

Growing Food in Tahoe Workshop Series

Fall Planting – Garlic & Interesting Alliums

Topics covered:

1. Project overview – Who we are
2. Reporting and communications
3. About Garlic and Alliums
4. History and culinary aspects
5. Planting and care
6. Varieties being evaluated
7. Distribution of plant materials



Sierra House School onions and garlic

Growing Food in Tahoe Workshop Series

Fall Planting – Garlic & Interesting Alliums

Who we are

Master Gardeners are community members who have been trained under the direction of the University of California (Davis) Cooperative Extension.

Each volunteer has completed more than 50 hours of formal classroom training.

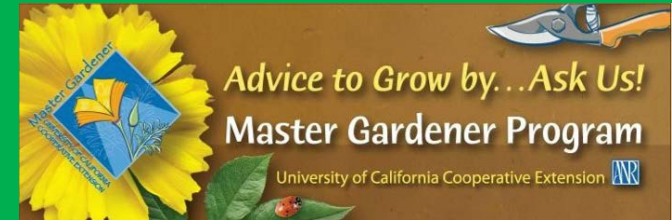
Master Gardeners, agents of the University of California, assist the UC Cooperative Extension by providing practical, scientific gardening information to the home gardeners in the Lake Tahoe Basin.

The Lake Tahoe Master Gardeners offer research-based information by:

Answering questions via email hotlines, farmers markets and at community events.

Offering workshops and classes

Publishing articles in newsletters, local newspapers and social media.



Co-operative Extension Tahoe Basin Master Gardeners

University of California
Agriculture and Natural Resources

Growing Food in Tahoe Workshop Series

Fall Planting - Garlic & Interesting Alliums



Help with public gardens and hands on workshops

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What we do



Garden Lectures

Co-operative Extension Tahoe Basin Master Gardeners

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Answer Gardening Questions at Farmers' Markets

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Tahoe Daily Tribune Photo

Assist with school gardening programs

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Reporting and Communications



1. We provide this workshop on growing garlic and *Alliums*
2. If you participate in the program you receive plant materials and support
3. To participate you provide contact information
4. We will send out growing notes and tips periodically
5. We will respond to inquiries
6. We will follow-up asking how the plants you received did
7. You are expected to provide information on the plantings

Communications



Megan Suarez-Brand mesuarez@ucanr.edu

Communications – We continue to attempt to streamline our communications with everyone. Our Master Gardener Coordinator Megan Suarez-Brand is handling all e-mails forwarding them to the appropriate people. That said you can always contact me directly.



David Long
davidmlong@earthlink.net

Co-operative Extension Tahoe Basin Master Gardeners

Phenology

Phenology looks at growth and development differences between plant varieties that are due to weather and climate.

Merriam-Webster on-line Dictionary

Varietal Comparative Phenology looks at growth and development differences between plant varieties that are due to weather and climate.

Varietal Comparative Phenology

The importance of VCP:

1. Method **may** be used in identifying early mid and late season varieties
2. Can be the basis of defining a new variety
3. Provides important information on plant development to growers
4. May have importance in IPM strategies
5. Important consideration for bringing produce to market

Varietal Comparative Phenology

VCP does not:

1. Look at disease resistance
2. Plant appearance
3. Plant or produce growth habits
4. Photoperiodism (the effects of length of daylight to organisms)*
 - * For most plants it is the amount of non daylight that affects plant development

Culinary Alliums

Chives - *Allium schoenoprasum*

Scallions or Green onions - *Allium fistulosum*

Bulb Onions- *Allium cepa*

Shallots - *Allium oschaninii*

Leeks - *Allium ampeloprasum*

Garlic Chives - *Allium tuberosum*

Elephant Garlic - *Allium ampeloprasum*

Softneck Garlic - *Allium sativum* ssp. *sativum*

Hardneck Garlic - *Allium sativum* ssp. *ophioscorodon*



Inchelium Red garlic

Co-operative Extension Tahoe Basin Master Gardeners



Borettana Cipollini Onion

Gardens and Garlic



History Guy Image

The Capitulary of Charlemagne (802 AD) lists those plants that the nobleman or abbey should grow in their gardens. It includes garlic onions shallots and leeks

A Garden is a designated plot of land, usually near residence where specialty or important plants are grown

Terroir – Garlics and Alliums Grow Into Their Place

***Terroir* is the set of all environmental factors that affect a crop's overall qualities, when the crop is grown in a specific habitat. Collectively, these environmental characteristics are said to have a character; *terroir* refers to this character.**



Mary Wall's Garlic



Killarny Red Erica
and Steve Photo



Lautrec Pink Garlic

By Syndicat de Défense du Label Rouge et de l'IGP Ail Rose de Lautrec - Own work
Syndicat de Défense du Label Rouge et de l'IGP Ail Rose de Lautrec, GFDL,
<https://commons.wikimedia.org/w/index.php?curid=19448355>

Allium Cultivation

1. Prepare planting area - amend soil as needed.
 - a. Alliums need fertile well drained soils
 - b. Garlic enjoys some sulfur in soils
2. Plant so that the top of clove is, 1-2 inches below ground surface
3. Plant 6-8 inches on center.
4. Insure good contact between plant materials and soil.
5. Do not allow soil to dry out.
6. Consider mulching before snow (remove in spring).

Allium Cultivation II

7. Side dressing of manure or fertilizers in spring.
8. Foliar amendments sometimes used.
9. Remove scapes and flowers for larger bulbs
10. Stop watering after 1/3 of leaves start to yellow.
11. When ½ leaves yellow and droop, rake over remaining leaves.
12. After 1-2 weeks harvest, dry and store (August).



Boundary Garlic Photo

Phytosanitation

Relating to, or being measures for the control of plant pests and diseases especially in agricultural crops.

Merriam-Webster on-line Dictionary

Since garlic production does not need pollinators, it makes perfect sense to remove all leaves, grasses and weeds within the garlic patch.

Co-operative Extension Tahoe Basin Master Gardeners



Onion maggot

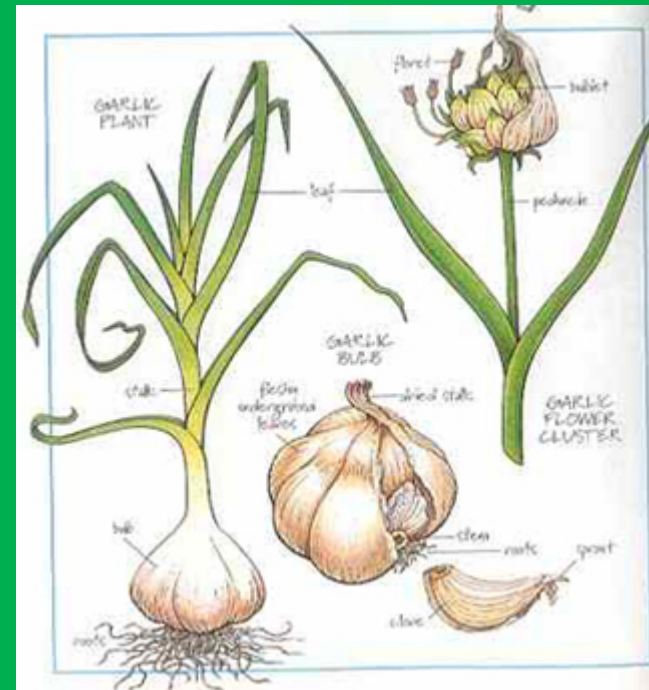


Onion maggot adult

Anatomy of Garlic



University of Minnesota
Extension Program



MOBY Garden Blog

EW – 15 Egyptian Walking Onion

Allium cepa spp. *proliferum*



Rozanne's Walking Onion

Egyptian walking onions are considered heirlooms, said to date back to at least the 1850s as a Catawissa Onion. A top set onion. Probably a **Day Neutral Onion**. They are cold hardy to Zone 3, and can remain evergreen through a Zone 5 winter. They are some of the first plants to show in spring and can be productive year after year. A great source of spicy-flavored onions almost year round.



egyptionwalkingonion.com photo

Pickled Egyptian Onions

Ingredients:

1 cup Egyptian onion bulblets (about 1/2-inch wide)

2/3 cup seasoned rice vinegar

(or 1/2 cup rice vinegar plus 3 tablespoons sugar, and salt to taste)

Separate bulblets, trim ends, peel, rinse, and drain. In a 1 to 2 quart pan, combine bulblets and vinegar. Bring to a boil over high heat; boil, uncovered, for 1 minute. Pour into a wide-mouthed jar; cover. Cool, and chill at least 1 day or up to 1 month. Makes 1 cup.

Originally published in *Sunset Magazine* 1993, reprinted by *Old Fashioned Living*



Leek: EG-1 Elephant Garlic – *Allium ampeloprasum*



Also called Perennial Garlic. Elephant looks like garlic and tastes like a mild hardneck type, but it is **actually a type of leek**. The 1 1/2-in. cloves have delicious, mild garlic-like flavor; bulbs commonly weigh a pound or more. Very easy peeling and keeps very well. Averages 10 cloves per bulb. 120 days to maturity.



Leek: EG-1 Elephant Garlic – *Allium ampeloprasum*



The Elephant Garlic produces true self fertile flowers, a bulb containing cloves and occasionally secondary bulbs

Elephant garlic pie

5-6 cloves elephant garlic, sliced
1 tablespoon butter or olive oil
4 eggs
1 can evaporated milk
1/2 cup shredded cheddar cheese
1 cup chopped fresh spinach
1 cup diced, thinly-sliced ham
1 tablespoon cooking sherry
1/4 teaspoon any brand hot sauce
2 green onions, diced
Salt and pepper to taste

Preheat oven to 350 degrees F.

Sauté the sliced elephant garlic in olive oil or butter until tender, about 5 minutes.

Beat the eggs and milk together; add the cooking sherry, hot sauce, green onions and salt and pepper.

In a oiled pie plate, layer the garlic, cheese, spinach and ham, then pour the egg mixture over. Dust with a bit of paprika if desired.

Bake until a knife inserted comes out clean, about 35-40 minutes. Let set for 5 minutes before serving.

Jim Long, LongCreekHerbs.com

FG-17 French Grey Shallot – Échalotte Traditionnelle

Allium oschaninii



Bulb size ranges from ½ inch to 2 inches. These shallots have a hard skin that can be difficult to peel, but beneath their rough exterior lies a heart of gold. The French Grey Shallots are a true shallot, meaning they are only propagated vegetatively and never form flowers or have seeds. Traditionally planted in the fall it takes about 270 days in ground before harvesting.

The Beef about Shallots



Loadstar.co.uk image

In 1998, in response to EU bans on US hormone enhanced beef (pushed by France), 100% tariffs were applied to a number of French luxury goods including the French Grey Shallot. This led to US growers starting to grow shallots and the Dutch to introduce false shallots.



Filaree Garlic Farm photo

Cream of Shallot Soup – Alain Passard

1 lb. 5 oz. French Shallots
3 tbsp. half-salted butter
1 1/2 garlic cloves, peeled
2 cups whole milk
Juice of half a lemon
Fleur de sel (Sea Salt)
3/4 cup heavy cream
5 oz. smoked bacon, coarsely chopped

Craig Lindquist
Vegetables of Interest, 2008

1. Heat the cream and smoked bacon in a saucepan. Leave to infuse, covered, for 30 minutes. Remove the bacon and put the cream aside in the refrigerator.
2. Wash, peel and mince the shallots. In a skillet, brown them lightly in the half-salted butter. Add the garlic cloves and whole milk and cook for 15 minutes over low heat.
3. Liquefy in a blender and strain; season with fleur de sel (Sea Salt) and lemon juice.
4. Whip the cream as soon as you take it out of the refrigerator until it has the consistency of whipped cream.
5. Serve the soup very hot. Top each bowl with a dollop of the whipped bacon cream.

And Now Garlic – Real Garlic (Stinking Rose)

There are over 600 named varieties of Garlic

Garlic Types

Hardneck groupings

1. Rocambole

Ukrainian

2. Porcelain

Romanian Red

3. Purple Stripe

Samarkand

Shvelisa

4. Glazed Purple Stripe

5. Marbled Purple Stripe

Bogatyr

Metechi'

6. Creole

7. Asiatic

8. Turban

Softneck

1. Artichoke

Lahontan

2. Silverskin

Lahontan White Garlic *Allium sativum* ssp. *sativum*



The Tasteful Garden

The Lahontan White Garlic (LWG) is a softneck artichoke garlic being an early ripening variety related to the California Early White Garlics and the Susanville Garlic. The Lahontan is a recently developed variety suited to western Nevada

Ukrainian Red Garlic

Allium sativum ssp. *ophioscorodon*



Crooked Clove Photo

Ukrainian Red Garlic (URG) – A cold hardy Rocamboles **hardneck** variety **noted** for large size of bulbs and cloves. Scapes form a double circle. This variety is considered one of the early maturing varieties, but does not store as well as other hardnecks. Not strongly garlicky even raw, as in pesto. That said, garlic fanatic Robin Cherry described the raw taste as having an initial bite with nice buttery ending. 8-12 cloves per bulb.

Romanian Red – *Allium sativum* ssp. *ophioscorodon*



Crooked Clove Photo

Romanian Red Garlic (RRG) – Also called Red Elephant Garlic due to its sometimes large sized bulbs. Introduced initially to British Columbia from Romania, this Porcelain hardneck has the highest percent allicin, or true garlic taste. When grown in poor soil conditions the bulb and cloves are smaller but more colored.

Shvelisi Garlic – Allium sativum ssp. ophioscorodon



Crooked Clove Photo

Shvelisi Garlic (SG) – Also called Chesnok Red garlic, this hardneck purple stripe garlic is considered one of the best tasting varieties, especially sautéed or roasted. The purple stripe group of garlics are the closest cultivated cultivars to the assumed “wild ancestor garlic” from Central Asia. This variety was collected in 1985 at a market of Shvelisi in the Republic of Georgia. Can produce very large bulbs. Peeling these cloves becomes easier after storage.

Samarkand– *Allium sativum ssp. ophioscorodon*



Gourmet Garlic Gardens Photo

Samarkand Garlic (PSG) also called Persian Star or Duganskij' is a Purple Stripe hardneck garlic , brought to the US in 1989 from a market in Samarkand, Uzbekistan. This vareity is noted for its all round flavor both raw and cooked. Marketed most commonly in the US as Persian Star. Typically 6-8 cloves per bulb.

Bogatyr Garlic – *Allium sativum* ssp. *ophioscorodon*



Crooked Clove photo

Bogatyr Garlic (BG) is one of the better Marbled Purple Stripe varieties, suited for cool to cold winters. Found from an area around Moscow, it came to the US via the Gatersleben Seed Bank located in East Germany. The bulbs and cloves of this variety can be large. It can be stored up to 8-9 months.

Metechi' Garlic – *Allium sativum* ssp. *ophioscorodon*



Crooked Clove Photo

Metechi' Garlic (MG) – This is another Marbled Purple Stripe hardneck variety known for its exceptional taste and easy to grow habit that does well in areas with long winters. This is one of the last garlics to harvest. Leaves are much shorter than other similar cultivars. Cloves few but large. Probably from the former USSR Republic of Georgia.

Gorbachev and Garlic



Mikhail Gorbachev, last leader of Soviet Union 1985-1991.

Worked on farms as combine operator in teens.

Degree in Law (BA) and Agricultural Economics (MS)

He was appointed to the Secretariat for Agriculture in 1978.

When in office and prior to Soviet break-up he permitted USDA personnel to collect specimens of garlic throughout portions of USSR.

Fun Stuff

It's a violation of Gary Indiana law for any citizen to go to the movies, theater, ride a streetcar or bus within 4 hours of eating garlic.

<http://www.idiotlaws.com/gary-indiana-garlic-laws/>

No man is allowed to make love to his wife with the smell of garlic, onions, or sardines on his breath in Alexandria, Minnesota. If his wife so requests, law mandates that he must brush his teeth.

<http://www.skrause.org/humor/stupidlaws.shtml>

The common name for garlic derives in part from the shape of the foliage and comes from the Anglo-Saxon words for spear/lance (gar) and potherb (leac)

<http://www.etymonline.com/index.php?term=garlic>

According to one legend surrounding the biblical story of Adam and Eve, as Satan left the Garden of Eden after the fall, garlic sprouted from his left footstep and onion from his right

[Garlic An Herb Society of America Guide](#)

The Koran has this to say about garlic: "Whoever has eaten garlic should not come to our mosques".

In some countries garlic is put before the door of the house to banish bad ghosts.

metapedia.org

Garlic and Onion Production

The US is the 9th largest producer of garlic in the world. China is #1 with 100 times greater volume than the US.

California is the largest garlic producer in the US followed by Oregon and Nevada

Onions are the most valuable food crop in Texas and Georgia

China is the largest producer of onions followed by India and the US.

Washington State has the largest acreage devoted to onions. California ranks 3rd and Nevada 10th

Our Vendors and Suppliers

Egyptian Walking Onions



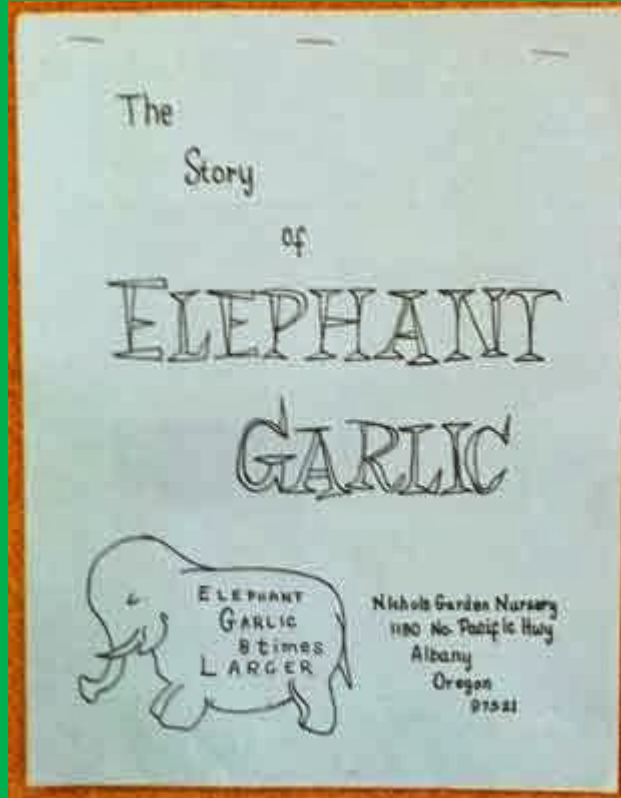
Tracy Paine of egyptianwalkingonion.com



Roxanne Bruce Lake
Tahoe Master
Gardener

Co-operative Extension Tahoe Basin Master Gardeners

Origins Elephant Garlic



Elephant garlic (including the name) was first introduced to the gardening world in 1941 by Nicholas Garden Nursery in Albany, Oregon.

Areas of the famous Willamette Valley, known for its mild climate and amazingly fertile soil, was settled partly by immigrants from Czechoslovakia and Northern Yugoslavia. Mr. Nichols discovered that some of these folks were growing an enormous variety of garlic, mild in flavor and vastly different from any garlic he had ever seen. They had brought this unusual garlic with them from the Old Country. He purchased 12 pounds as seed stock in 1941 and began cultivating it. When he finally had enough to sell, he began advertising in newspapers and magazines. In 1953 he gave it the name elephant garlic. Back then, he was the only one selling it and when you ordered elephant garlic from Nichols, in your order you received a little pamphlet with growing and storing instructions. He sold elephant garlic across the U.S., Canada and to many countries overseas.

French Grey Shallots



Located in the Santa Cruz city of Felton, Renee's Garden has been a mainstay to California gardeners since 1985.

Renee Shepherd

Co-operative Extension Tahoe Basin Master Gardeners

University of California
Agriculture and Natural Resources

Garlic Suppliers



Crooked Clove Ranch owners David and Rochele Smit with kids Elliot and Gabriel



Rick and B. Ann Lattin of Lattin Farms. The farm started in 1909 is 400 acres near Fallon NV

Co-operative Extension Tahoe Basin Master Gardeners

Festivals and Events



Don and Karen Christopher with
Garlic Princess Kylie Kuwada



2017 Reno Garlic Festival

Co-operative Extension Tahoe Basin Master Gardeners

Roasted Garlic

Preheat oven to 425 degrees F.

- Slice off the very top of the garlic head. Place in a piece of foil and drizzle olive oil inside the head of garlic until it is completely filled and just starting to run down the side. Sprinkle $\frac{1}{2}$ teaspoon salt and pepper
- Wrap tightly with foil and place on a cookie sheet and bake until tender and fragrant, roughly 35 minutes.
- Remove from the oven and let cool. Peel outside off of bulb of garlic, then gently squeeze each clove out.



Photo and recipe January Bride

Pesto –

Ingredients

1 cup fresh basil leaves
3-5 cloves garlic, peeled
3 tablespoons pine nuts
1/3 cup grated Parmesan
Cheese
Kosher salt and freshly
ground black pepper, to taste
1/3 cup olive oil

Directions

To make the pesto, combine basil, garlic, pine nuts and Parmesan in the bowl of a food processor; season with salt and pepper, to taste. With the motor running, add olive oil in a slow stream until thoroughly incorporated into a thick paste.

Chungah – damndelicious.net



Garlic Princess
Kylie Kuwada

Co-operative Extension Tahoe Basin Master Gardeners

The common name derives in part from the shape of the foliage and comes from the Anglo-Saxon words for spear/lance (gar) and potherb (leac)

Four Thieves Vinegar

In addition, according to one legend surrounding the biblical story of Adam and Eve, as Satan left the Garden of Eden after the fall, garlic sprouted from his left footstep and onion from his right

s. In Scandinavia, garlic was hung around the necks of goats to protect them from trolls

According to folk tradition, feeding garlic to chickens would do more than protect them. It would actually improve the quality of their eggs (35). Recent research shows that there may be some fact behind the folklore. A study published in Poultry Science in December 2002, showed that hens fed garlic paste laid lower cholesterol eggs