

*How to grow,
harvest,
store,
and use*

GARLIC

*the most ancient
Medicinal and
Culinary
Wonder!!*



Garlic: The Fragrant “Stinking Rose”!

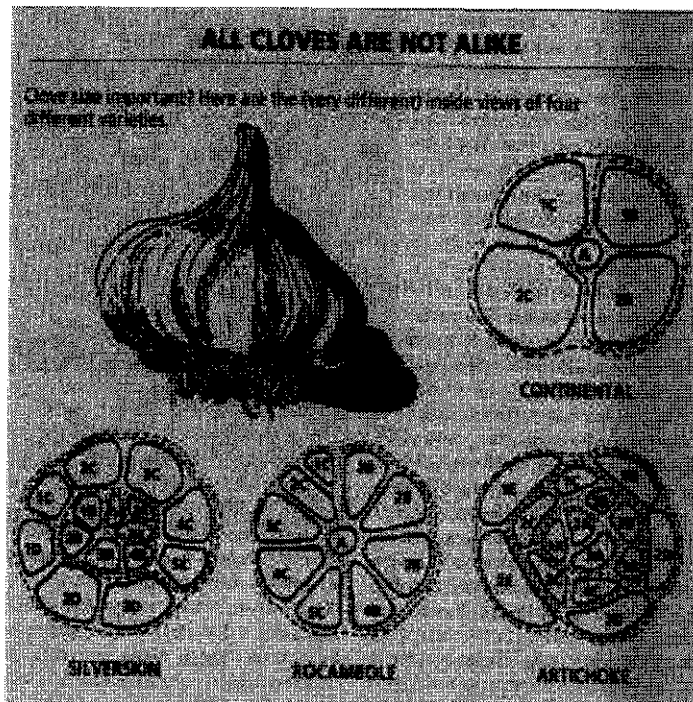
Garlic has been revered for both its culinary and medicinal uses for centuries... with lore in Chinese texts dated as far back as 2,000 B.C. Ancient Greeks used garlic for treating infections, wounds, and intestinal disorders, as well as for cooking. Garlic was grown and used in India, Egypt, Persia, and in the Mediterranean for centuries before making its way to the more modern Western kitchen!

Modern research backs up these historical uses, finding that garlic indeed offers a stunning array of medicinal properties. The following is a list of some of those attributes:

- *Acts as an antiseptic
- *Fights infection
- *Has chemicals that fight cancer
- *Thins the blood
- *Reduces cholesterol
- *Stimulates the immune system
- *Lowers blood pressure

With this great reputation, it is surprising that garlic isn't more popular in the home garden. It is actually easier to grow than its relative the onion, and less subject to disease or insect problems than the all time garden favorite, the tomato. Garden preparation and planting garlic here in New England takes place in the fall. As the rest of the garden is put to bed for the winter, garlic needs to be planted and mulched. Then in the spring when everything is still quite dreary, the garlic sprouts up through the mulch ...the first sign of the new gardening season!

Let's get growing great garlic!



OH! The Many Kinds of Garlic!

There are four types of garlic, each with different growth habits and different inner arrangements. The “hardnecks”, Rocambole and Continental, are best suited to northern areas. The Artichoke garlic will grow well in many different areas, while the Silverskins do best where the winters are milder.

Because we live in New England, it is easiest to begin with the Rocambole and Continental types - and my suggestions for growing, harvesting, storing, and using, will be with those types in mind.

Getting Started In The Garden

The secret to great garlic is the soil! A loose, fertile soil with lots of compost will produce a beautiful crop. Choose a well drained area, with full sun, and close

enough to a water source for irrigation if it is necessary.

Planting is:

In “late” October – early November
When the soil has cooled
2-4 inches deep (like tulips!)
6-8 inches apart
in rows 12 inches apart

We use raised beds for our garlic. They are filled with sandy loam mixed with some garden soil, and LOTS of screened compost! When we plant our garlic cloves we lay a soaker hose directly on the soil so that we can irrigate if it turns out to be a dry season during the next year’s growing season.

At planting time we remove any weeds, use a fork to loosen the soil and mix in the compost. We lay out the rows, 5 to each 4’ x 10’ box, and draw a little trench for the cloves. Gently remove the outer wrappers from the bulbs and separate the cloves. Leave the skins on the cloves. Then we put out the cloves - the whole bed at a time - and when they are all laid out and spaced, we push them in about three inches. A pat to firm the soil and you’re finished.

After planting and laying out the soaker hose we apply a layer of straw 8-10 inches deep to protect against heaving out with frost.

We have another problem – chickens! To prevent them from digging up the freshly planted cloves we cover the mulched beds with bird netting and pin it down firmly with earth staples.

Come Spring...

The first sign of spring in our garden is the garlic! The tender green shoots come up just about the same time as crocuses. We check daily as the weather begins to warm, and as soon as the little green shoots come up we pull the mulch back to warm the soil and give the plants sun!

Harvesting Scapes Garlics' "Plan B"

Garlic bulbs are technically clones... it is possible to grow 100's of garlics close together with no chance of crossing. And because the energy of the plant needs to go into the bulb to create large bulbs, many growers recommend removal of the "flowers" that come with all hardnecks. In late June or early July most hardnecks will produce a stalk and flower head. The flower won't produce real seeds... instead it produces mini-garlics. They can be harvested and planted during the winter for greens. However, I have found that removing the flowers while the stalks are still tender - giving me an additional harvest - usually makes the bulbs larger!

The flower stalks or "scapes", should be harvested while they are still tightly curled and the flower bud is still pointing at the ground. At this point the stalk AND flower can be harvested, used fresh, in stir fry, pickled, or ground up with olive oil for pesto or long storage.

The scape should be cut at it's base, just above the highest leaf of the plant. See the recipes below for using "Garlic Goo"!

Harvesting Prime Garlic Bulbs!

The quality of harvested garlic bulbs is ultimately determined by the timing of harvest and the care given to curing and storage.

Every leaf of a garlic plant is literally one of the wrappers that enclose and protect the bulb for storage. It is essential to harvest while those wrappers are in good condition.

When any healthy leaf tips begin to brown, usually around mid July, check daily and count the

REMAINING GREEN LEAVES

When there are 6 remaining green leaves make plans to harvest.

When there are 5 remaining green leaves it is time to harvest! Leaving garlic in the ground too long will cause the wrapper leaves to deteriorate and the bulbs will split open - they will not store well at all.

Garlic should never be yanked up... rather, a fork should be used to loosen the soil and the plant should be pulled up very gently! This will prevent bruising and helps keep the wrappers intact.

Gently brush any clods of soil off the roots, and bundle 6-8 garlics gently with twine. They should be hung very soon in an airy place, out of the sun. Leaving garlic out in the sun will literally cook it!

An alternative way to cure is to trim the bulk of the leaves off and lay the bulbs in open nursery trays. The trays can be stacked in an airy area to cure the bulbs.

Curing the Harvest

The harvested garlic, all hung up neatly, or in stacked nursery trays, should be allowed to dry 6-8 weeks. Be sure to finish cleaning your garlic before frost!

Cleaning for storage is not difficult - you need to remember that the wrappers are the key to good storage. Gently wipe dirt off the bulb, trim the roots to about 1/2" with scissors, clean around the roots with a toothbrush, and trim off the leaves, leaving a neck of about 3/4"-2". Remember that the wrappers are the key to good storage: it is better to have slightly messy but intact wrappers than to peel the garlic down for looks and end up with few or no wrappers!

Storage

Garlic needs to be cool (NOT cold) and very dry for long term storage. There will be a place - in some corner of your home - that will be cool and dry. An airy bag (we use recycled onion bags from the co-op) can be loosely filled and hung up in the closet or back entry... use a thermometer and hygrometer to find that spot if necessary!

Planning Next Years Crop

When you are cleaning your harvest, remember to save out the VERY BEST for planting for next year! Planting bigger cloves will guarantee larger bulbs and cloves every year!

Varieties to Grow

Many garlic growers have favorite varieties - for a variety of reasons! Some garlics store longer in good condition than others. Some are milder

in flavor. Some have local historical value. Locally grown garlic is more likely to perform well as it is already acclimatized to your area. The only garlic you should never bother growing is silverskin type from the supermarket - you will be getting a variety that is grown somewhere else, even offshore - and it will not perform well for several generations - if ever - while trying to get used to New England winters. Here are some suggestions from our own experience here in Maine:

Red Russian, a rocambole that is widely available grown locally. White pungent cloves, brown/red skins, and red-striped outer wrappers.

Georgian Fire has a pungent and almost hot flavor. Fabulous for use in sauces and salsas. A little goes a long way. This is a continental type with pink blushed wrappers.

German Extra Hardy, a continental that IS extra hardy. Typically tall and slim plants with very white bulbs and cloves. Averages 3-5 HUGE cloves per bulb. Will store 10-12 months if well cured. The chefs dream - when you peel one clove you get a lot of garlic!

Music Pink, another continental, originally from Russia, now widely grown in the US. Tall slim cloves with a beautiful pink skins, pink and white outer wrappers. Stores 6-8 months.

Phillips, a rocambole that has been grown locally, in Phillips Maine. Originally from Italy, Phillips came with immigrants through New York State, and on to Phillips where it has been grown for more than 25 years. Easy to peel and stores well.

Colorado Black, a rocambole that adapts well in Maine. The actual clove skins are reddish-brown, but the outer wrappers are a unique dark gray - hence the name "black". Produces well.

Inchelium Red, an artichoke type that is widely adaptable. Well grown, this is another chef's favorite with a mild flavor. Tops can be braided. This one is new for us!

There are literally hundreds of varieties - experiment and enjoy!

Cultural problems and diseases to be aware of ...

There are several potential **cultural problems** that can severely affect the quality of your garlic crop.

- Soil preparation will make or break your garlic production! Weed free, high in organic matter, well loosened and well fertilized soil, a.k.a. the BEST spot, is where your garlic should go!

Preparation a year in advance is advisable for new areas.

- Crowding and weed pressure will reduce the size and vigor of your plants and the resulting bulbs.

- Water is essential, especially in early spring. If you are in a very dry area or use raised beds, installing soaker hoses may be a good idea. Later, as the garlic matures it will be able to fend for itself. Later in the season drier soil is less prone to fostering disease or deterioration of the bulbs.

Insects

- Thrips are tiny fly-like insects that suck the juices from onion and garlic leaves. They leave behind tiny silvery spots and streaks. A good hard rain or overhead watering will often kill adults. They have

a very short life cycle, so watching for emerging 2nd or 3rd generations is essential. (Engeland p119)

- Onion Maggots are the larvae of another tiny fly that thankfully prefers onions over garlic. The maggots burrow into the underground stem and eventually into the bulb, hollowing it out. Onions can be planted as a trap crop to protect the garlic. (Engeland p121)

- Nematode Bloat is a re-emerging problem. Nematodes are tiny worm-like creatures that live in the soil. These specific nematodes attack the bulb and stem causing stunted growth and deterioration of the root base and wrapper leaves. Clean seed, good garden sanitation, and a 4 year rotation will help avoid or solve this problem. (Engeland p118)

Diseases

- Basal Rot, or bottom rot, is caused by a soil borne fusarium fungus. Usually evident late in the season and during hot weather, it tends to attack weakened or damaged bulbs. Basal rot can be avoided by using good garden sanitation and a 4 year rotation. (Engeland p125)

- White Rot is emerging in New England and is the most devastating of all diseases affecting garlic. *Sclerotium cepivorum* is most active early in the season when soils are cooler, and can actually be inhibited by warm soil temps. However, once the sclerotia are loose in your soil, they can remain dormant for up to 25 years. The best solution is not to acquire this disease in the first place. Only time will remove the problem from your soil completely.

-Nematode Bloat is caused by nematodes, tiny worm-like critters that live in the soil. They attack the garlic bulb at the roots causing a water-soaked appearance and the roots are frequently gone. Luckily the nematodes will perish with no allium host so a good 4-year rotation is usually enough.

-Botrytis Rot shows up as stunted plants with dying outer foliage. Good sanitation, good air drainage, and a good rotation will usually prevent recurring problems.

-Blue mold, or penicillium decay, is a disease that usually shows up in stored garlic. It is easily identified by the presence of blue mold and damaged shriveled cloves. Clean seed, good sanitation, and rotation will usually keep this disease in check.

And NOW, some Recipes!

Garlic "Goo"

Tender garlic scapes

Olive oil

Blender or Cuisinart

Have olive oil ready to pour; 1-2 cups. Cut scapes -including small flowers- into 1"-2" pieces. Fill the blender or Cuisinart no more than half full of pieces, cover, and begin to process. Add olive oil, dribbling it in constantly, until the scapes are blended into a smooth paste. Paste can be frozen almost indefinitely.

Garlic Butter with Garlic "Goo" or Roasted Garlic

Soften 1/4# to 1# butter and stir in enough Garlic "Goo" or Roasted Garlic to taste. We use several tablespoons of "Goo" or Roasted Garlic for a pound of

butter! Can be used to sauté vegetables, for garlic bread, on mashed potatoes, etc! Enjoy!

Garlic "Goo" as a recipe starter

If you make soups, stews, pasta sauces, etc, that call for garlic, you can substitute Garlic "Goo". We use "Goo" for some recipes just because it is not as strong as bulb garlic. In the spring when our stored garlic is either gone or beginning to soften, we use the "goo" till the next harvest is in.

Roasted Garlic

Garlic bulbs

Olive Oil

Blender or Cuisinart (if desired)

Separate and remove skins from as much as you'd like to roast! We do a lot all at once! Heat oven to 250°F. Line a baking dish with two layers of foil, with enough on the ends to fold up and seal. Put in the garlic cloves and drizzle olive oil on the cloves. Gently stir and add enough oil to coat all the cloves. Fold the foil up and seal it tightly. Bake for 1 1/2-2 hours till the garlic is soft but not brown or dry. Lightly mash with a fork (or process in the blender or Cuisinart) to the desired consistency. Enjoy!

Roasted garlic can be frozen almost indefinitely. If you do a large quantity, store it in small glass dishes and thaw one at a time!

Garlic Mashed Potatoes

6 medium potatoes, peeled and quartered

4 to 5 garlic cloves

5 cups water

2 tablespoons olive or vegetable oil

1/2 to 1 teaspoon salt

Pinch of ground black pepper (to taste)

In a medium saucepan, bring potatoes, garlic, and water to a boil. Reduce heat, cover, and cook for 20 minutes or until potatoes are tender. Drain, reserving at least 2/3 cup cooking liquid. Mash the potatoes and garlic. Add oil, salt, pepper and enough reserved liquid to make smooth mashed potatoes. 4-6 servings. Enjoy!

Garlic Root Roast

1 pound carrots, scrubbed and chunked
1 pound potatoes, scrubbed and chunked
1 large rutabaga, peeled and cubed
1 large onion, coarsely chopped
1 head garlic, separated and peeled
1 1/2 tablespoons olive oil
2 tablespoons fresh rosemary, finely minced
2 tablespoons fresh sage, finely minced

With a large empty toasting pan already inside, preheat oven to 450°F. when the temperature is reached, carefully remove the hot pan and coat the bottom with about half of the olive oil. Add the chopped vegetables, herbs and any seasonings you like, then drizzle the remaining oil over the vegetables. Cover the pan tightly and roast for 30 minutes. Remove the cover and roast for another 15-20 minutes till vegetables are lightly browned. 4-6 servings.

Resources and Sources

Growing Great Garlic, by Ron L. Engeland

The Definitive Guide for Organic Gardeners and Small Farmers
Filaree Productions, 1991 (available)

This is THE book to have. It covers history, botany, growing techniques, disease, harvesting, cleaning, storing, and marketing. There are conflicting ideas out there about timing of harvesting, cleaning and curing methods, and removal of scapes. I have found this book to be the best guide, and recommend it to anyone interested in growing a quality garlic.

TAKE GREAT CARE TO PURCHASE ONLY DISEASE FREE SEED GARLIC

FEDCO

P.O. Box 520,
Waterville, ME 04903-0520
www.fedcoseeds.com
Free Catalogue

local farmers – try to see the field

JOHNNY'S SELECTED SEEDS

955 Benton Ave, Winslow ME 04901
1-207-437-4301 FAX 1-207-437-2165
www.johnnyseeds.com
Free catalogue.

Seed Savers Exchange

3076 North Winn Road
Decorah, Iowa 52101
www.seedsavers.org
Membership Organization

Filaree Farm

182 Conconully Hwy.
Okanogan, WA 98840
catalog \$2
www.filareefarm.com

**Presented by Amy LeBlanc
Whitehill Farm, East Wilton,
Maine
www.whitehillfarm.com**