to 3 to 5 weeks.

7

BLOOM

8

ROLL

9

ENJOY!

By the end of this lengthy process, the sugars will come to the surface of the fruits, leaving a white bloom. The hoshi gaki are fully done when the pulp sets and you can no longer roll it.

Hoshigaki are persimmons that are peeled and dried whole over a period of several weeks through a combination of hanging and delicate hand-massaging, until the sugars contained in the fruit form a delicate surface with a dusting that looks like frost. Unlike sliced dried fruit, which tend to be brittle and leathery, hoshigaki are succulently tender and moist, with concentrated persimmon flavor. The hoshigaki method came to America with Japanese American farmers. The process depicted was adapted from Slow Food USA.



CORNELIAN CHERRY (CORNUS MAS)

PLANT FACTS

Cornelian Cherry (*Cornus mas*) is a slow to moderate growing shrub or small tree that can reach heights of **14-25 feet** if unpruned. The plant is a member of the **dogwood (Cornaceae) family** that has recorded use dating back **7,000 years** in ancient Greece. Native to central and southern Europe into Western Asia, the genus comes from the Latin word *cornu* meaning horn due to the strength and density of the wood. Its common name refers to the bright red cherry-like fruits that look like the semi-precious gemstone carnelian. While It's known primarily as an ornamental plant in the U.S. for its **early winter-March-blooming clusters of yellow flowers** that come out even before the leaves. The tart, cherry-like fruits are part of healthy diets in many regions of the world. The unripe fruit is quite astringent, as is the bark. On mature trees, the cornelian cherry develops an exfoliating bark. **These shrubs can live and be fruitful for more than 100 years.** The early flowers are a good forage plant for honeybees and native bees. It attracts birds and is rather **deer-tolerant**.

GROWING INFO

Cornelian Cherry is an easy-care, cold-hardy plant that grows well in **USDA Zones 4 to 8**. It requires **full sun to part shade**. Prefers moist, organically rich soils with a **pH 5.5-7.5**, but **can tolerate clay-based soils**. Cornelian cherries are partially self-fertile, but produce more if **cross-pollinated** with another variety. Space plants 10 feet apart if grown as a hedge. Mulching encourages better root growth and drought tolerance. Cultivated varieties yield larger, tastier fruit and are available in both red and yellow fruit coloration.

FALL/WINTER: Needs very little care, but check for small animal damage. Minimal pruning needed, usually completed while dormant in late winter before flowers emerge.

SPRING/SUMMER: Applications of compost tea can be applied to the base in spring. Harvest fruit in late summer.

NUTRITIONAL BENEFITS

The fruit is sweet-tart when fully ripe and is **harvestable on shrubs 4 years or older**. The fruit is not fully ripe until it falls from the bush. While it doesn't store well fresh, it can be dried. In some usages, the unripe fruit is brined like an olive. Its fruit is **antioxidative, antibacterial and anti-inflammatory**. The extracts of the berry have significant **antiatherogenic, anti-inflammatory, and neuroprotective effects**. The cherry is a **great source of potassium** with 530 mg in a 250 ml of juice, along with minerals copper, zinc, and manganese. The best way to get the benefits from the cherry is to **consume it raw**. The cherry is a popular ingredient in **Eastern European traditional cuisines** where its consumed as a wine, dried fruit, and sauce! It is also used in **Traditional Chinese Medicine for treating abnormal discharges from the body, displacement of organs**, among other uses. Consider using in jams, sherbert, syrups, preserves, or even as an add in to an apple crisp!

PROPAGATION

Cornelian Cherry can be propagated by seed and softwood cuttings. Seeds need between **90-120 days of warm, moist stratification, followed by 90-120 days of cold stratification**. Cultivated varieties are propagated via cuttings placed in soil medium and kept moist. **Greenwood cuttings taken in July or August** are more effective than dormant hardwood cuttings.





PICKLED CORNELIAN CHERRIES

Follow the adapted directions below from food blog Fig & Quince
for pickling cornelian cherries in the traditional Persian style!

1

HARVEST



2

SELECT



3

RINSE



Harvest cornelian cherries from shrubs that are 4 years or older in late summer. The fruit is not fully ripe until soft or falling from the bush. Try to use berries of the same size, color, firmness and ripeness. If your berries are unripe, puncture a few times with a toothpick. Make sure to choose the ripest you can find, otherwise you may end up with very astringent and sour cherries!

4

PREPARE



5

FILL



6

FLAVOR



Fill sterilized jar 3/4th of the way with berries. Add 1/2 TB of salt for every cup of vinegar, and a pinch of dried mint, garlic, salt, or other spices to your liking, and fill with pickling vinegar. If you choose to use mint, white vinegar works best. If you chose not to, other great options include high quality balsamic, peach balsamic, and apple cider vinegar.

7

SEAL



8

STORE



9

ENJOY!



Seal the jar and store in a cool, dark place. The pickled berries are best eaten 1 or 2 weeks after sitting, but can be eaten as early as a day after pickling. It makes a good side dish for a robust meal or a sandwich. The cherry itself has a good sized pit, so keep that in mind while consuming! You can use the remainder of your cherries to create jam, syrup, and marmalade.

Pickling fruit is a food preservation method that uses vinegar, salt, or sugar, and whatever herbs or spices complement your fruit, to highlight the natural sweet and tart flavors of your fruit and extend the harvest. You can use a range of different vinegar types to suit your liking just as long as the vinegar has 5% acidity. Check out a reference guide for water bath canning if you want to seal your pickles for later use. **Cornelian Cherries - "zoghhal akhteh" in Farsi**, is found mostly in Eastern Asia, or southern Europe. They're very commonly found in Iranian markets, and can also be cooked with some salt in a pan! The fruit is also sold dried, and sometimes turned into syrups, that are diluted and then added to water, creating a refreshing summer drink.



OYSTER MUSHROOM (PLEUROTUS OSTREATUS)

OYSTER MUSHROOM FACTS

The **oyster mushroom** (*Pleurotus ostreatus*) was first cultivated in Germany to feed people during World War I and is now grown commercially around the world for food. The mushroom has a **broad, fan or oyster-shaped cap spanning 5–25 cm and an aroma of bitter almonds** from benzaldehyde. They range in color from **white to gray or tan to dark-brown**. The flesh is white, firm, and varies in thickness while the gills of the mushroom are white to cream. The mushroom's edges roll in when it's young and becomes smooth or wavy as it ages. *Pleurotus ostreatus* is a **white-rot wood-decay fungus found often in temperate forests** and acts as a primary decomposer, especially of deciduous and beech trees. The **mycelium, a thread-like collection of cells**, is the growth structure that produces the mushroom caps. The oyster mushroom is one of the few known **carnivorous** mushrooms and its mycelia can kill and digest nematodes, which is believed to allow the mushroom to obtain nitrogen. **In North American forests, the ivory funnel mushroom (*Clitocybe dealbata*) and western jack-o'-lantern (*Omphalotus olivascens*) can look alike and are TOXIC. DO NOT EAT OR PICK WILD MUSHROOMS WITHOUT AN EXPERT!**

INOCULATION & CARE

Naturally, *P. ostreatus* grows on the mass of dead and dying wood as a tree begins to die. The fungus acts as a decomposer, returning vital elements and minerals to the ecosystem. However, because of poisonous lookalikes, we don't recommend growing oyster mushrooms for eating directly in the ground. To grow oyster mushrooms for eating, we have to **inoculate or introduce the microorganism into a suitable, sterile situation for growth**. Mushroom spawn is what we call a substance that has been inoculated with mycelium. If using spawn or wood chips, first boil or soak in high pH water overnight to sterilize. Then sprinkle alternating layers of mushroom spawn between damp straw, wood chips, or in bucket-grown conditions, coffee grounds and place into bags or buckets with small drilled holes for air flow. During the **incubation period**, temperatures should ideally stay at about **75 degrees Fahrenheit for about 3 weeks**. When fruiting, make sure to keep in mind the light, humidity, temperature, and CO2 level. For most oyster mushrooms **a well-lit room at 85-90% humidity, 65 degrees, and CO2 below 800 PPM is ideal**. Harvesting typically occurs about 5-10 days after the substrate is moved into fruiting conditions. Mushrooms should be **harvested before the caps completely flatten out**.

NUTRITIONAL BENEFITS

Oyster mushrooms have many nutrients, including fiber and protein. One cup of sliced oyster mushrooms has 28 calories and less than 1 gram of fat, yet **delivers 2 grams of fiber and 3 grams of protein**. One cup also provides **8 percent of the daily value of potassium, vitamin B-6 and folate**. Mushrooms are one of the few plant sources of vitamin D which our body needs to absorb calcium and to regulate genes that influence cell growth and enzymes in the immune system. Oyster mushrooms **can be eaten raw, cooked, dried, frozen, or canned**.

EASY OYSTER MUSHROOM RECIPE

1. Heat 2 TB of olive oil in a large skillet on medium heat and sauté 1 pound of oyster mushrooms and 4 chopped cloves of garlic for 2-3 minutes.
2. Reduce heat and add salt, stir and cover with the lid for another 5-7 minutes until they soften and release some juices. Mushrooms should be cooked for a total of 7-10 minutes.
3. When mushrooms are completely cooked, add 2 chopped green onions to the mushrooms, mix and season with salt and pepper.
4. Top each serving with the remaining 2 chopped green onions and enjoy!

CAUTION: Mushrooms can be TOXIC if not properly identified. Do not eat any mushrooms that you do not know. The Philadelphia Orchard Project shares this information for educational purposes ONLY and cannot be held liable or responsible for misuse of this information nor as a result of ingestion.



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GROWING OYSTER MUSHROOMS ON COFFEE GROUNDS

Mushrooms are the fruiting body of a dense, root-like network of thin white, threadlike fungi cells called **mycelium**. In nature, mycelium spreads through the soil or decayed woody plant matter (i.e. live or fallen trees) to fuel its growth **digesting organic matter**. When the network runs out of food, it produces mushrooms that spread their reproductive **spores** through the air to locate and spread to new growing areas. While most mushrooms grow naturally on straw, wood chips, or other decaying matter and can be cultivated on the same **substrate** (growing material), some species like **Oyster mushrooms** (*Pleurotus ostreatus*) can be grown on other spent materials -- like coffee grounds! -- perfect for those in urban environments making use of recycled materials for home or community scale food production!

HOME-SCALE MUSHROOM CULTIVATION

Oyster mushrooms are one of the easiest mushrooms to cultivate at home because they are among the fastest species to inoculate their growing medium. While most home-grown mushrooms will require being drilled and plugged into fresh-cut hardwood logs or onto **pasteurized** straw or wood chips (a process of sanitizing by heat or steam to prevent micro-organisms from competing with the mycelium, oysters can feed readily on coffee grounds that are pre-pasteurized through the coffee brewing process.

Ready to try your hand at growing your own? Follow the steps below!

1. In a washed and sanitized food-grade plastic bucket, collect enough brewed coffee grounds to fill the container 2/3rds of the way full. You can usually ask a busy cafe for their spent grounds -- you'll need to use the grounds within 24 hours of collecting them.
2. Use a 1/2 inch drill bit to drill 10 holes around the center of your fruiting bucket. Space the holes 3-6 inches apart depending on the size of the bucket, as well as 3 inches from the top and bottom of the bucket.
3. Mix together 4 parts coffee grounds to 1 part oyster spawn sourced online or locally through a local mushroom company like Mycopolitan mushrooms.
4. Place your bucket in a warm and dark place (64-77 degrees Fahrenheit). During the next three weeks, the mycelium will spread through the spawn and the coffee grounds should be covered in white thread-like fibers. If you see any green patches -- this is a sign of competing mold. If a small patch, sprinkle with salt to kill off the mold; if it's spread throughout, discard.
5. After the three weeks, you should see that the mycelium has turned most of the medium white. Cut a larger hole in the growing container and place the bucket in a location with a little light and more air circulation. Spray the spawn with water 2x a day to keep moist. After 5-7 days, you should see tiny little white mushrooms growing from the cut holes. Cut when full size!

NOTE: Because there are poisonous lookalikes, do not harvest or eat wild oyster mushrooms without guidance from an expert forager.



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THYME (THYMUS SPP)

PLANT FACTS

Thyme (*Thymus spp*) is an aromatic **perennial evergreen herb** in the **mint family Lamiaceae**. It is native to Europe, North Africa, and Asia, and there are over 350 different species. Thymes are relatives of the oregano genus *Origanum* and are known for their **culinary, medicinal, and ornamental uses**. Thyme has been important in many cultures throughout history and was even found to be used for the process of mummification in ancient Egypt. In ancient Greece, thyme was seen as a symbol of courage. This herb gets around **1-4 inches tall and can spread 2+ feet wide**. Thyme **produces white, yellow or purple flowers**, arranged in dense clusters at the end of its branches. It is **self-fertile** and commonly **pollinated by wild bumblebees, honeybees, sweat bees, hoverflies, and wasps**.

GROWING INFO

Thyme is a very hardy herb (zones 5-9) and low-maintenance perennial groundcover. It tolerates foot traffic and drought and dislikes wet conditions. Thyme does well in **full sun and tolerates partial shade** (although it flowers more in full sun). Generally easy to grow, its main pests and diseases to look out for include red spider mite and humidity-induced rot. Harvest from July through September and for the best and most potent flavor, pick the leaves just before the plant flowers.

FALL/WINTER: As a perennial, the herb will die back a bit during the winter. Trimming off the dead flower heads can help keep the plant bushy.

SPRING/SUMMER: Fertilize with any type of balanced liquid plant food during late spring or early summer.

CULINARY & MEDICINAL INFO

Thyme is a delicious herb with **the leaves used often in many cuisines**. The leaves can be used fresh or dry for cooking. Thyme can help boost your immune system because it is **full of antioxidants** and it is also **a great source of vitamins C, B, E, K, and A**. It is also a source of **beta-carotene and folic acid**. The flowers are edible and research has shown them to be **great as an antifungal, antiviral, and warming respiratory and digestive tonic**. Essential oils extracted from the leaves and flowers **contain a substance called thymol which has antiseptic properties**. Thyme has also been used for the soothing of wounds, the prevention of infections, and in a treatment for cough, congestion, stomach pain and gout.

HOW TO ENJOY

Recipe for Thyme Roasted Sweet Potatoes

- 4 sweet potatoes, peeled and cut into 1 1/2-inch thick rounds
- 1/3 cup fresh thyme leaves
- 3 tablespoons olive oil
- 4 large garlic cloves, minced
- 1/2 teaspoon kosher salt
- 1/2 teaspoon red pepper flakes

1. Preheat oven to 450 degrees F (230 degrees Celsius).
2. Combine sweet potatoes, thyme, olive oil, garlic, salt, and red pepper flakes in a bowl until evenly coated. Arrange coated sweet potato slices in a single layer on a rimmed baking sheet or 9x13-inch baking dish.
3. Place baking sheet on the top rack of preheated oven; roast until sweet potatoes are tender and slightly browned, about 40 minutes.

PROPAGATION

Take divisions of the root during cooler spring months from March to May. Cuttings of the plant can be taken in late spring or early summer. **Avoid fall transplanting due to cold winter frosts that could expose plants to freeze damage**. Thyme can also be started from seed and should be sown directly in the garden from May to August.





ORCHARD-HERB SAUERKRAUT

Gettin' funky and preserving the harvest with lactic fermentation

Disclaimer: All fermented products present potential health risks. Individuals are responsible for assessing the safety of consuming fermented foods.

1

THYME

OREGANO

BEE BALM

Harvest orchard herbs like thyme, oregano, or bee balm spring-fall to add a unique flavor to your kraut! Using scissors, cut above the point where two new leaves emerge on the stem.
To make 1 QT of kraut, use 1 TB of stripped and chopped herbs.

2

SELECT

3

SLICE

4

MASH

Select 1.25 lbs of green or red cabbage to make 1 QT of kraut. Slice thinly and place into a large mixing bowl. Add 1.5 TB of sea salt over the cabbage and squeeze until the cabbage is soft and has expressed some of its juices. Allow to sit for 10 minutes before packing into jars with clean or gloved hands.

5

PACK

6

FERMENT

7

ENJOY!

Pack sauerkraut tightly into clean, sterilized mason jars with rubber-sealed or screw top lids. All cabbage should remain under the lid. Use an outer leaf from the cabbage to create a barrier to keep the fermenting cabbage below the brine. Allow to ferment to 7-14. Check until it's at your desired done-ness. It should be tender and sour. When complete, store in the refrigerator or place in a boiling water bath for 15-20 minutes to seal jars.

Sauerkraut (meaning sour + cabbage in German) originated in China where it was first made from cabbage and rice wine vinegar. Today it may be one of the most well-known lacto-fermented vegetables. Sea salt in combination with sliced cabbage extracts the natural lactic acid in the vegetable juices through the process of **osmosis** and the **lactic bacteria** that thrives - souring the slaw - creates a natural preservative. Try this simple adaptable recipe for preserving the harvests of your garden or orchards!



FENNEL (FOENICULUM VULGARE)

PLANT FACTS

Fennel is a **perennial herb** that is a **member of the carrot or APIACEAE botanical family**. It grows easily in many types of soil, but **prefers drier soil** along a riverbank or near the coast. This herb is **native to the Mediterranean area** but is now found in many other regions including northern Europe, North America, and much of Asia and Australia. POP commonly plants bronze fennel for its attractive foliage, flowers, and leaves. This perennial can grow to be up to **5 feet tall** and the green colored, thread-like **leaves can grow to around 16 inches in length**. The leaves of the fennel plant are often compared to the look of dill, although they are slightly thinner. The fruit of the fennel is often mistaken for the seed, which is about 3/8 of an inch long. All parts of the fennel **can be used including the bulb, fronds, or its seed-like fruits**. Its sweet, **anise flavor** makes it a popular ingredient in many of the places where it is naturally found. Fennel attracts many beneficial insects including **swallowtail butterflies, ladybugs, syrphid flies, tachinid flies, beneficial parasitoid wasps and hoverflies** and is an exceptional **repellent of aphids**.

SEASONAL CARE

There are two main types of fennel; **annual bulb fennel** and **perennial herb fennel**. This bulb has the anise-like flavor that is the reason why it is also called anise fennel. This bulb variety can be grown in both the spring and the fall and takes around 80 days to mature once seedlings are planted in the ground. **The perennial herb variety of fennel is sometimes called bronze fennel**. This plant is used more often for the fronds and seeds. **WINTER:** Perennial fennel is a good self-seeder, so does not need to be replanted or tended in the winter months. In fact, this variety of fennel is so good at self-seeding that it can often take over an area if it is not attended to.

SPRING: Start the bulb seeds indoors in the early spring, about 8 weeks before the last frost. For the perennial variety, thin out any extra new plants that you don't want.

SUMMER/FALL: The first round of fennel will be ready during the summer time, and then the plants can be planted again in the early fall for a later harvest.

NUTRITIONAL BENEFITS

Fennel has been used in cooking all over the world, as it can be grown in many climates. It has many nutritional benefits that make it such a popular ingredient, as well as a unique flavor. Fennel is good for healthy bone structure and strength as it **contains minerals such as phosphate and calcium**. Because it contains **magnesium and potassium** in addition to calcium, fennel is also able to help maintain a healthy blood pressure. It promotes good heart health as it contains no cholesterol and has **fiber** and other heart-healthy minerals and vitamins. **Selenium**, a mineral found in fennel that is absent in many other vegetables, can promote liver health, and some vitamins in fennel are strong antioxidants. **These health benefits, as well as the versatility of the plant, make fennel an excellent addition to many types of dishes.**

PROPAGATION

The perennial herb variety of fennel will **self-seed**, and so does not require any additional work, except to control the possible over-spreading of the plant. **To propagate the fennel from the bulb variety, simply place the base of the bulb in a dish of water until roots begin to grow.** After this you can leave the plant in the water, or transplant it to soil.

