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## Garlic: A Brief History

“Take two cloves of garlic and call me in the morning.” I would venture the guess that not many of us have heard that recommendation from our family physician lately. However, for millennia garlic was the “go to” natural remedy for a wide array of ailments. Additionally, its culinary virtues were well-known, making garlic a popular food staple since ancient times. Fall is an ideal season in the Midwest to plant garlic and a good time to look at its interesting history.

Garlic (*Allium sativum*) is a member of the onion (*Amaryllidaceae*) family, and is classified in the same genus to which onion, leek, chive and shallot belongs. Evidence exists that garlic originated from *Allium longiscuspis*, since it does not appear in the wild as a species itself. The mutation that resulted in garlic probably occurred somewhere in central Asia. Most scholars agree that garlic has been used as a medicinal plant and food source for over 7000 years. The latter makes garlic one of the most ancient of vegetables. According to Jethro Kloss’ book *Back to Eden*, “for nearly as long as there has been a written record of history, garlic has been mentioned as a food.”

Its nutritional value along with its wide array of medicinal benefits made garlic one of the most valued plants in ancient times and (perhaps) the first to be cultivated. Indeed, garlic is mentioned in the literature of all of the great ancient world kingdoms. For example it is recorded that ancient Egyptians, during the reign of the pharaohs, fed garlic to



the laborers who built the great pyramids. It was their belief that garlic would increase their strength and stamina, as well as protect them from disease.

In ancient Greece, Hippocrates, the Father of Medicine, advocated the use of garlic as a cleansing agent, for pulmonary problems and for abdominal growths. Pliny the Elder, a famous Roman naturalist recommended garlic for ailments such as gastrointestinal tract disorders, animal bites, joint disease and seizures, in his book *Historia Naturatis*.

In ancient China and Japan, garlic was prescribed to help digestion, cure diarrhea and rid the body of intestinal worms. It also was used to alleviate depression. In India, a medical text titled *Charaka-Samhita*, recommended garlic to treat heart disease and arthritis.

Garlic’s medicinal properties are thought to be due to sulfur-containing compounds called thiosulfates. One of them, allicin, is produced when a sulfur-containing amino acid called alliin comes in contact with the enzyme alliinase when raw garlic is minced, crushed, or chewed. Since the

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enzyme alliinase is broken down by heat, cooked garlic is less effective medicinally than is fresh garlic.

Today garlic is used as an herbal supplement to help prevent heart disease, lower high cholesterol and high blood pressure, and to boost the immune system. Some evidence exists that eating garlic regularly may also help protect against certain types of cancer. As should be the case with any substance having medicinal properties, consult your family physician before initiating a garlic treatment regimen. Potentially dangerous side effects can occur, depending on one's medical history.

The common name garlic was derived from the Old English word *garleac*. Literally, interpreted, the latter means "spear leek," making reference to the lanceolate shape of the plant's cloves. Today, we recognize two main types of garlic: hardneck and softneck. Hardneck varieties produce a flowering stalk (scape) which is surrounded by underground cloves. Hardneck varieties are considered to be more flavorful and easier to peel than softneck, making

them the choice of most chefs. However, hardneck garlic does not store well.

Softneck (sometimes called *silverskin*) varieties generally do not flower and form seed, but often produce bulblets on their stem. They are considered to be more productive and easier to grow than hardneck varieties. Under proper conditions softneck varieties can be stored from six to eight months. Most of the garlic found at supermarkets is of the softneck type.

It should be noted that elephant garlic is not a true garlic. Rather, it is a type of leek that produces larger leaves and bulbs than true garlic. Although frequently grown in the garden, elephant garlic has the unfortunate habit of developing a bitter taste in cold climates.

Garlic grows best in a sunny location in soil that is well-drained yet moisture-retentive and relatively high in organic matter. Well-rotted manure or compost is an ideal soil amendment to improve the latter in garden soils. Garlic prefers a soil pH of between 6 and 7. Liming

is recommended if the pH falls below 5.8. Base rates on soil test results.

Since garlic does not compete well with weeds, the site selected should be free of perennial weeds and well-tilled before planting. The latter is best done during the fall, after the weather moderates. October is an ideal month to plant garlic in Missouri. The goal of fall planting is to allow roots to develop, but not shoots. Shoots that develop will die during the course of the winter and the energy used by the plant to produce them will have been wasted.

Plant individual cloves two to three inches below the soil line with their pointed side up. Spacing should be about six inches within rows. Cloves should not be separated from the main bulb until the day of planting. Purchase garlic cloves from a reliable source; do not plant garlic purchased from a supermarket.

Garlic has moderate-to-high fertility requirements, especially for the element nitrogen. Before planting, soil should be amended following soil test results. In the absence of the latter, a general recommendation is to apply three pounds of a balanced fertilizer (e.g., 10-10-10) per 100 square feet of garden area. A supplemental application of nitrogen usually is applied as soon as the leaves emerge in the spring and again about two weeks later. Avoid late applications of nitrogen, since the latter can delay bulb formation.

As is the case with most vegetables, garlic benefits from adequate amounts of water. If natural rainfall is not sufficient, supplemental irrigation should be practiced. However, avoid applying too much water since overly-moist soil can result in bulb rot. Also, do not irrigate garlic once the leaves begin to mature and dry.

As previously mentioned, garlic does not compete well with weeds, making the control of the latter very important. A non-selective herbicide such as glyphosate used as a “burn down” can help control perennial weeds, as can thoroughly tilling the planting site. In the spring, the use of mulch can help to both control annual weeds as well as conserve moisture.

Garlic is considered to be relatively pest-free. Insects that can become a problem include thrips (especially during dry weather), onion maggots and wireworms. Diseases that can infect garlic include botrytis, powdery mildew, pink root and purple blotch. As mentioned above, bulb rot can also be a problem in wet soils. Good sanitation and crop rotation can help alleviate most pest problems.

In the Midwest, garlic usually is ready to harvest from between the second week of July through the first week of August. Harvest date will vary according to variety. Bulbs harvested too early do not store well. In contrast, bulbs

harvest after their peak maturity often causes individual cloves to “pop” out of their skin.

When harvesting, dig the bulb with its leaves attached. Allow harvested plants to air dry before brushing off excess soil; avoid washing newly harvested bulbs. Harvest bulbs (and their tops) should be allowed to cure for three to four weeks in a dry environment with good air circulation. This is often accomplished by tying 10 to 15 bulbs together and hanging them to cure. After curing has been accomplished, the tops can be cut off leaving about one-half inch of the stem on the bulb.

Garlic is best stored at relatively low temperatures (32o to 38o F.) under conditions of moderate humidity (e.g. 60%). Garlic can be stored at room temperatures, but dehydration will occur faster. Expected storage life depends on type. Hardneck types will store for three or four months whereas softneck types can be stored for six to eight months.

## Garlic trivia

- Well-preserved garlic cloves were found in the tomb of King Tutankhamen who ruled from 1334 BC to 1325 BC.
- One clove of garlic contains only four calories.
- China is the world's largest producer of garlic.
- The majority (90%) of the garlic grown in the United States comes from California.
- The fear of garlic is called alliumphobia.
- The flavor of garlic is most intense just after mincing. This is due to a chemical reaction that occurs when its cells are ruptured.
- Drinking lemon juice can help alleviate “garlic breath.”
- April 19th is observed in the United States as National Garlic Day.

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*David Trinklein, Associate Professor  
Division of Plant Sciences  
TrinkleinD@missouri.edu*

## October Gardening Calendar

Category	Week				Activity	
	1	2	3	4		
Ornamentals	x	x	x	x	Continue watering, especially evergreens if soils are dry.	
	x	x	x	x	Nuts or seeds of woody plants usually require exposure to 3 months cold before sprouting. This may be provided by outdoor planting in fall or "stratifying" in an unsealed bag of damp peat moss placed in the refrigerator.	
	x	x	x	x	Container grown and B & B trees and shrubs can be planted. Loosen the soil in an area 2 times the diameter of the root ball before planting. Mulch well after watering.	
	x	x	x	x	Plant spring bulbs among hostas, ferns, daylilies or ground covers. As these plants grow in the spring they will hide the dying bulb foliage.	
	x	x			For best bloom later this winter, Christmas cactus, potted azaleas and kalanchoe may be left outdoors until night temperatures drop to about 40 degrees Fahrenheit.	
		x	x	x	Spring bulbs for forcing can be potted up now and stored in a cool, frost-free place until it is time to bring indoors, usually 12 to 15 weeks.	
		x	x		Cannas and dahlias can be dug when frost nips their foliage. Allow the plants to dry under cover in an airy, frost-free place before storage.	
			x	x	Transplant deciduous trees once they have dropped their leaves.	
				x	Plant tulips now.	
				x	Trees may be fertilized now. This is best done following soil test guidelines.	
	Lawns	x	x			Seeding should be finished by October 15.
			x	x		Broadleaf herbicides can be applied now to control cool-season weeds such as chickweed and dandelion.
				x	x	Continue mowing lawns until growth stops.
			x	x	Keep leaves raked off lawns to prevent smothering grass.	
			x	x	Now is a good time to apply lime if soil tests indicate the need.	
				x	Winterize lawn mowers before storage.	

*Gardening Calendar supplied by the staff of the William T. Kemper Center for Home Gardening located at the Missouri Botanical Garden in St. Louis, Missouri. ([www.GardeningHelp.org](http://www.GardeningHelp.org))*

## October Gardening Calendar

Category	Week				Activity
	1	2	3	4	
Vegetables	x	x	x	x	Sow cover crops such as winter rye after crops are harvested.
	x	x			Harvest winter squash and pumpkins before frost. For best storage quality, leave an inch or two of stem on each fruit.
	x	x			Dig sweet potatoes before a bad freeze.
	x	x	x	x	Gourds should be harvested when their shells become hard or when their color changes from green to brown.
	x	x	x	x	A few degrees of frost protection may be gained by covering tender plants with sheets or light-weight fabric row covers.
	x	x	x	x	Continue harvesting tender crops before frost.
	x	x	x	x	The average first frost usually arrives about October 15-20.
Fruits	x	x	x	x	Store apples in a cool basement in old plastic sacks that have been perforated for good air circulation.
		x	x		Persimmons start to ripen, especially after frost.
			x	x	Monitor fruit plantings for mouse activity and take steps for their control if present.
				x	Place wire guards around trunks of young fruit trees for protection against mice and rabbits.
Miscellaneous	x				Fall color season begins.
			x		Begin peak fall color in maples, hickories and oaks.
				x	End of peak fall color.

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