

GARLIC

Though garden garlic may seem pricy at the outset, remember that the varieties you choose can be re-planted each year from the previous year's harvest.

Culinary garlic, *Allium sativum*, is divided into two subspecies, softneck and hardneck.

Softneck garlic is the most commonly found and its botanical name is simply *allium sativum* var. *sativum*.

Almost all supermarket garlic is a softneck variety. This is because softneck garlic is easier to grow and plant mechanically and also keeps for longer than hardneck garlic. Softnecks are recognized by the white papery skin and an abundance of cloves, often forming several layers around the central core. The flexible stalk also allows softneck garlic to be formed into garlic braids (plaits). They generally don't have as much flavor as hardnecks.

There are two main types of softneck garlic:

- ❖ Silverskin garlic is most common simply because it's easier to grow and keeps longer. (*Rose du var, Silver Rose, California, Nootka Rose, Mild French, Polish*)
- ❖ Artichoke garlic tends to have fewer but larger cloves and a milder flavor. The artichoke garlic bulb wrappers are coarser than those of silverskins and sometimes have purple blotches. (*Susanville*)

Hardneck garlic offers a wide range and quality of flavors, from sweet and creamy to outright eye-watering. The Hardnecks have a hard core neck, a shorter shelf life, are less productive, peel more easily, have a more complex flavor, and like cold winters. Hardneck garlics have a "scape" - stalk - which coils from the top. On the top of this scape grow a number of bulbils which are often mistakenly referred to as garlic flowers.

The main subspecies of hardneck garlic are:

- ❖ Rocambole garlic usually has up to a dozen cloves of a tan or brown color, with a rich flavor, great for baking, not quite as good for storing (***Spanish Roja, Ontario Purple Trillium***)
- ❖ Porcelain garlic has a satiny white wrapper and the fewest cloves in a bulb, perhaps as few as four very large cloves & is hotter in flavor, with better storage than rocambole. (***Music***).
- ❖ Purple stripe garlic is highly distinctive because of its coloring, with bright purple markings & is a good general cooking & baking garlic. (***Chesnok Red***)
- ❖ Turban garlic is really a softneck garlic but often grows a hardneck. It is the earliest maturing garlic, but doesn't store as long as the others. Very attractive striped bulb and clove wrappers. (***Chinese Purple***)

Elephant garlic, *Allium ampeloprasum*, is a meek-flavored – though generously proportioned – garlic wannabe more closely related to leeks. Described as "garlic for people who don't like garlic," it should not be used as a substitute for garlic in recipes.



AMBERGARDENS GARLIC VARIETIES

Rocambole:

- A very popular hard-neck subspecies with more complex flavors than soft-neck garlic varieties. Each head contains 6-11 large cloves around the center stem with very easy peeling cloves.
- Often stated to be 'the finest tasting of all garlic period!'
- Does not store as long as other garlic varieties, so eat and enjoy these garlics within about 6 months of harvest.
- The scapes are thick and flavorful, often making 2-3 curls before turning up.



Ontario Purple Trillium (Rocambole)

One of the earliest maturing garlics and packs a ferocious punch. Described by some as a "veritable garlic inferno." Averages 8 to 12 cloves per bulb.



Spanish Roja (Rocambole)

Good flavor best described as "true" garlic. Roasts well. Heirloom variety brought to the Portland, OR area before the 1900's. aka "Greek" or "Greek Blue" by Northwest gardeners. A favorite, even among those who love all Rocamboles.

Purple Stripe:

- Hard-neck garlics (produce thick scapes) named for their bright purple streaks and blotches on the outside bulb wrappers and also the clove skins.
- Very complex flavors, often winning garlic tasting contests.
- Most have 8-12 cloves, slightly smaller than the Rocambole type



Chesnok Red (Purple Stripe)

Medium-hot flavor that preserves its flavor when cooked. Bulbs average 7-10 cloves. Won "best baking garlic" taste tests conducted by Rodale, Sunset Magazine, Martha Stewart and others. Good storage. From Shvelisi, Republic of Georgia

AMBERGARDENS GARLIC VARIETIES

Porcelain:

- Hard-neck variety with 4-6 symmetrical large cloves per bulb
- Stores a long time (up to a year) because of their tight clove wrappers
- Produces thick, sturdy, flavorful scapes that are delicious when grilled



Music (Porcelain)

Good flavor, sweet and pungent, very hot when eaten raw.
An Italian variety brought to Canada by Al Music in the 1980s.
Averages 5 large cloves per bulb.

Turban:

- A softneck but often grows a hardneck depending on weather
- Earliest maturing garlics but don't store as long
- All have attractive, striped bulb and clove wrappers



Chinese Purple (Turban)

Great raw, very flavorful with heat and strong garlic flavor.
High "allicin" (garlic) level (good for drying / insecticides, etc).
Average 10 cloves per bulb

HOW TO GROW, HARVEST AND STORE GARLIC

Growing garlic is pretty straightforward. Just before you plant, separate the bulbs into individual cloves. It doesn't matter if the wrapper is still covering the clove or not, but DON'T plant damaged cloves. Use the largest cloves for the biggest bulbs. Work in a handful of complete organic fertilizer and maybe a handful of bone meal directly beneath each planting spot. Plant pointy side up, two inches deep and three to five inches apart in rows spaced 12-18 inches. Plant closer in raised beds with well-maintained soil.

In our climate, garlic tops usually break ground by the end of Dec or Jan. Remarkably hardy west of the Cascades, the plants need no special attention in winter. Even during a severe arctic express, a layer of row cover should be enough. (Cold weather areas of the country should plant garlic in spring.) In February, side dress with more organic fertilizer, or feed every two to three weeks with liquid fish fertilizer once growth begins.

Keep the bed weed-free and don't let the soil dry completely throughout June, unless you're willing to sacrifice bulb size for a hotter product.

Hardneck garlic varieties send up a scape, or flower stalk. It's often recommended that scapes be removed as soon as possible to redirect the plant's energies to building a bigger bulb. Some growers feel that scapes prolong storage. We cut the scapes early and eat them and have no storage problems.

The goal is to size up the bulbs as much as possible before June 21st, the summer solstice, when they stop growing and begin to harden off. Stop watering when the tips start to brown and the lower leaves are dying off (usually late June to early July), a couple of weeks before harvesting. When the lower third to one half of the leaves are dying back – by the end of July for most varieties – the bulbs are ready to pop out with a shovel or garden fork. Don't just pull them – loosen the soil first. Don't wait until all the leaves are brown to harvest garlic or the skins will split, letting in dirt and making the cloves unattractive and difficult to use, as well as reducing their storage life.

Storage

Once the bulbs are out, gently remove off as much loose soil as possible. Put the bulbs – stalks, dirt and all – on a tray, or hang the plants to dry in a protected spot out of direct sun. After a week or two when the soil has dried, rub off the dirt and outer skin. Do not wash. Trim off the roots. For hardnecks, clip the stalk about an inch above the tips of the cloves. Softneck garlic can be braided and hung. Save the biggest bulbs to re-plant in September - November.

All types need good air circulation and continued cool, dry storage. A basket with an open weave or mesh bag are good for holding garlic. Don't use sealed containers which encourage decay. Fresh garlic should never be stored in the refrigerator. Softnecks may last for up to a year; many hardnecks hold for only half that time but a few store for 9 months to a year. Softening or sprouting is a sign that the cloves have lost quality and should be discarded (or quickly eaten).



POSSIBLE PROBLEMS WITH YOUR GARLIC CROP

Garlic is generally a very hardy crop which grows well in the garden, however there are a few **diseases** it is prone to. Many of these also attack onions, another [allium](#) to which garlic is closely related. Honestly the best way to prevent all these is to grow in good draining soil with organic matter and not plant garlic in the same spot for at least 3 years.

Garlic Rot

Rot is probably the most common garlic disease. There are two frequently encountered rots:

- **Basal Rot (*Fusarium Oxysporum*)**

Basal rot is a slow developing condition. Affected garlic plants show gradual yellowing and leaf dieback. There is sometimes a white fungal growth visible at the base of an infected bulb leading to the bulb rotting. Symptoms continue to get worse even after harvesting. Basal rot is favoured by higher temperatures and hence more common in warmer climates.

- **White Rot (*Sclerotium Cepivorum*)**

The symptoms of white rot are very similar to those of basal rot, however it attacks the growing garlic more quickly and is more likely to kill the plant outright. White rot prefers cooler temperatures. Dipping seed garlic in hot water before planting can reduce the chance of white rot but be careful: too high a temperature could kill the garlic itself.

Rust (*Puccinia Porri*)

Rust first shows as leaf blotches of a reddish orange colour. If a plant is heavily infected then the leaves turn yellow and can collapse completely. Garlic plants infected by rust will produce a lower than usual yield and can produce deformed bulbs. Heavily infected plants can die.

Downy Mildew (*Peronospora Destructor*)

Downy mildew can be recognised by an off-white, sometimes slightly purple, furry growth on the leaves of the garlic plant. The leaves go on to yellow then collapse. Since downy mildew is airborne, patterns of yellowing often follow prevailing wind directions in a large crop. Downy mildew can kill young plants and causes stunting in older ones.

CO-PLANTING WITH GARLIC

The term **co-planting** ("companion planting") refers to growing different plants together with mutual benefits to both. Garlic is an especially friendly plant and can assist other crops in a variety of ways. Not only does growing garlic result in your own crop for the kitchen, it can assist the rest of your garden.

The main benefits of garlic to the home gardener are its natural fungicidal and pesticidal properties. These can help keep neighbouring plants healthy.

The powerful antibiotic and antifungal compound [allicin](#) is released when garlic cloves are crushed. This also occurs when the clove is bitten into. Thus pests attacking garlic are likely to release its natural pesticide. Some have speculated that allicin evolved this way as a defence mechanism for the crop.

Garlic co-planting is especially beneficial to lettuce (where it deters aphids) and cabbage (deterring many common pests).

As well as protecting other plants garlic can also improve their flavour. Beets and cabbage are reported to be especially good companions that benefit from this.

Not all companion planting combinations are beneficial. Garlic doesn't seem to cooperate well with legumes (beans and pulses), peas or potatoes. Try not to plant these too near your garlic. In fact I try not to grow peas or beans for 2 years after garlic or onions have been grown in the same spot.

As well as co-planting the cloves themselves, you can use garlic extracts to protect other crops. There is a long tradition of treating plants with garlic solution. Recently, scientists at Newcastle University confirmed scientifically that garlic oil is effective at repelling and even killing snails and [slugs](#).

These properties make garlic an excellent choice for the gardener who wants to avoid artificial chemicals and prefers to grow crops as near [organically](#) as possible.



GARLIC PESTICIDE SPRAYS

Target insects: Aphids, cabbage loopers, grasshoppers, June bugs, leafhoppers, mites, squash bugs, slugs and whiteflies. May also help to repel rabbits! Never use oils sprays on Blue Spruce as it will remove the blue waxy coating on the needles! Because garlic contains naturally occurring sulfur it also acts as an antibacterial agent and fungus preventative.

When working with oil sprays you want to monitor the climate conditions so your plants won't get phytotoxic burn. Use this simple equation: Take the current outdoor Fahrenheit temperature then add to this the percentage of humidity, if the total is more than 140 don't spray. You also do not want to spray when temps are above 80F.

Garlic Pest Control Spray

Many cultures around the world have used garlic as a natural antibiotic and anti-fungal remedy. When garlic is combined with mineral oil and soap, it becomes a very effective pest control product. However, when it is sprayed, it is not a selective insecticide. It can be used to control cabbageworm, leafhoppers, squash bugs, whitefly, but will also affect beneficial insects so be careful where and when you apply this product.

- To make: Combine 3 ounces of minced garlic cloves with 1 ounce of mineral oil. Let soak for 24 hours or longer. Strain.
- Next mix 1 teaspoon of fish emulsion with 16 ounces of water. Add 1 tablespoon of castille soap to this.
- Now slowly combine the fish emulsion water with the garlic oil. Kept in a sealed glass container this mixture will stay viable for several months. To use: Mix 2 tablespoons of garlic oil with 1 pint of water and spray.

Garlic and Red Pepper Spray

Cut up one unpeeled onion and one unpeeled head of garlic. Add with one heaping tablespoon of red pepper to three pints water in a saucepan. Cook about 20 minutes on low heat. Let the spray cool. Pour it in glass jars and cover with a lid. It will keep in the refrigerator over a month. When you are ready to use the herbal spray, use one tablespoon per pint of water. Adding Ivory Snow increases effectiveness (soapy water is a good natural pest control by itself if you spray it directly on the insect.)

Simple Garlic Tea

Liquefy two bulbs of garlic and 1-1/2 cups of water to create concentrated garlic tea, a good all-purpose insecticide that makes crops undesirable to pests. Strain any solids out of the mixture and add enough water to make a gallon. Use this concentrate right away, or freeze in 1/4-cup muffin tins to use later.

☐ Garlic tea can be used in conjunction with seaweed fertilizer. Mix 4 Tbsp. seaweed concentrate, 1 Tbsp. vinegar and 1 frozen garlic-tea cube in a gallon sprayer. This can be applied weekly in spring to everything in the garden, then once every two to three weeks in the summer.



2 WAYS TO REMOVE PEEL FROM GARLIC

Separate cloves first, then

1) Boil water, put cloves in for about 5-8 seconds, remove and plunge into ice water for 20 minutes.

OR

2) Soak cloves in ice cold water for a few hours

Peel should slide right off the garlic

STORING & PRESERVING GARLIC

STORAGE:

Store whole bulbs in the garage or basement or other cool location (50-60 is ideal). Keep them out of direct sun a way from a heat source. They need good air circulation too. Mesh bins and bags are great.

Many garlic varieties last 4-12 months but if you find them starting to sprout or losing flavor, take steps to preserve them for later use.

NEVER store fresh garlic in any kind of oil at room temperature. This can lead to botulism. You can store fresh garlic in oil in your refrigerator for a few days, or in your freezer for a few months. Yes, you will find fresh garlic in oil products on the store shelves, but they are made with equipment and techniques not available to the home cook.

FREEZER:

Peel fresh garlic cloves, place in freezer on tray until frozen, then put in freezer bag. Alternatively, finely slice or chop garlic cloves and press flat into freezer bag and freeze, breaking off a chunk as needed.

Or, combine 1 part sliced or ground fresh garlic with 2 parts olive oil and either press it flat inside the bag (break off a piece as needed) or freeze it in ice cube trays.

DRYING:

This is a good method to preserve the “allicin”, which is the good flavoring and healthy component of garlic. A pound of fresh garlic = ½ pound dried.

Peel and slice or chop the garlic before drying. After drying, garlic is harder than a rock and very difficult to work with as whole cloves. Use food dehydrator (with sheet trays or line with wax paper) at @115-130 degrees until crisp but still light in color (may take up to two days). Store in airtight container out of light; keeps indefinitely.

You can make fabulous garlic powder with your dried garlic in your blender or food processor. Also, try combining it with lemon peel, pepper, salt, lavender, etc. to make seasoning blends.

PICKLING:

Garlic is a great addition to pickles or is great pickled on its own. They are crunchy but lose a lot of the heat in pickling, so you can eat more. It is a low acid food, so must have adequate vinegar to properly preserve it. There are a number of good recipes on line including some good ones at allrecipes.com. Check with your local extension or the National Center for Home Food Preservation <http://nchfp.uga.edu/> or Home Canning <http://www.home-canning.com/> for info and recipes and food safety.

