

GARLIC SEED FOUNDATION
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Alliums in the Culture & Kitchen of the Native American
Garlic: Nature's Own Insect Repellent
Garlic Production Management
Garlic Festival Schedule

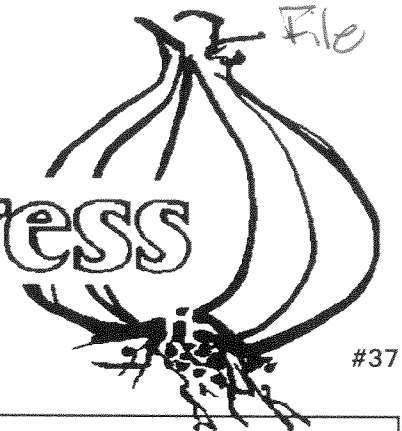
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THE REGULAR, AND NOT SO
REGULAR, NEWSLETTER OF THE
GARLIC SEED FOUNDATION

The Garlic Press

SPRING 2000



#37

Alliums in the Culture and Kitchen of the Native American

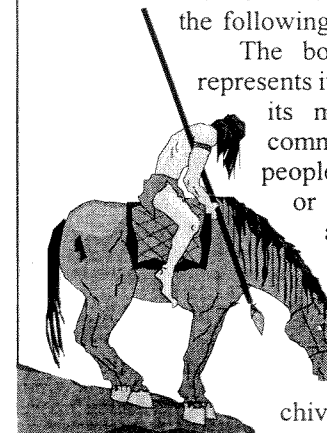
We know that there are over 400 species in the *Allium* genus and that many of these are native to North America. Soil and water conditions, altitude, climate and day length determine which grow where, but they all have the common property of extracting sulphur compounds from the soil. As in all cultures prior to the dawn of "modern medicine," strong plant equals powerful plant equals powerful medicine. Both as a food and as a medicine/drug, the *Alliums* play an important role in the lives of native tribes from the Pacific Northwest to the river known as the Everglades in Florida.

The oral history and teachings continue to this day, as do the cultivation and harvesting of native plant species. Daniel Moerman devoted more than 25 years to the compilation of ethnobotanical knowledge and in 1998 published *Native American Ethnobotany* (Portland, OR: Timber Press, 925 pages). Of the 31,500 vascular plants in North America, the 100 tribes found uses (and multiple uses) for 4,000. This compilation lists 2,900 as medicines, 1,900 as foods, 230 as dyes, 500 as fiber, and another 1,200 as multiple "other." Their knowledge of their world was astounding, as was their ability to transfer it from generation to generation. I quote from Professor Moerman's Preface:

... our deepest debt is to those predecessors of ours on the North American continent who, through glacial cold in a world populated by mammoths and saber-toothed tigers, seriously, deliberately, and thoughtfully studied the flora of a new world, learned its secrets, and encouraged the next generation to study closer and learn more. Their diligence and energy, their insight and creativity, these are the marks of true scientists, dedicated to gaining meaningful and useful knowledge from a complex and confusing world.

It is from Professor Moerman's work that I took the following information.

The botanical (Latin) name of a plant represents its place in the kingdom of plants by its morphological characteristics. Its common name comes from the common people and from the plant's common use or location found—or finder! *Alliums* are often hard to differentiate from one another and slight discrepancies mean completely different species. Professor Moerman cites 32 *Alliums*: 3 garlics (meadow/cultivated/wild), wild chives, wild leek, and many onions. In

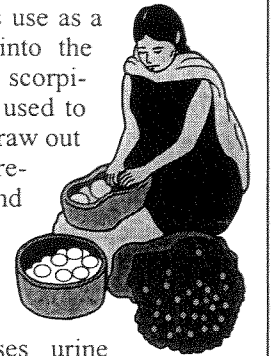


addition to *A. cepa* (the common garden onion), he lists: the pacific tapertip, twinleaf, aspen, bolander, meadow, nodding, costal, douglas, shortstyle, drummonds, scytheleaf, geyer, glassy, pitted, large wildflower, nevada, small mexicali, broad-stemmed, many flowered, autumn, textile, twin crest, bilbil, and one-leaf onions.

Most *Allium* references refer to its use as a drug. Topically applied and rubbed into the skin, it repels snakes, insects, lizards, scorpions, and tarantulas; as a poultice it is used to wash carbuncles, cure the sore throat, draw out infection, rid children of hives, and reduce arthritic swelling. The warm and chewed poultice will rid a child of the croup and an adult of pleurisy. When you eat the *Allium* (as mentioned later), it prevents worms and colic in children, removes deafness, increases urine output, cures complaints of the liver, throat, asthma (when sweetened), and any shortness of breath. The juice of the *Allium* restores the appetite and retention of food, can be used as an expectorant of the pulmonary mucus membranes, placed into the ear for earache, and as an eyewash (ouch!). One reference puts claim to stopping vomiting while another calls it a fast acting emetic (makes you puke). It can be chewed and eaten to cure the common cold, hypertension, severe constipation, and any disease of the swollen penis. Dried and used as a snuff it will open the sinuses. Plant smudge smoke will cure a headache, and if the plant is put in the sick room, it will draw out the fever. A nursing mother passes the *Allium* on to her child through her milk. While most generally considered a stimulant, other tribes thought it poisonous. For the people who lived on this land in Upstate New York, the *Allium* was a spring tonic and used to cleanse away winter: "clean you out" are the words.

While there are references to the *Alliums* being frozen, most consumption references are for fresh or stored, with some dehydrated. The *Allium* is eaten as a cooked vegetable, mixed with other foods, used as a flavoring, or taken raw. When cooked, it is pit baked, roasted, fried with meat, singed (to remove sulphur), roasted in the sand, boiled (with meat or fish) or fried with grease and greens. While often referenced for spring (early summer) consumption as raw (with cornmeal dumplings or fresh Piki bread), and as soup (spice wheat and

[continued next page]



Alliums in the Culture and Kitchen of the Native American (continued)

with marrow), it is very often combined with other foods for its flavor. Alliums are most commonly cooked with meat, soups, gravies, and potatoes. Whole bulbs cooked on hot rocks are squeezed onto cakes and breads. The leaf is finely chopped then eaten, cooked with seal oil on meat or fish, or boiled and then cooked like poke (salad) with eggs. Bulbs are dehydrated over fires then chopped for winter use, used as a powder on dried salmon and bread, and easily reconstituted overnight in water. The corms are chewed as a "food." For some tribes this food is a staple, others consider it a "starvation food" and only eaten when hungry, and many reference it as "relished and eaten by old women and old men."

The Allium has other uses: as a green, yellow or golden brown dye for wool; rubbed into the hunting quiver to expel the human scent; and to polish the wooden shafts of arrows. Its veterinary uses include ridding cattle and sheep of worms, a mashed-raw poultice for saddle sores, and a bulb smudge used to fumigate horses with sinus congestion. The Allium was also a gathered and cultivated "cash crop," and traded for baskets, skins, furs, and pottery.

Each of us has native and wild Alliums to find and enjoy. This spring is a great time to walk the wood's or water's edge for this pungent plant, fry it up with some potatoes, and get "cleaned out" in preparation for our upcoming season. Be aware that many Alliums have a short life cycle as determined by day length and altitude, that is, they might only be available for a short season. Check with your local botanist. (DS.com)

A Guinness World Record!

Did You Know?
the Guinness World Record Holder for the longest continuous string of garlic in the world ...
is not in GILROY ...
is not in Saugerties ...
is not on the Isle of Wight ...
but is in a small village in England called Catsfield.

That's right! Peter Josling, who runs The Garlic Centre and owns the retail and mail order chain Garlic Galore!, is the current WORLD record holder with a string that stretched 123 ft. or 36.5 meters.

"We put it together in 1996 and used around 1600 garlic bulbs and fortunately we smashed the previous world record by a long, long way."

Once the record had been validated by the local major and Guinness Officials, rather than celebrate with champagne, Peter said, "we treated ourselves to lots of garlic and honey ice cream, followed by a really garlicky meal." The bulbs were raffled off and all the funds went to The British Diabetic Association Research Fund.

AN OLD/NEW INSECTICIDE Revisiting: Garlic Barrier AG

Over the years, the *Garlic Press* has tried to keep up with some of the newer developments in the garlic world. In the mid-90s several garlic-based agricultural insecticides appeared and we reviewed the literature and asked Foundation members for comments. Those who had tried them claimed "expensive" and "no effect." And as unscientific as that was, we didn't pursue the issue until this winter, when we were contacted by a cotton farmer who was looking for information and claimed some impressive results.

Conventional cotton farmers started organic production using Garlic Barrier Ag with complete control of pests. It is used in low concentration (less than 2%) and applied a number of times through the season, starting in the planting furrow and then at regular intervals. Garlic Research Labs (Glendale, CA), manufacturers of the product, claim that it works systemically (from the inside of the plant) and provides protection for many crops. The product is unstable, requiring cool storage and application in late afternoon or evening. A fish oil surfactant is usually applied at an equal rate to give ultraviolet protection to the product. The product is to be mixed and applied immediately, not combined with petro-based pesticides, and not diluted with chlorinated water. It is approved for organic production; doesn't harm any beneficial insects or earth worms; won't contaminate groundwater, farm workers, or the environment; and has a shelf life of up to 3 years.

But questions remain ... when things sound *too* good. The producers claim it to be made from garlic planted on soil with "just the right minerals to make it as potent as possible," which seems a bit strange since it comes from California. The label says "from 99.7% garlic concentrate," with a small amount of citric acid for stabilization. So, the question comes up as to why we can't make this for ourselves. Anyone tried it on a larger scale than the home garden? Other benefits the manufacturer claims are the ability of this product to increase yields (10 Bu/acre on wheat and 1500 #/acre with squash) and to stop crop predation by deer.

Claims are easy to make, but I'd again like to ask any GSF members who have used this product—*Garlic Barrier Ag* — to contact GSF/Rose with your observations and results. It would also be interesting to hear from those members who are making/using homemade concoctions of garlic as well. At \$85-\$90/gallon, I think we need more to think about than the manufacturer's claims and slick color promos! As with all pesticides, we refer you to your Cooperative Extension or Land Grant University for complete pesticide information regarding MSDS, toxicity, labeling information, and state registration. I wonder how this stuff tastes on pasta? (See accompanying article in this *Press*) DS.com

GSF ORDER FORM

MEMBERSHIP IN GARLIC SEED FOUNDATION

(includes *GARLIC PRESS* subscription and #387)

GSF/CORNELL REPORT #387 (10 pgs.) (Comes with membership)

GROWING GREAT GARLIC (Engeland, 213 pgs.)

ONIONS AND GARLIC (Louis Van Deven, 114 pgs.)

ELEPHANT GARLIC GROWING GUIDE (Weaver, 30 pgs.)

GARLIC, GARLIC, GARLIC (Griffith, 432 pgs.)

STRINGBRAID YOUR TOPSET - VIDEO (Yerina)

T-SHIRTS

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TOTAL

Make Checks Payable to: **Garlic Seed Foundation, Rose Valley Farm, Rose, NY 14542-0149**

* Members - all prices include postage and New York State Sales Tax

* Non-members - please add 15% for shipping and handling

* PLEASE - U.S. FUNDS ONLY

FOUNTAIN OF YOUTH

Wild Garlic *Allium ursinum*

This herb was well known to the Celts, Teutonic tribes, and ancient Romans. They gave this unassuming wild plant of the lily family the name *herba salutaris*, "healing herb."

Wild Garlic should be eaten fresh in the spring, before the plant starts to bloom. Take a handful to eat with bread or add it to your salad.

Wild Garlic cleanses the blood and intestines. It improves the intestinal flora and is effective against acne, fungus and eczema. It also lowers high blood pressure, fights arteriosclerosis, and increases the body's immune system.

Wild Garlic in Olive Oil

To have your fountain of Youth available all through the year, harvest the leaves prior to bloom. Cut leaves into small pieces, put them in a bottle with a wide neck and add cold-pressed olive oil. Close and protect from light. Take one tablespoon daily.*

WARTS

Wild Garlic Juice

During full moon at midnight apply fresh wild garlic juice to the wart. You can substitute freshly squeezed juice from a domestic garlic clove, if necessary. Apply the juice several times. Make sure the warts are exposed to direct moonlight in open air for at least 3 minutes. During these 3 minutes, tell your body to stop nurturing these warts, tell the warts to leave. A simple charm is sometimes helpful:

Wart, wart, go away

You can't stay or disobey

Wart, wart, go away.

Gypsy Wisdom

FRECKLES

Garlic Vinegar Paste

Crush 3 garlic cloves with mortar and pestle, add fruit vinegar one drop at a time to make spreadable paste. Apply the paste mornings and evenings to affected areas for 13 minutes, remove and apply *Bride of the Sun Salve*. This paste works well against age spots also.

Bride-of-the-Sun Salve

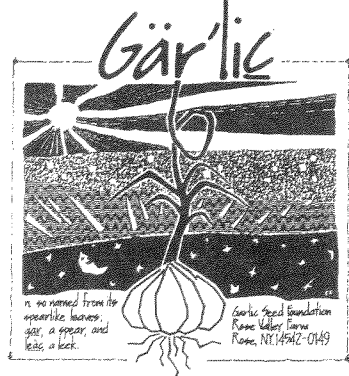
1 handful of wild garlic
1 cup of marigold blossoms
9 rosemary blossoms
9 lavender blossoms
1 cup of goat butter, olive oil, or neutral base

Use olive oil or goat butter over a low flame for a base (or purchase neutral salve base at your health store or at a pharmacy). Over low flame carefully mix in an earthenware or enamel pot marigold blossoms, rosemary blossoms and lavender blossoms with a wooden spoon. Simmer for 3 minutes. Remove and allow to cool. Cover and store in cool place. The next day heat again over low flame, gently stirring for 7 minutes. Cool to body temperature and strain through gauze cloth. Fill glass or earthenware container, cover tightly and store in cool, dark place. Apply thin film of the salve to affected area. Do not use heavy application; rather, repeat treatment more often. This salve is also recommended for boils, scar tissue and insect bites.

* Remember to soak first in vinegar and keep it refrigerated.

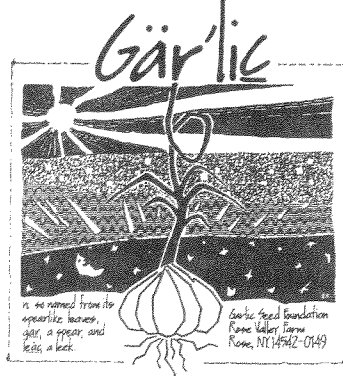
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The Early Years
#1 — #8
Winter 1987 — Summer 1990



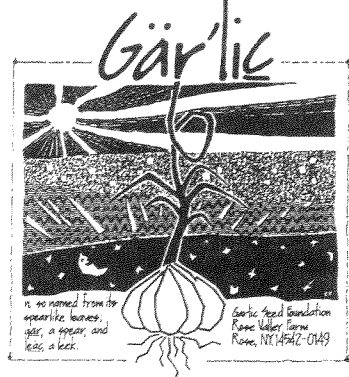
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Learning to Walk
#9 — #14
Winter 1990-91 — Summer 1992



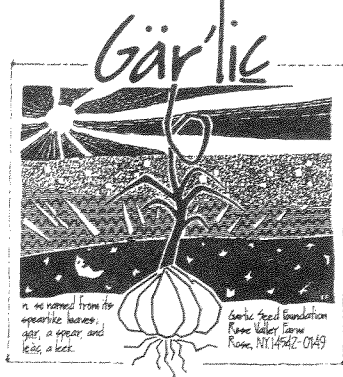
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The Pubescent Years
#15 — #20
Winter 1992 — Spring 1994



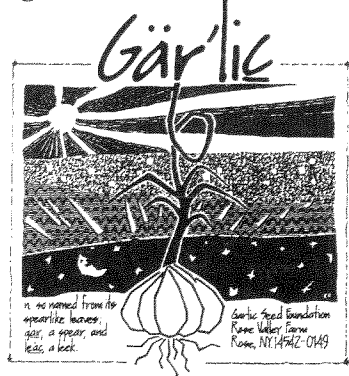
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The Adolescent Years
#21 — #26
Summer 1994 — Winter 1996



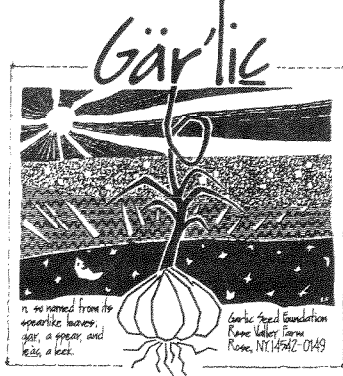
The Garlic Press

The Troubled Teen Years
#27 — #32
Spring 1996 — Summer/Fall 1997



The Garlic Press

Youthful Offender Status
#33 — #36
Winter 1998 — Fall 1999



Garlic: Nature's Own Insect Repellent

Reprinted from *Agri Alternatives*



Garlic — Its uses and widely acclaimed beneficial properties are seemingly endless. We use it to flavor our foods, we take garlic tablets to make us feel better, and we all know the tales of how garlic is supposed to ward off evil.

If nothing else were true, there are some farmers who would agree that garlic protects against evil—evil insects, that is. Mississippi farmer Bob Barnes swears by it. He says garlic saved his farm nearly \$60,000 last year.

Garlic, an herb belonging to the lily family, is gaining favor among farmers who, like Barnes, spray it on their crops in the war against insects. "Our (cotton) consultant said he had never seen anything work on thrips like that did," Barnes says. The garlic works by repelling insects, not killing them. The idea is to use garlic as a repellent on the plant before the bugs arrive.

Barnes and his brother, Jim, grow 1,300 acres of cotton as part of their farm operation in Glen Allan. In a test last year, Barnes used a product called Garlic Barrier—manufactured by Garlic Research Labs in Glendale, CA—on a portion of his fields, sprayed in furrow on the seed, while treating other fields with traditional insecticides.

This later led to a bewildering discovery for their cotton consultant, who was unaware that garlic had been applied in some fields. "He thought he was going crazy because he couldn't find any thrips in some of the fields, while other fields were eat up with thrips," Barnes recalls.

While the garlic proved to be an effective barrier against thrips, Barnes says the real proof of its benefits weren't fully realized until year-end costs were totaled. The tale of that tape shows his cost for insecticide and insect control totaled \$64 per acre—a reduction of about 45 percent over previous years.

In contrast, Barnes says neighboring farmers reported spending from \$109 per acre to more than \$200 per acre in some cases. Overall, he maintains the garlic treatments saved his farm about \$58,000 on insect control for his 1,300 acres of cotton. "Needless to say, I'm pleased."

Barnes outlined two of the basic benefits that farmers reap from using garlic. "It allows you to skip some insecticide applications completely where you just don't have enough insects out there to spray," he says. "The second thing we saw was that sometimes when we were having to spray we had numbers just above the threshold where you needed to spray."

In such cases, he used a lighter dose of insecticide, which translated into additional savings. Barnes says he could have saved even more money, but he failed to store the garlic properly, causing it to over heat and lose some of its potency.

The product Garlic Barrier comes with a warning that says it shouldn't be stored inside an area where temperatures reach more than 98 degrees for any extended period of time. In such cases, the garlic may lose more than 50 percent of its intensity.

The mistake, Barnes says, won't be repeated. "I really believe we might have gone through the whole season with almost no insecticide use if we had been using (the garlic) at full strength."



Using less insecticide and more garlic on his cotton crop is exactly what Raymond Felder of Bishop, Texas has been doing for the past two growing seasons. "I used some garlic in 1994 and liked it a lot, but I didn't know how much to use," Felder says. "It was an experiment. And, I didn't tell anyone because they would have thought I was off my rocker."

Felder began the applications at the six-leaf stage and made four subsequent applications—on May 5, May 19, June 9 and June 15. His costs averaged only \$7 per acre for all four applications. "I ... had no problems with insects," Felder says. "My son used an insecticide and had to continually spray." Another benefit of the garlic is that it's chemical free. "It's safe to use and good for the environment," Felder says. He adds that the garlic does not seem to repel beneficial insects. In fact, Felder says he saw more beneficials last year than anytime he can remember. In treating his fields, Felder used one gallon of garlic (mixed with one gallon of Cotton Oil Plus) per 35 acres of cotton, which was less than the recommended amount. "But it worked anyway," he says.

Indeed, what started as an experiment paid big dividends for Felder. Not only did he save thousands of dollars in operating costs, his cotton yield jumped from an average of 1.25 bales per acre to 2 bales per acre. Still, this veteran farmer says he would never tell another to stop doing something that works for them. Felder, however, plans to use garlic on all his cotton this year. Count Mary and Larry Schrick of Chattanooga, Oklahoma among farmers who are banking on garlic as a proven insect repellent.

"We had read many studies about the garlic working on fruit, vegetable and vine crops, but no one seemed to know how it would work on cotton," says Mary Schrick. The Schrick's farm includes about 500 acres of cotton. They used garlic on a portion of their cotton acreage last year, and Mary reports the difference was "very evident." So much so, they, too, plan to use garlic on all their cotton this year.

"Through a series of trial and error, we have a formula that we feel is effective," she says. "The No. 1 most important thing to remember is 'EARLY APPLICATION = PREVENTION.' Cotton will set its yield potential in the first three weeks after it emerges. During this critical time, it is important to protect the cotton from flea hoppers, thrips (and such). Because the garlic is systemic, the cotton actually fools these insects into believing that it is a garlic plant." Schrick agrees that the beneficials will not be repelled, giving the crop "double protection."

The garlic has also been effective on crops other than cotton. "In the past two years, we've gotten really good results using the Garlic Barrier on soybeans, and have avoided spraying any insecticides for any insects on our beans," Barnes notes. He says many of his neighboring farmers sprayed insecticides one or two times last year to control loopers and other pests on their soybeans.

Farmers who grow rice, milo, corn, vegetables and other field crops are also reporting good results with garlic. And Barnes predicts that more farmers will be using garlic in the future. "If they get their garlic on and do it right, I really believe we're going to wind up with a lot of acreage where we won't have to spray insecticide."

Director's Notes



Tonight I enjoyed one of my favorite meals: a stirfry of asparagus, morrel mushrooms and garlic scallions over rice and a salad of over-wintered spinach and spring lettuce. It feels good to be eating fresh from this land again, as the food feels alive and nutritious. My body needs all the help I can give it! Thus far, this has been a strange Spring, as if it is out of order. We had 20" less snowfall last winter and through April it felt like the drought of 1999, and hot. One week in March it was in the 70°s and one week last month it was in the 80°s. All at once the earth turned green and then everything came into bloom. And never in my 38 years have I seen the apples, cherries, pears, lilacs, blueberries, Russian olive, lily-of-the-valley, dogwood, horse chestnut, and *Arisaema triphyllum* all in flower at the same time!

But the 4" of rain last weekend and another inch today will keep me off the fields for a week. It will also give the weeds in the garlic a strong foothold. And the frost of Monday morning will certainly kill some of the fruit. And here I sit, windows wide open, and a May fire in the woodstove.

Much of the delay of this *Press* has been my responsibility, or lack of responsibility. Bob and I ask for help and submissions, but it takes a long time as other folks are as busy as we are. It translates into more work and more isolation. And long delays ... and apologies. Please remember that your dues pay for a number of issues, not calendar time, so nothing has been "lost," only deferred. Bob (*Press* editor) gets the

phone calls and feels the production pressures. I won't allow myself to feel that way after all these years. My plate is full (I like to live that way), and I need to deal with all my internal pressures before I ever want to feel those from outside. So, I've asked Bob not to wait for submissions from me to include in any *Press*, but to let it roll whenever he's ready.

Please don't think I'm turning into a slug, however; hell, I'm now working on articles on: wire worms, USDA-APHIS (plant inspection), good business practices for the buying and selling of garlic, GSF vs. Jolly Green Giant (part 2), some great "old ag stuff," a collection of articles on garlic from 30 years ago, a new "personals" column, and a complete index of all back issues. And one of these days, a new GSF Brochure! The *Press* issues of 6 sheets/12 pages disappeared when the USPS gave us 3 ounces for less money. You're actually getting much more for your money.

Anyway, there is work to do and life to live. There are beautiful garlic greens and scallions to harvest and clean, and garlic chives as well, and weeds to pull. Now is the time to contact markets and get the body back into shape. And with each Spring, the miracle that it brings — the rebirth, the return of the sun, and the promise of tomorrow. The garlic is at 6th leaf and another month 'til scape. Let's not forget, as we live our crazy lives, to take the time to walk gently on this earth and give thanks in our own way for our blessings, friends/family/community, and the opportunities we have. (D.S.com)

Braiding Garlic

[For many years we have been asked for directions to braid the softneck garlucs, and at last we can offer this beautiful descriptive work by Diane Trenhaile with illustrations by Michelle Mohr McMillen. This shall be available mail order and at festivals. (D.S. com)]

Braiding garlic is one of those skills some people take to immediately; others become ten thumbs and forget what they did just five minutes ago. *How To Make A Garlic Braid* is an instructional booklet that will accommodate anyone. This is a precise, detailed explanation along with both diagrams and photos to walk the first-timer through, step by step. The experienced braider will enjoy leafing through the pages to compare methods. Published by the Clove'n Vine, *How To Make A Garlic Braid* is available through the Garlic Seed Foundation.

The Clove'n Vine is a small family farm that has been growing elephant garlic approximately 25 years. We think we're among the earliest growers in the area, having bought our original stock from Nichols Nursery in Albany, Oregon. At one time, we grew and contracted for several acres but have cut back to about one-third. We sell some bulk garlic at farmers' markets and have a nice net package for supermarkets and shipping. Some of our elephant garlic is sliced, dried, and made into decorative garlic and chile wreaths.

Clove-n-Vine

17500 SW Oldsville Road
McMinnville, OR 97128
(503) 843-2183
FAX (504) 843-9335



Stinky Replies

GARDEN NOTES

During the July 4th weekend, my husband, Bill, and I harvested our garlic. Last fall, we diligently recorded all the different types of garlic we planted. We wanted to see which garlic grew best in the growing conditions in our area (Middlesex County, New Jersey). The Polish German White, and Music cloves produced the largest bulbs of garlic. Last fall, we dug down 4" and planted each clove in rows of 5. When we harvested the garlic, we found that somehow the garlic burrowed down to about 8" in depth. At that depth our soil consists of hard clay. The garlic was actually stuck inside clumps of soil. We were a little disappointed, but we feel that we learned from our last crop. Next year we will plant less cloves (4) in each row, and we'll place the rows further apart. Also, before we plant the garlic this fall, we will go down at least 8", turn all the soil over, and add more compost.

It is much more fun to plant the cloves of garlic than to harvest the bulbs. During the planting season, the weather is comfortably cool. It is exciting to plant the cloves, to imagine the garlic growing all winter long, and to picture them turning into huge bulbs for the summer harvest.

In contrast, the harvesting season was "hot as hell" and quite stressful. I measure and recorded the size and type of garlic, while my husband had to dig up 192 bulbs!! Using a small shovel, Bill had to keep digging and digging down those 8" while I kept repeating, "Be careful, don't break the skin of my garlic." Then we suffered a little disappointment when some of the bulbs were rotted, and some were very tiny.

After the harvest, Bill set up our trellis in the living room, which we converted into a curing room for our garlic. The garlic smell was incredibly strong throughout our home for the first few weeks. After the garlic was sufficiently cured, we cut it down, and tied it in batches. I mailed garlic to a friend in Iceland and to my son in Colorado. Everyone wants some, but I found that I have an emotional bond with my garlic and it is very hard for me to part with the bulbs.

Phyllis Pollak
New Brunswick, NJ

Membership in the GSF is \$15/1st year, \$20 for 2-year renewals, and includes this newsletter. All submissions for The Garlic Press should be sent to the editor, Bob Dunkel, 2079 Washburn Rd., Stanley, NY 14561. (716-526-5779 - phone evenings only, please). As always, all medical references should be taken for educational purposes and any recommendations should not preclude consulting with a health practitioner. DO NOT REPRINT ANY MATERIAL WITHOUT WRITTEN PERMISSION.

Garlic Kisses

by Chester Aaron

Available this summer in paperback.
12 chapters of short stories connecting
garlic with uncommon human struggles.

Order now. Send \$19.95 (includes shipping) to:
Mostly Garlic, 19 Church St., Milan OH 44846

Debbe's Garlic Beer

Source: Douglas DeMers rec.crafts.brewing

The wort tasted very sweet and definitely "GARLIC"! Lethal stuff! I mean it was stomp-on-your-tongue rip-the-back-of-your-head-off ... GARLIC. Three weeks later my tongue still remembered the assault and was braced for a similar attack, but the attack was not forthcoming. There is absolutely no pronounced garlic taste! There is only a hint of something reminiscent of garlic. I purposely made the brew a little light on the hops, so the hops don't shine through either. To me, it is a fairly well-balanced, heavy beer and everyone who has tried it has really like it. Next time, I think I'll leave the garlic cloves in the primary to see if I can get a more pronounced garlic taste in the final product.

Ingredients:

- 8½ pounds, pale malt extract (Williams bulk extract)
- 4 large bulbs garlic, peeled and cleaned
- 1 ounce, Northern Brewer hops (AAU not available)
- WYeast London Ale (pre-started)

Procedure:

Separate and peel the cloves from four entire bulbs of garlic and lightly score the surface of the garlic cloves to increase surface area during the boil. Add the extract, half of the garlic, and ½ ounce of hops. Total boil of 60 minutes. The other half of the garlic goes in for the last 15 minutes along with the final ½ ounce of hops. After the boil, chill the wort and strain the cooled wort into a 6½ gallon primary. After three days of vigorous ferment in 6½ gallon primary (w/blowoff tube), I racked it to a 5 gallon secondary.

Specifics:

- O.G.: 1.060
- F.G.: 1.018
- Primary Ferment: 3 days
- Secondary Ferment 2 weeks

Prices Yesterday, and Today

While I was at the Hudson Valley Garlic Festival last September, Barry Kaplan from Farmingdale, NY, came up to me and held out a large manilla envelope: "You'll enjoy these," Barry said with a smile, and out poured these spectacular seed catalogs from over 100 years ago. No glossy photos, but beautiful line drawings. No outlandish claims of size, yield, or taste, but common sense advice. These are from a time of many hundreds of seedsmen, when 95% of all Americans had gardens, and these were for food consumption and sustenance. Back when women were strong, men good looking, and the children above average.

By comparison, I offer a sample of today's prices from some of the many catalogs that are sent to this farm each year. The obscene prices reflect the current state of farming and role of the middle-person in capital-based agrbiz.

Thanks to Barry for sharing these. (D.S.com)



1886

GARLIC.

German, Knoblauch. — French, Ail. — Spanish, Ajo

If by mail, in quantities of 1/4 lb. and upward, postage must be added at the rate of 10 cents per lb.

species of onion, propagated by off-sets: used for flavoring soups, stews, and other dishes. A bulb into small parts and plant them in early Spring, in rows one foot apart, and five inches between the plants in the rows. The crop matures in August, when it is like the onion.

c Sets..... Per lb., at

1890

ONION SETS.

The sets should be planted out as early in spring as the ground is dry enough to work; plant them in rows one foot apart, with sets three or four inches apart. When raised from sets the Onions can be used in the green state in June, or they will be ripened off by July.

	Qt.	Peck.
Top, or Button Onions	.30	\$2.00
Potato Onions	.30	2.00
Onion Sets, Yellow or Red	.30	2.00
Onion Sets, White	.30	2.00
Garlic Sets	.50	
Shallots	.25	1.75

1894

ONION SETS.

(Prices Variable.)

Special Offer No. 2 only applies to Onion Sets. The sets should be planted out as early in spring as the ground is dry enough to work; plant them in rows one foot apart, with sets three or four inches apart. When raised from sets the onions can be used in the green state in June, or they will be ripened off by July.

	Qt.	Peck.
Button Onions	.30	\$1.50
Onions	.30	1.75
Sets, Yellow or Red	.30	1.75
Onion Sets, White	.30	1.75
Garlic Sets	.50	
Shallots	.25	1.75

Ferry's Garden Catalogue - 1937

GARLIC

BULBS As a dash of flavoring for soups and stews, many people use small quantities of this pear-shaped white bulb. In large amounts it has a strong odor and flavor. To grow garlic in the garden, the several sections or "cloves" of each bulb should be separated and set in rows 10 or 12 inches apart and 4 inches apart in the row. They should be taken up in the fall and stored in a cool, dry place until used.

Bulbs 40c per lb.

PETER HENDERSON & Co

1929

Henderson's Superior Onion Sets

In private gardens, the cultivation of the family supply of Onions from sets has much to recommend it. The amount of labor involved is less, the danger of loss from maggots and other insects is considerably reduced, the crop is surer to grow, and is ready for use weeks in advance of that grown from seed. On a small scale where the cost of sets is not a serious item, we urge customers to use them. In fact, the ideal way is to use both sets and seed—the sets for use in the spring and summer, and seed to grow bulbs for winter keeping.

	1 Quart to 40 Feet of Drill	Qt.	4 Qts.	Peck
617. White Onion Sets		\$0.50	\$1.85	\$3.50
618. Red Onion Sets		.40	1.50	2.75
619. Yellow Onion Sets		.40	1.50	2.75

644. Potato Onion Sets. Early and of rapid growth, excellent for pulling green. Price, 30c. qt.; 4 qts. \$1.85; peck \$3.50.

643. Shallots. The small bulb keeps for a year. Price, qt. 50c.; 4 qts. \$1.85; peck \$3.50.

645. Garlic Sets. Esteemed in cookery. Price, lb. 30c.

Purchaser pays transportation charges on Onion sets. Packed weight, 1 lb. per quart. If wanted by Parcel Post, send postage according to zone rates.

1933

ONION SETS

In private gardens, the cultivation of the family supply of Onions from sets has much to recommend it. The amount of labor involved is less, the danger of loss from maggots and other insects is considerably reduced, the crop is surer to grow, and is ready for use weeks in advance of that grown from seed. On a small scale where the cost of sets is not a serious item, we urge customers to use them. In fact, the ideal way is to use both sets and seed—the sets for use in the spring and summer, and seed to grow bulbs for winter keeping.

No.	1 Quart to 40 Feet of Drill	Qt.	4 Qts.	Peck
637	White Onion Sets	\$0.35	\$1.25	\$2.25
638	Red Onion Sets	.30	1.00	1.75
639	Yellow Onion Sets	.30	1.00	1.75

641 Potato Onion Sets. Early and of rapid growth, excellent for pulling green. Price, 40c. qt.; 4 qts. \$1.50; peck \$2.75.

643 Shallots. The small bulb keeps for a year. Price, qt. 50c. 4 qts. \$1.85; peck \$3.50.

645 Garlic Sets. Esteemed in cookery. Price, lb. 50c.

Purchaser pays transportation charges on Onion sets. Packed weight, 1 lb. per quart. If wanted by Parcel Post, send postage according to zone rates.

H.W. BUCKBEE, 1921

Garlic



The Garlic is the most pungent in taste and has the strongest odor of all the Onion family. It is largely used in the South of Europe, where it is esteemed for flavoring soups, stews, etc. The root or bulb is composed of many small bulbs called "cloves," which are planted in the Spring. We frequently receive orders for Garlic seed, but can supply the bulbs only. Fine bulbs—1/4 lb. 25c; 1/2 lb. 40c; 1 lb. 75c, postpaid.

2000

Thompson and Morgan	\$3.50/bulb
Vermont Bean Seed	\$11.50/#
Gurney's	\$10.50-\$19/#
Territorial	\$8.25-\$15/#
Johnny's	\$8.40/3 bulbs, \$585/#100
Shepard's	\$18/#
Seeds of Change	\$12/#
Park	\$18/#
Shumways	\$12/#
Henry Fields	\$19/#

ALLIO-PHILE

A Sad Goodbye to Andy Snyder of Wolcott, NY, who kept our membership lists and computerized our mailing system and always had a good and practical suggestion. Andy was a good and practical man and we became friends. His family was of old farm stock who cleared wood and swamp, grew on it for a few years and then sold the land to neighboring farms. I once brought him some very beautiful gladiola stems and he looked at me in horror and recounted how he had harvested hundreds of acres of glads as a child, and wouldn't accept them from me! I'm sure Andy's up there working on a different database. We thank him for his generous spirit, and to his wife/partner Pat, we send our condolences.

Special Thanks to Ann Houghton-Weir, who has taken Andy's work and re-entered all 1500 names so conventional programs can run them on regular computers (Andy's program was very sophisticated and expensive). Ann lives in Minnesota with her husband/partner and son, works in the big city, and farms horses and garlic. Thanks Ann.

Not on any festival list yet: DaVinci Center/Providence Garlic Festival, Providence, RI. September 16-17: Farmers, vendors, processors. Contact: John DeLuca (401-272-7474)

Ford Tractor Owners: Contact garlic grower Gerald Rinaldi about *The N-Newsletter*, P.O. Box 275, E. Corinth, VT, 05040-0275 for the ON-2N-8N-NAA Tractor enthusiasts.

More Thanks: Vern Grubinger (VT Extension) and NOFA-NY for sponsoring garlic lectures/roundtables, and Tony Saramiento, Fred Schmelzer, and Charlie O'Mara, who spend many hours in the GSF booths at garlic festivals selling and answering many questions. We appreciate their efforts.

Compendium of Onion and Garlic Diseases, Edited by Howard Schwartz, APS Press, \$37, 1-800-328-7560.

A Special Book: *American Indian Cookbook and Healing Book*, by Jim Crazy Snake Blake, P.O. Box 321, Richmond, KY, 40475, \$14.95 + \$3 P/H each.

Growing Ornamental Alliums? Check out *Alliums, the Ornamental Onions*, by Dilys Davies, Timber Press, 1992, \$22, 1-800-327-5680.

Canadian Champions from the Royal Agricultural Winter Fair (Toronto, 1999): Tom Livingston (1), Franklin Weibe (2), Helen Coulbeck (3), Harry McMurter (4), Wyndale Heights Farm (5), and Ted Mackza (6). Congratulations!

20 Most AT RISK Plants

pub. by United Plant Savers (Ups)

American ginseng, black cohosh, bloodroot, blue cohosh, echinacea, golden seal, helonia's root, kava kava, lady's slipper, orchid, lomatium, osha, partridge berry, peyote, slippery elm, sundew, trillium, true unicorn root, venus flytrap and wild yam.

ALL FROM OVER HARVESTING

We sadly say a temporary goodbye to the DC Garlic Festival, whose original organizers have decided to make and raise babies. We wish them fertile success and hope that we might see that Festival bloom anew.

BLUE RIBBONS (1999): to State Ag Fair Champions Tony Saramiento (Maryland) and Ron Antolini (New York).

WALKER Garlic (Kentucky): Would the person who supplied this to GSF please contact GSF/Rose. Thanks.

Alfonso Garza, a Mexican Billionaire, recently purchased a portfolio of companies that currently supply 25% of the world's vegetable seeds. He's hooking up with Monsanto and other biotech to develop transgenic vegetables. Soon to be released: Roundup-Ready Garlic!

NO \$10 Renewals! \$20/8 issues only. Thanks.

Processing Grade Garlic: Contact AI at 401-697-7613, looking for 1 1/2-1 3/4 bulbs.

SLIDES needed of your marketing, fields, equipment, etc. for GSF Slide Shows. Thanks, GSF/Rose.

"Garlic Gum is Not Funny", Bart Simpson.

Mostly Garlic Magazine provided us with the enclosed Festival list and we thank Doug Urig for all the leg-work it took (\$19.95/year, 19 E. Church St., Milan, OH, 44846, 419-499-4604. www.mostlygarlic.com).

Please contact the individual Festival for information and literature, not GSF/Rose or GSF/Stanley.

Knoblauch News: Our man on second base is off to a pretty good year, although in game one of the 2000 season Chuck "beaned" a Yankee coach sitting in the dugout with a foul ball! As of 15 May he's batting a respectable 248, with 5 defensive errors. He's had a wrist injury but stayed in the line-up and the Yankees are currently in 2nd place, one game behind Boston.

Astro Logical Planting



PLANT GARLIC

(ph 6-0-6-8)

While moon is waning preferably 3rd quarter and if possible in the moon signs of Aquarius, Taurus or Pices





OUT OF MY HEAD

Bob Dunkel

There's a restlessness I feel these days. A subtle, almost solemn tremble, far beneath my day. I'm tired of predictions, worn from half-truths and wary of the foundations of our assumptions. I've tried to find the pulse of this ever-changing culture, watched the mergers and acquisitions of well-intentioned companies get swallowed whole by money-eyed corporations with no vision but driven by greed and control. Then in what would seem contradictory, they downsize. They rip out the heart of their work and a hull remains, premised on a logic that is only a game! It says only the strong survive, we feed upon the weak, and so they sap our visions so they can grow, like cancers before the tumors can be seen.

I still believe in us, my friends. In fact, that's all that's left. It's the little people, the wee folk that must gather. Round fires, in what's left of the grange halls, and after hours we must rally. Some of us see the Internet as a brave new world, a new frontier, but let's hope it is not freedom's final fling and the net that falls upon us all as we watch and wait. Too many things made easy, credit cards and keyboards, can rip away our hearts. We must come to our senses, all 6+ of them, and rise in apprehension of being swallowed by this future that may not include our dreams!

In the media clips of dying children, concrete and asphalt covered farms, the disavowed, wee folks are somehow cut out of the final film. Good enough for charities to raise money, but still hidden in the fog of our day is the suffering of billions. It's so easy to stay home, think the world is at our fingertips and that there is no aboriginal dreamtime. We must rise though, temporary like continents, and sing and dance and gather. We must celebrate the garlic and keep it safe to grow. Sometimes I feel that this newsletter, this form of communication, is dying to the new technologies and our time to pass is coming. Other times I feel it's all that's left of value. We must hold strong to truths, to tales of wee folks and werewolves and gods and goddesses. The truth is out there, whispering through the garlic. The truth is in our hearts—an enduring truth overlooked like the geometries my unpoem speaks of.

You see, I see, we see, but part of an undistinguished whole. So busy, so tired, so full of a fat emptiness. We want to sleep it away, watch TV, dream and not remember. There's something missing my friends. Let us find it inside our day, within our nights, and when we gather to sell at farm markets and festivals, let's share the indistinguishable truth—Garlic is LIFE! We must eat life, feel it burn and tingle, work its serpent's tail through us to cleanse our abuses. We must give away our garlic like we give away love—a free exchange that is the only enrichment we have left. There are holes in the coffers that money will never fill. May there never be holes in our hearts!

Let me know how you feel about us, about this foundation, about us wee folk. Write to us in Rose or Stanley or E-mail me at GARDUNK@YAHOO.COM. Together we must survive. So when you see that garlic eye popping out of the dust or dirt, or humus fine, from out snow or leaves or other mulch or staggered row, please take a moment and connect. Stare into that universe before you, make one solemn vow—serve it as best you can.

May Peace and Love be Spring and always in your hearts!

UNPOEM/UNKNOWN

Garlic eyes peek out the snow
and know to rest a while.

The warmth they felt, a week or so
seems now, just but a dream...

Inside their bones of root, they see
expanding makes no sense;

Inside, their heart is still again
for winter's settled in.

And we, my friends, must also see
that meter, rhyme and such

sometimes defy the weather's time
we hear and feel and touch...

Cycles spin, yet wobble off
into the fractals dark

Geometries oft' belie a symmetry
that's but an afterthought!

For the eye has framed our visions
like a photograph's cropped edge;

Our dreams lie with the garlics
beneath that flat white ledge...

Yet garlic breathes like fishes
in the ocean's universal care

as we are born in salty wombs
developing lungs for air.

While continents lift their heads a while
like serpents lost to sea

we've forgotten so much more
than we could ever see!

The sea floor's in the mountains
'midst shells and granite's edge;

beneath the desert's sunless sea
lie crystal minerals rich

all buried in the mysteries
through which our logics sift.

And ferried fossils forming
in ice caves' slow ferment

coagulate our histories
where these garlic roots are bent!

While water falls from space
so does Sirius pull us on.

The secret of these seasons
is there in garlic's yawn.

'Tis awakening once more now
A millennium lies ahead

Its mystery, ours embracing
we both are never dead.

Everywhere we search, dear friends,
'tis but an empty end.

Our hearts hold simple answers
lost round the river's bend.

Our telescopes can't find them
the microscopes are dead

yet we're alive, or so it seems,
while dreaming in our bed...

The garlic's eye alone is left
to watch the starry night

and we are guided by it
into the springtime's light!

—B.D.

GARLIC SEED FOUNDATION



If Mr. Green Giant would like to use real garlic in this product, I could direct him to Foundation members who live in Minnesota. I have visited with the Minnesota Garlic Farmers and am happy to report that they grow some excellent and very flavorful garlic in that state (as do Wisconsin and the Dakotas).

We request that you investigate these false and misleading practices and that you send us copies of all communications you have with the Pillsbury Giant. Please contact us if we can provide you with any further documentation or comment. Thank you for your prompt consideration of this matter. We shall contact the FDA/FOI Staff in Rockville, Maryland, to check on the status of this complaint.

Happy Spring,

David Stern, Director

DS:dd

c.c. Congressman Tom Reynolds
U.S. House of Representatives
Victor, New York Office

Nutrition Facts	Amount/serving	%DV*	Amount/serving	%DV*
	Total Fat 2g	3%	Total carb 22g	7%
Serv size 1/2 cup (108g) Servings about 3	Sat fat 0.5g	3%	Fiber less than 1g	4%
Calories 120 Fat cal 20	Cholest less than 5mg	1%	Sugars 7g	
	Sodium 360mg	15%	Protein 3g	

*Percent Daily Values (DV) are based on a diet of 2,000 calories a day.

INGREDIENTS: CORN, GARLIC FLAVORED SAUCE (WATER, SUGAR, BUTTER, SALT, MODIFIED CORN STARCH, NATURAL FLAVOR, WHEY PROTEIN CONCENTRATE, GELATIN, ONION POWDER, KANTHAX GUM, PROPYLENE GLYCOL ALGinate, ARTIFICIAL COLOR, POTASSIUM SORBATE (PRESERVATIVE), CITRIC ACID).

DISTRIBUTED BY THE PILLSBURY COMPANY
286 PILLSBURY CENTER, MINNEAPOLIS, MN 55402-1404
01998 TP

STOVETOP DIRECTIONS:
EMPTY contents into small saucepan
BRING just to a boil, serve

MICROWAVE DIRECTIONS:
EMPTY contents into microwave-safe dish, cover
MICROWAVE on HIGH for 2 1/2 to 3 1/2 minutes, serve

Questions or Comments?
800-995-6996 weekdays 8 am-6pm (CST)
(Please refer to code numbers on lid)

Visit us at www.greengiant.com

0 20000 10550 5

"...If people in the world have a common experience in food, they can be more friendly"

— Yuzaburo Mogi
President, Kikkoman Soy Sauce



GARLIC SEED FOUNDATION

Rose Valley Farm • Rose, New York
14542-0419 • (315) 587-9787

April 4, 2000

U.S. Food and Drug Administration
300 Pearl Street
Buffalo, New York 14202

To Whom This Might Concern:

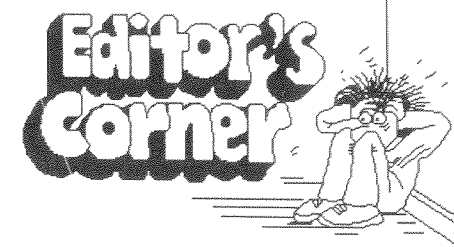
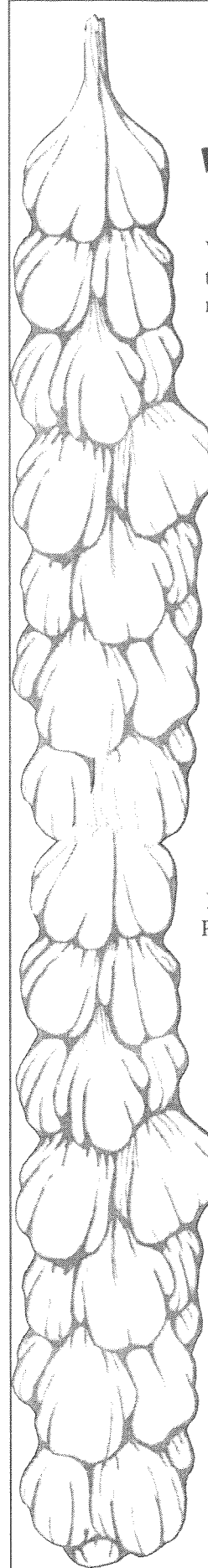
On behalf of the membership of this Foundation, I would like to call your attention to the enclosed label for a Green Giant Brand product: Niblets Corn with Garlic Flavored Sauce. This particular can was purchased at a Big M grocery in Lyons, New York, on 10-21-99 for \$1.09. The code from the can top reads: HON16N 0135 4 19:55. Please let this letter serve as a formal complaint against Mr. Pillsbury and Mr. Green Giant for fraudulent and intentional mis-labeling and marketing, and as a request that you investigate this deceptive practice. This product contains NO Garlic.

Please note the following particulars which are found on the enclosed label:

- ❶ The word Garlic is physically larger than the words “corn” or “niblets,” but there is no garlic in the can.
- ❷ The word NEW (in blue and white): This product has been on the market for two years (released Summer 1998) and is no longer NEW.
- ❸ The descriptive word Delightful is used in reference to the flavor of this product. I've eaten a great deal of garlic over the last 50 years, and I talk to thousands of garlic eaters each year, and never, never have I heard that word “delightful” used to describe the explosion that takes place in your mouth when you eat the real thing.
- ❹ Upon inspection of the ingredient list from this can you will notice that there is no garlic in this can. There is, however, “Garlic Flavored Sauce,” but that contains no garlic either.
- ❺ This garlic flavored sauce does contain “NATURAL FLAVOR” — of what? Are these laboratory test-tube made “natural flavors”? Could you please define what that means? I couldn't get any answer to this when I contact Mr. Green Giant by telephone in Minneapolis.
- ❻ Who says the sauce is the flavor of the garlic? Who judges this? Tell me please what qualifiers and parameters define this “garlic” flavor. I have taken the liberty of purchasing several samples of this product and have sent them to a representative sample of our members for review. I shall send you the results. I ate this particular can and would not recognize the flavor of what I ate as “delightful” or “garlic/garlic flavored.”

What we have here is a company engaged in fallacious and inaccurate labeling of a product. Mr. Green Giant knows that the consumer is asking for more garlic flavor and its dietary benefits. Garlic powder could easily have been added to the ingredients, along side the included onion powder, had they wanted. “Garlic” is the largest word on the entire label. Can Mr. Green Giant put anything he wants on a label just to sell a product? I think not. I think it's the FDA's job to protect the public from this fraud. This label is as deceptive to the consumer as the can's content.

An informal organization of growers and eaters of *Allium sativum*
dedicated to its improvement and production
Publishers of the *GARLIC PRESS*



WOW DO WE STINK & WHY

Well, David will add his version of this sad story, but here's mine: It's been a long winter, so long that now it's Spring and we're still fumbling the ball in getting this overdue newsletter out. As you may know, with Andy's death we were left with a problem, that of getting our mailing list transferred and compatible and switched and readable, as it's gone back and forth over half the country. We've changed printing companies also. That's part of the problem, David's overloaded schedule another, and as for myself, well... You may read through the lines of my editorial (see Out of My Head) that I've been through a period of change also. Honestly, I was almost ready to surrender. Surrender to the way things have been so long, and to the change that's taking over everything. So, I've gone online, gotten an e-mail address (GARDUNK@YAHOO.COM), and am taking a long look at what the world is up to. Well I don't want to stop this newsletter and it will get better and more reliable. I've learned a few things along this new path also. Now I'm involved in my own business of setting up websites and maintaining them and I'm getting one up and running for the Foundation. It's cost me time and money out of my pocket, but hopefully it will pay off for me and my family. Anyway, I'm hoping this transition will be good for us and we can be in touch with some of you folks in a better and faster way. I do feel badly that it has been too long that we have been there to give you some juice out of this Press, and I apologize. There's a huge world of information out there though, and I also know this, for us, is more a work of the heart and hands than of the head or wallet. We need also to be accessible to Generation X and those of you with computers, so that's it for now. This is our millennium change, while still working and growing through our lives with garlic and our community. Perhaps it will widen our world, or maybe shrink it, but either way the future is here and now.

HELP! COOK BOOK EDITOR NEEDED

Hey, remember the cookbook we wanted to put out? Well, we have gotten a lot of great recipes from Paula Simmons Green, and other members have sent a few, but it's just been on our back burner for too long. **LAST CALL!** Anyone out there have any recipes that they want to send in for being published?

We originally offered it to all our members and still do. It's a good way to contribute to the Foundation and it would be a great selling tool for you to have *when* we get it out.

What we really need is someone to take over the project of getting it organized, formatted and printed. **PLEASE** let us know if you are the one we've been waiting to hear from....

A NEW T-SHIRT?

We're also working on a new T-Shirt for the coming festival season. Not ready as we creep to Press, but in the works. We hope to have info out soon — certainly either in our next issue or up on our web site when that gets online.

Wish we could be more help? Want it now? Yep, so do we! E-mail in any suggestions, please: GARDUNK@YAHOO.COM



The Olive and Its Oil

A brief summary of the olive and its relationship to human societies in the Mediterranean region to which *Olea europaea* is native, with a focus on oil production and ancient mills and presses used during antiquity.

Part III. The Botany and Physiology, Propagation, Pruning and Harvest of the Olive
By Muriel Calo

Olive oil is produced in three simple steps according to the traditional method. First, the olives are crushed in stone mills with one or several turning wheels to break the skin and release the oil. Then, the olive pulp is pressed once or twice in a beam press (early method) or a screw press (later) with the addition of volumes of hot water. Last, the oil is separated from the water and from the exuded juices using jars, vats, or large settling tanks. Pressing and oil extraction is a purely mechanical process that does not involve fermentation or other chemical transformation like the one that occurs in grape pressing for wine.

As the olive matures on the tree through the growing season, the proportion of oil in the olive increases to a maximum of 58% at the expense of water content: at this point in late winter, the olives are black and mature.¹ If the olives are harvested past maturity, they begin to lose water and desiccate, and the oil becomes rancid. It is critical for the olive grower to know the optimal harvest time to maximize yield and oil quality. The smallholder will try to space out his harvests so that the rate of harvest does not exceed the rate of processing into oil given the available equipment. Often, though, there is a surplus of olives that is harvested but cannot be directly pressed. In ancient Greece, salt was often added to the ripe, just harvested olives as they awaited processing in order to slow down fungal and bacterial attack. Oil processors would also tread on the olives with the feet and so very lightly press them; this would release some of the oil, which would form an oily protectant over the fruit. Olives could be conserved for up to 20 days in this manner²; nowadays, the delay between harvest and processing is no longer than 3 days.

In this section, I will trace the development of olive oil production and extraction equipment in the context of spreading technology and trade in the Mediterranean region, from the Bronze Age through the Classical Age. I will focus particularly on Greece with reference to developments in other parts of the region.

The Greek archeological record conclusively documents the presence of the cultivated olive in the early Bronze Age (ca. 3500-1200 BC) through olive stones and wood prunings in Crete and elsewhere in Greece.³ However, there are few excavations that have actually documented the rise and spread of olive and olive oil production through the equipment associated with the extraction process in Greece. Foxhall⁴ notes that oftentimes it is difficult to conclusively identify presses as being used in oil extraction rather than for industrial purposes or in pressing grapes. Equipment that definitively points to oil production, such as rollers that were used to crush olives to a pulp before pressing, woven baskets holding the pulp in the press, and settling tanks used to separate oil from the exuded juice and water, has not persisted in the archeological record. As a result,

many historians and scholars have wrongly concluded that olive cultivation and oil extraction in the Greek islands, beginning in the Bronze period and continuing through to the Classical (ca. 600-400 BC), was insignificant. This was especially so when it was compared with Roman oil production, where the olive represented perhaps "the single most important agricultural commodity in the ancient [Roman] economy."⁵ Foxhall notes that in many cases, the Greek presses used for oil extraction were multi-purpose and simpler in design than Roman presses, and they were often dismantled and the parts scattered. For this reason, they were not and could not be documented in the archeological record. Also, when excavating Bronze Age and more recent sites in Greece, archeologists have often failed to look for the organic record of olive cultivation: olive stones and prunings. Blitzner⁶ notes in regard to Cretian olive production that when attempts to collect and identify carbonized olive remains are made (at about 10% of excavated sites), remains are most often found. She regards the silence about antique olive cultivation in the Greek and Cretian archeological records as one to be interpreted rather than taken literally. The scant evidence that has been recovered points to widespread cultivation.

The Greek presses and crushing equipment used in olive processing were multi-purpose and simple in design for the following reasons: most olive cultivators in Classical Greece were smallholders and held diversified farms, and the substantial cost of a specialist, highly-crafted olive crusher was prohibitive. The standard Roman olive crusher is the *trapetum* (although

the etymology of the word shows it to be of Greek origin, meaning "to squash up" [grapes]), which consisted of two semi-cylindrical stone spheres, or orbs, revolving in a stone mortarium through human labor, and crushing the olives against the wall.⁷ The earliest evidence in the archeological record for the use of the *trapetum* comes from Pindakas on the island of Chios—the finds here include a varied version of the stone orbs, dated to the 5th and early 4th centuries BC.⁸ *Trapetum* parts were also found at Olynthus in Macedonia, Greece and dated the first half of the 4th century BC. Entire *trapeta* have been found in excavated villas in Pompeii, Roman farms at St. Paul Milqui on the island of Malta, and in the Roman Agora in Athens.⁹ The *trapetum* was considered the most sophisticated of olive crushers and the mark of advanced and developed oil production systems, mainly because it allowed for the crushing of the fruit without the simultaneous crushing of the stones, which was thought to spoil oil flavor.

Simple crushing equipment that evolved before the Roman *trapetum* was varied and creative according to geography and available resources. In Corsica, Turkey, Syria and Italy, ripe black olives were placed into large woven baskets and trod on to

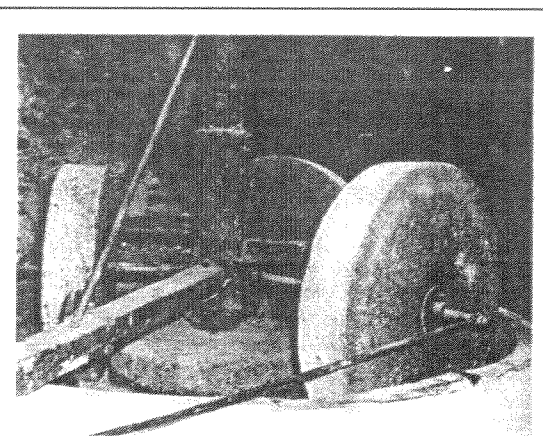


Plate 4
An "alestiká" mill in the olive oil workshop of the monastery of Palaokastritsa, Corfu.
A. Sardinas

Stink Fests

A Guide to Garlic Festivals for 2000

All dates verified as of April 1, 2000. Additional festivals will be included as received

What and Where?	When?	Who?
Garlic Fest Fairfield, CT	May 5, 6, 7	Father Bill, Notre Dame Catholic School 203-372-6521
20th Annual Northwest Garlic Festival Ocean Park, WA	June 17, 18	Diana Thompson 360-665-0102 • 1-888-751-9354
Gilroy Garlic Festival Gilroy, CA	July 28, 29, 30	408-842-1625
Keystone State Garlic & Herb Festival NE Drums PA (Hazelton)	July 29	Paula Willis 570-788-3152
Fox Run Winery Garlic Festival Penn Yan, NY	August 5, 6	Lorie 315-536-4615 or 800-636-9786
Salt Spring Island British Columbia	August 5, 6	Kristie Straarup 250-537-1210
Love Israel 11th Annual Garlic Festival Arlington, WA	August 11, 12, 13	Office 360-435-8577
Eastern Ontario Garlic Festival Caro Fairgrounds, Near Ottawa, Ontario, Canada	August 12, 13	Paul Popisil 613-273-5683
Ringtown Valley Garlic & Herb Festival Ringtown, PA	August 12	Roger Zimmerman 570-889-3522
3rd Annual Elephant Garlic Festival North Plains, OR	August 18, 19, 20	1-800-661-1799
Adams Garlic Festival Pawcatuck, CT	August 19, 20	Adams Family Farm 860-599-4241
Kariboo Farms Mile House, British Columbia	August 19, 20	Gail Szolosi 250-397-2540 • 1-877-397-2518
Canadian Garlic Festival Sudbury, Ontario	August 25, 26, 27	Mary Stefura 705-673-7404
Garlic Festival Chehalis, WA	August 25, 26, 27	Andrea and Shawn Hamilton 360-740-4411 • sunshinehill@localaccess.com
Keystone State Garlic & Herb Festival Muncy Valley, PA	August 26, 27	Marty Horvat 570-753-5513
Pocono Garlic Festival Stroudsburg, PA	September 2	610-381-3303 717-421-7235
Southern Vermont Garlic Festival Wilmington, VT	September 3 Rain out September 4	Joy and Steve 802-368-7147
Hills Garlic Festival Between Nakusp & New Denver Slocan Valley, British Columbia	September 10	Maggie Bajer 250-265-4967
Hudson Valley Garlic Festival Saugerties, NY	September 23, 24	Pat Reppert 914-246-7982
Virginia Wine & Garlic Festival Amherst, VA	October 14, 15	Richard Hanson 804-946-5168
The Garlic is Life Festival Tulsa, OK	October 14	Darrell Merrell 918-446-7522
Delray Beach Garlic Festival Delray Beach, FL	November 4, 5	Nancy Stewart 561-274-4663 • Fax 561-274-6129

Our thanks to Doug Urig, editor of Mostly Garlic, for permission to reprint this list.

Garlic Is Life Festival '99 Tulsa Oklahoma

There was a time that I wondered why I was leaving right in the middle of planting season to go to Tulsa, OK. It must have been the magnetic response of my heart, like the light that attracts a moth, and as the days darken in the north country one is easily tempted by a man as persistent as Darrell Merrill! The idea of taking GSF materials west, or an hour of speaking about our work, certainly took a back seat to the quest to connect with these names I could see were assembling from around the country. It was not an issue of celebrity. Each of us at this conference, in our own unique way, has chosen paths in our lives that led to this moment in time. As we ate, talked, laughed and looked into one another's eyes, there was an unspoken bond. It made my heart glad and my spirit soar to feel this connectedness.

Men and women of science, art, the chefs and farm folk—all together, each refreshed by one another as the barriers were broken. Each a story to share and lots of listening to do! There are points along the paths of our lives that are like scenic vistas where we are allowed a perspective upon the beauty before us. This was one of those times indeed! As I flew away from Tulsa, though the rainbow was receding, the memories like etchings upon the inner workings of my mind were firmly in place. It had been a time of smiles and firm handshakes, of eyes connected to witness a devotion to something both personal and shared.

Darrell's voice had been the first thing I'd heard that morning as I turned from my notes and coffee. "God Bless you, Bob." And there he was smiling, a half hour early for our appointment to take me to the airport. It gave us a last chance to visit and we spoke of a boy, Mark—14 years old and a yen for growing garlic impassioned by Darrell's acquaintance. This was long before he learned of Mark's second liver transplant and the health issues in his life. As we got into the Suburban wagon to leave for the airport, Darrell had me grab a bag of samples that Louis Van Deven had brought from Paula Simmons Green—beautiful single bulb samples we had for display at the festival, many types I wasn't used to seeing in the Northeast. He said, "Help yourself to whatever you want." Such a gentleman through and through. For a first festival, this man did a great job organizing a symposium and festival for the public. It was a nice progression to go from a dinner bash into a day of lectures and then take that cumulative group energy to the folks from Tulsa gathered around the various vending booths.

As I returned from there to resume planting, I must have 15 new accessions plus all the bulbils from John Swenson that are a story all their own. The gift alone of the Samarkand bulbils that have been found to contain fertile pollen, and are helping Phil Simon in his work, made the trip one that's hard to forget. Each person would be a chapter of this story as they revealed their work and shared their joys and frustrations. Like a chorus of migratory birds, the bonds and energies exchanged were chemical by nature.

Our adaptive abilities are mirrored in life, in the garlic, or perhaps in us, them. The survival, evolutionary advantage, and selective response of garlic was a common theme throughout the seminars. The stories of the cliff dwellers descending and taking their herbs, their garlic with them as medicine, carries a message for all of us. We have so much

to thank the garlic for. I thank all of you that were there for all you do. I'd mention each and every one of you were there space, but ... anyway. I promised myself then and there in my notes that next time I would kneel in my field where I was placing the children of the new millennium that I would be still awhile and listen and thank this earth.

Life is anything but linear. The restrictions are only self-imposed and part of the path. I had heard stories from folks there of the prairie lands. As this thick epidermis was cracked, where cattle had trodden for so long, they described a ripping sound as if the land had to be opened like a rusted zipper to plant the garlic. This trip was a subtle transformation, a tiny shift that rips at my consciousness like the plow on that prairie. There is no time to be inflexible, to be staid or static. All things move, transform, evolve to exchange their forms, all to embrace the next, as now.

Thanks Tulsa, for being another spot in the garlic universe. Thanks Darrell for your recent letter that states, "We have set October 9-14, 2000 as Symposium and Festival Week. While the specific schedule has not jelled, I can tell you that we will have two days of field trips, visiting the Gilcrease Museum of Western Art and History, and the Oklahoma Tall Grass Prairie Preserve. Both are national treasures—don't miss them! We are also adding a one-half day Youth Symposium (4-H, vocational agricultural students and horticultural students at OSU), and expanding the Symposium to two days. The festival will be held on Saturday, October 14, 2000."

STOP SIFTING

Birds glide through air
As subtle waves of wind and water sing
In cadence they celebrate light.
Octaves and spirals, DNA and periodic tables
All pattern themselves on the eternal breath.
A cycle like hydrogen to helium
Of inbreath and outbreath
Of rise and fall, of getting and letting...
Our winged friends repeat and not
The songs of Earth's story.
Trees tell tales older than words
And their memories bones rattle and hum
In the still wind of time —
As round and round we spin
To a center point unseen.
The clove always only is.
Spinning its dance of bulb to free itself again
It gives each Spring its form to rise
Its plate does mysteries bring.
From there a magic ring doth send
From roots its song on high
As bulbs begin the dance again
From whence the clove will fly.

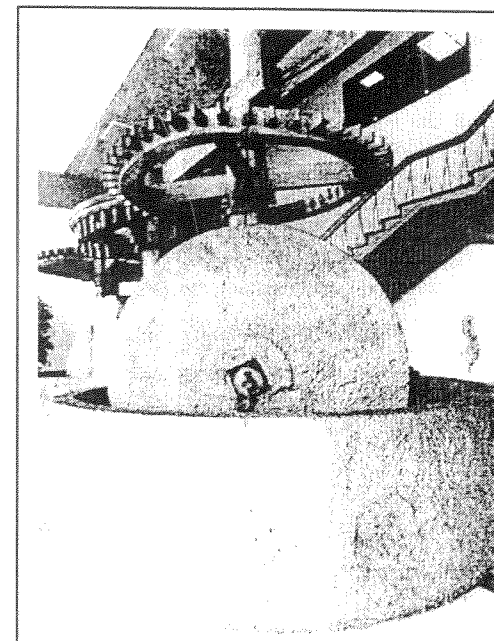
B.D.

break the skin, and force was applied in a twisting motion to extract the oil.¹⁰ Stone troughs and large stone pestles were used, as were cylindrical rollers on a flat surface (which Foxhall argues was in widespread use as early as Bronze Age Greece). In ancient Israel in the Chalcolithic period, people used a sloping crushing floor connected to a lower collecting vat cut into the rock.¹¹ As evidence supporting Foxhall's claim, two cylindrical rollers of dense calcarenite were found near a crushing floor at Kouklia-Styllarka in Cyprus, and two other rollers were found at another location in association with a perforated monolith used as an upright support for the beam of a lever press.¹² Such rollers could and were easily removed from the rest of the installation and used in packing down mud roofs and threshing floors.¹³ Similar rollers of a smaller dimension were excavated in Tougari, northwestern Syria, dating back to the Recent Bronze.¹⁴

Foxhall argues that it was much more cost effective for farmers to invest in a simple, multi-purpose implement, especially given the frequency of the olive harvest: once every two years due to biennial bearing. The metal fittings provided and installed by specialist craftsmen were expensive, so used instead were less efficient single millstones. These needed only a single pin and a few large nails in terms of metal parts, and were made out of local wood and stone by village craftsmen. These are documented in the archeological record beginning in the 4th century BC.¹⁵ These millstones have persisted through the centuries: 18th-19th century single mills have been found on the Greek island of Kerkyra.¹⁶ Several smaller stones used simultaneously proved a slightly more efficient method but were still expensive, requiring production and assembly by specialist ironworkers and stone masons who came in from the urban centers.

Large, expensive and specialized crushers such as the trapetum and the multiple stone mills are only of good value if there is specialist growing on a sizeable scale. The two Greek islands where this was true were Kerkyra and Olynthus, where due either to microclimate or to local pruning practices, the bearing habit was more annual compared with the rest of Greece. Trapetum parts have been found in these locations. The limited expansion of large-scale olive growing and oil production in Greece was based more on the structure of local economies rather than technological deficiency. The more common and simple devices such as rollers do not often figure in the archeological record because they were used for a range of other purposes and did not always remain associated with the other olive pressing equipment. Thus the scale of olive oil production in the Classical period in Greece has been underestimated.

When we include in our understanding of Greek oil production locally-based diversified economies centered around the smallholder's farm, a limited availability of metal, and multi-purpose production implements that may not have been identified in the archeological record, a clearer picture of the true scale of Greek oil production emerges. We have single millstones dating from the 4th century BC followed by the introduction of the trapetum in the 2nd and 1st centuries BC at selected sites in Greece due to Roman influence, with smaller orbs than Roman ones. With this sequence in mind, it is likely that small gains were made in the 4th and 3rd centuries BC towards the trapetum, while traditional crushing methods remained dominant. In the 2nd century BC, the true trapetum was developed in southern Italy and spread quickly to the rest of Roman territory, southern France, and certain regions of Roman influence in Greece. Towards the end of the Roman era and the start of the Byzantine era, the single millstone spread while the more primitive systems such as the rolling cylinders remained important.¹⁷



An ancient crusher run by water and made up of two opposing millstones driven by a central driveshaft. Western Liguria, 19th century.

Notes

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¹⁰ Amouretti, 1986.

¹¹ Hadjisavvas, 1992.

¹² Hadjisavvas, 1992.

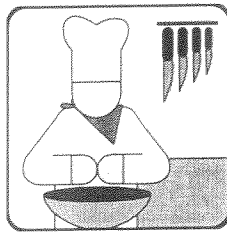
¹³ Foxhall 1993

¹⁴ Callot, Olivier. Les huileries et l'huile au Bronze Récent: exemples Syriens et Chypriotes. *Oil and Wine Production in the Mediterranean Area*. Amouretti, M.C. and J.P. Brun, eds. Athens: Ecole Française d'Athènes, 1993. Pp. 55-63.

¹⁵ Amouretti, 1986.

¹⁶ Foxhall, 1993.

¹⁷ Amouretti, 1986.



Chow Time Keep on Cookin'

Hello Friends of the Garlic World!

Chef Ed here, writing to you again, not from the belly of the beast, or the gallows of grief, but from the free world. HOME. Yes, home, where the buffalo roam and that sort of stuff. From an old place to a new one; a bad society to a good one. Terrific transformation. Dorothy was right, "There's no place like home Toto, no place like home."

After spending an unfairly amount of time in the pig pen, the free world sure smells great. The food tastes better, the water is much cleaner, the people much nicer—well, some of them. I am told that now is when the real test begins. Dealing with certain people who do not approve of certain individuals can be real trying. The so-called "pillars of society" who think they are better than the next can surely put a damper on one's parade. All I have to say to them is "God Bless you, ya won't rain on my parade!"

I have already run into many walls trying to gain employment. All I get is "goose eggs." I guess some just don't believe in giving someone a chance, let alone a second one. Oh well, never give up I say. Keep the old chin up! Something will come through. All ya got to do is "believe" (or so they say).

I spoke to my dear friend and Partner in Garlic, David, the other night. It was great to speak to him. Big

Dave asked if I would continue to write for the *Garlic Press*, and I said I would have it no other way. David also mentioned that some have asked if I was real or pulp fiction. Well friends, I'm as real as real can be—authentic, genuine, the real deal. If you look real hard, you might see me at one of our famous garlic festivals! I will continue my cunning compositions as soon as possible. I must first "seek and maintain employment" and build up my pocket book. But have no fear, Chef Ed will be here! Back to share with you life's realities, and garlic recipes.

Remember, a man should never put on his best trousers when he goes out to battle for freedom and truth!

Peace,
Chef Ed

[P.S. Getting Out, ain't getting free. The big walls not only trap your body, they confine your mind. There shall always be people who will choose to judge others, condemn the past, buy into the moral issues, and never see a tree in the forest. But those are the folks who never made a mistake—or never got caught. When that door slams in your face, it's sometimes hard not to internalize that rejection and doubt yourself. Those of us who have spent time on the inside know this. Chef Ed struggles and needs our support. You can write to him via GSF/Rose. DS.com]

Spices may reduce *Escherichia Coli* 0157:H7 in Meat

CHICAGO—Consumers may have an arsenal of food safety weapons in their spice racks, according to Kansas State University (KSU) researchers, who presented preliminary study results on the antimicrobial properties of spices at the Institute of Food Technologists* (IFT's) 1998 Annual Meeting & FOOD EXPO® in Atlanta June 21.

The researchers' poster "Reduction of *Escherichia coli* 0157:H7 in Ground Meat by Selected Spices" reported the antimicrobial effects of 24 spices tested against the foodborne pathogen in a laboratory medium, uncooked hamburger, and uncooked salami. KSU researchers included Erdogan Ceylan, M.S., Donghyun Kang, Ph.D., and Daniel Y.C. Fung, Ph.D.

In the hamburger study, "clove had the highest inhibitory effect, [followed] in potency by cinnamon, garlic, oregano, and sage," Fung said. However, in the laboratory studies, garlic had the highest inhibitory effect.

The addition of 1.0 percent spice (garlic, clove, and cinnamon) to salami mixed with starter culture and *E. coli* 0157:H7 resulted in successful salami fermentation and slight reduction of the pathogen. However, the addition of 7.5 percent garlic and clove killed 99 percent of the pathogen and still resulted in successful salami fermentation.

Though finding the right balance between antimicrobial effectiveness and taste was a challenge, the KSU study showed that clove, cinnamon, and garlic may have the potential to be used in meat products, especially in fermented ones, to control the growth of *E. coli* 0157:H7. Fung said his research may be also applied to other pathogens because often when *E. coli* is killed, *Salmonella* and other bad bugs are also destroyed.

"If you add more spice to your cooking, you will definitely knock off more microorganisms, especially if you season with the spices that we said kill *E. coli*," Fung said. "For food manufacturers, similarly, if they use more spice in their products, they will kill more microorganisms."

However, KSU's research has not yet determined whether the amounts of spice that are effective against pathogens are practical for consumers to use in cooking or for food manufacturers to create good-tasting products. Moreover, regardless of how much spice consumers put in their food, they should always use safe food handling practices, including cooking ground beef to an internal temperature of 160°F or until its juices run clear. Only thorough cooking and irradiation can eliminate *E. coli* 0157:H7.

Though spices may be able to reduce *E. coli* 0157:H7 in meat, they do not appear to be able to eliminate it, which underscores the importance of proper cooking. Eliminating *E. coli* 0157:H7 is the only way to eliminate risk of infection since the pathogen has an unusually low infectious dose. In people with compromised immune systems, for example, fewer than 10 cells may cause illness. Spices, however, may potentially add another margin of safety to proper food handling and cooking.

The antimicrobial properties of spices have been noted in several studies, including one published by Cornell University researchers in *The Quarterly Review of Biology* in March 1998.

The next step in KSU's research is to test the effect of variables, such as cooking, on the antimicrobial power of spices in specific meats.

Daniel Y.C. Fung, Ph.D., is Professor of Food Science in the Department of Animal Sciences and Industry at Kansas State University. Donghyun Kang, Ph.D., is a post-doctorate research assistant and Erdogan Ceylan, M.S., a doctorate candidate.

** Founded in 1939, IFT is a non-profit scientific society with 28,000 members working in food science, technology and related professions in industry, academia and government. As the society for food science and technology, IFT brings sound science to the public discussion of food issues.*



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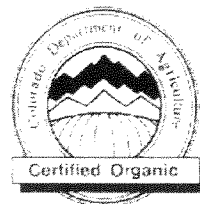
What's in the ground, growing for you for the 2000 planting season?

Softnecks: Inchelium, California Late and Early, Chet's Italian Red, Silverskin

Hardnecks: Chesnok Red, Spanish Roja, Colorado Black, Keeper, Korean, German Porcelain, Marino, German Red, Carpathian, Romanian Red, Persian Star, Russian Red, Yugo Red, GSF#65, Shatili, Metechi, Red Rezan, Music, Purple Glazer, Killarney Red, Brown Tempest, Zemo, Siberian, Georgian Crystal

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BEETLE BAILEY

THAT'S ODD! MY FLOWERS ARE GROWING AWAY FROM THE SUNLIGHT

9-21

DID YOU HAVE A GARLIC AND ONION PIZZA FOR LUNCH AGAIN?

WWW.CARTOON.ORG

HOPE WALKER



Stinky Science

Effect of Ale, Garlic, and Soured Cream on the Appetite of Leeches

by Anders Baerheim, senior lecturer, and Hogne Sandvik, research fellow

Division for General Practice, University of Bergen, Ulriksdal 8C, N-5009, Bergen, Norway

Correspondence to Dr. Baerheim.

The medicinal leech has regained some of its lost popularity by its present use in microsurgery. Sometimes, however, the leeches refuse to cooperate properly. To overcome this problem doctors in the 19th century used to immerse leeches in strong beer before applying them to the patient¹. In the 1920s a deaconess experienced that a little soured cream on the skin would encourage the leeches' feeding behavior,² and we recently found that they seem to be attracted by garlic.³ We designed a study to evaluate the effect of these remedies.

Materials, Methods, and Results

Six leeches were dipped briefly in one of two different types of beer (Guinness stout or Hansa bock) or in water (control) before being placed on the forearm of one of us (HS). We measured the time from when the leech touched the skin until HS felt it bite. Each leech was exposed three times to each liquid in random order. As serotonin is known to control the feeding behavior of the leech,⁴ we also measured the serotonin content of both beers by high pressure liquid chromatography.

Six other leeches were then placed on the same author's forearms without being dipped in beer or water. The left forearm was either not prepared or smeared with soured cream. The right forearm was smeared with garlic. The leeches were placed on the differently prepared arms in random order. We planned to place each leech on each arm seven times, but because of adverse effects only two leeches were exposed to garlic. The four remaining leeches completed the study as planned with the other preparations.

We analyzed the median time from application to biting. Some leeches did not bite within the predefined time limit of 300 s, but as the study was run according to the intention to bite principle, these incidences were registered with a time interval of 301 s in the statistical analysis (paired Wilcoxon test).

After exposure to beer some of the leeches changed behavior, swaying their forebodies, losing grip, or falling on their backs. Leeches dipped in Guinness bit after 187 s, those dipped in Hansa after 136 s, and controls after 92 s. The serotonin content was low and similar for the two beers (0.1 µg/ml).

Two leeches placed on the forearm smeared with garlic started to wriggle and crawl without assuming the

sucking position. They were placed in water, but their condition deteriorated. When placed on a bare arm they tried to initiate feeding but did not manage to coordinate the process. Both die 2½ hours after exposure to garlic. For ethical reasons the garlic arm was abandoned at this point.

Leeches exposed to soured cream sucked frantically on the wall of their container after they had been on the arm. While on the arm smeared with cream, however, they bit no sooner than the controls.

Exposure to beer tended to disrupt the leeches' normal behavior and made them erratic. However, the most interesting effect was that of direct exposure to garlic. Ingested garlic has been reported to be lethal to some animals,⁵ but we believe this to be the first study showing garlic to be lethal by skin absorption. Garlic has a definite force of attraction on leeches,³ but further research into this fatal attraction will require in depth qualitative methods.

The alleged effect of soured cream may have been an extrapolation of the deaconess's own preferences, an example of the placebo effect. An inert substance in the hands of the believer may work well, even on leeches. This study provides a reminder of how medical beliefs can stand uncontradicted for decades. We should never forget the necessity of critical research on commonly accepted medical truths.

We thank Ole Helland, Hansa Brewery, Bergen, for supplying sufficient amounts of their precious liquid to satisfy the needs of all participants of the study. We are also greatly indebted to professor Ole Jacob Broch, Division for Pharmacology, University of Bergen, for analyzing the ales for serotonin. The leeches are by all accounts grateful to Hogne Sandvik for supplying his own precious liquid, but in any event we wish to express our appreciation for their enthusiasm.

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La Mia Cucina

by Alberto Vanoli

Chef's Suggestions: Preparing Garlic

Here are a few tips to help you prepare garlic for cooking. These are four different methods to peeling garlic, which offer techniques for small or large amounts of preparation.

Starting with the whole bulb of garlic, one of the easiest ways to separate the cloves from the bulb is to press the top of the bulb with the palm of your hand. Press down very hard and rotate your hand. By doing this, the cloves should separate from the bulb.

After you have the separated cloves, there are a few methods for taking the skin off. The first instinct we usually have is to take a small, sharp knife and peel the skin off the clove. This method does take some time, especially with a large amount of garlic to peel. My suggestion to this method is to cut the bottom part of the clove off. This is where it looks like the skin is attached to the clove, not the point side. Then, peel back the skin as if it is a banana. In this method, the shape of the clove is preserved. It is best in this way for slicing.

A different method, which I prefer, is to take the clove of garlic and, with the flat side of a large knife, smash the clove firmly on a cutting board. You can also use the palm of your hand. This separates and breaks the skin from the garlic and the clove slips right out. This method is fast and easy. In this method, the shape of the clove is lost. The garlic can now be used for chopping and when you prefer to use the whole clove, or at least larger pieces, while cooking.

The third method that I use in the restaurant to peel large amounts of garlic is to soak the singular cloves in cold water. The cloves should sit in the water bath for about one hour. The skin becomes very soft and you can peel it right off with your fingers. In this method, you do lose some of the flavor of the garlic, but the clove stays intact and it is perfect for the next step of use.

There is one more option to peeling garlic, which as a chef I do not use in the restaurant. In specialty cooking stores, they offer a rubber tube used for peeling garlic. When the clove is placed inside the tube, you then roll the tube on a flat surface back and forth. This loosens the skin.

I will see you next time with chopping and cooking techniques.

Here is a recipe, from the Italian region of Liguria, that is a typical sauce used to dress pastas. This sauce is a walnut sauce typically used to dress pansotti. Pansotti are ravioli filled with ricotta and herbs, such as spinach, Swiss chard and borage.

Please use the sauce to dress your favorite types of pastas if you like.

WALNUT SAUCE

- 2½ cups walnuts
- 4 tablespoons walnut oil
- 2 tablespoons olive oil
- 1½ ounces bread, crusts removed
- 1 each garlic clove
- 2½ cups sour cream

Blanch and peel the walnuts. Soak bread in water until soft. Then, squeeze the bread between your hands to remove excess liquid.

Blend walnut, bread, garlic and salt in a blender. Pass through a sieve and add oil and sour cream. Mix well until incorporated.

Nutrition Facts

Servings Per Recipe 1

Amount Per Serving

Calories	39
Calories from fat	33g

% Daily Values

Total fat 384.9g	592
Saturated Fat 96.3g	482
Cholesterol 259mg	86
Sodium 315 mg	13
Carbohydrate 64.6g	22
Dietary Fiber 16.1g	64
Protein 96.6g	193

Vitamin A	111.1
Vitamin C	27.0
Calcium	87.0
Iron	57.4

*Percent Daily values are based on a 2,000 calorie diet.

Learning to Eat Your Enemies—the Four-legged Ones

by Peggy Platonos ("Sage & Savory," Finger Lakes Times)

Eat your enemies.

That was the philosophy of some primitive tribes who believed that by eating the flesh of a brave adversary—particularly the heart and the liver—you absorbed some of that courage yourself, to add to your own store. We think of this as a barbaric thing to do, but after coming across some unusual recipe ideas recently, I'm not so sure.

Before you think I've lost my mind completely, I hasten to assure you that the enemies in these recipes are four-footed, rather than two-legged. And not everyone will think of them as enemies. If you have a garden, though, you probably won't quibble about woodchucks being on the list—though you may not have considered them edible.

They are, however, and if I had known this a couple of summers ago, I would have harvested my cauliflower, broccoli and beans by taking my neighbor's son up on his offer to shoot the woodchuck (or chucks) that ate them all.

Rabbits also invade gardens, of course, and they make for good eating, too. As do raccoons, surprisingly enough—particularly when they're nice and plump from demolishing the corn in your garden just as you're getting ready to pick it yourself.

Squirrels can make a nuisance of themselves by eating flower bulbs and gnawing their way into houses, but they too are tasty and tender meat, though there's been some concern in recent years about Mad Cow Disease in squirrels. Opossums and muskrats are both edible, as well, and eating them terminates their raids on hen houses (in the case of possums) and the digging of leaky holes in the dike of your pond (in the case of muskrats).

Even beavers can be cooked and eaten, thus protecting your tender bushes and valued trees growing near the banks of streams and lakes. We don't have to worry too much about porcupines in this area, but where they are found, they create problems by gnawing on salty tires and wires of cars during the winter months and leaving a painful mess of quills in the inquisitive noses of beloved pets. If you feel like tackling one and can get safely past the quills, porcupines too can be eaten.

All of these sometimes pesky critters are considered small game, and small game season is now open, so they are fair game for the hunters in the family.

And you don't have to take my word that they're edible. They're all mentioned in that culinary Bible, the *Joy of Cooking*.

A word of warning: It's a good idea to use latex or vinyl gloves when skinning and handling the raw meat of small game—particularly rabbits and squirrels. Also, most of these animals have small glands that are best removed before cooking to avoid strong, objectionable tastes.

In squirrels, possums, porcupines and raccoons, these glands are found in the small of the back and under each foreleg. Woodchucks have 7 to 9 little kernel-sized glands under their forelegs. Muskrats and beavers have particularly nasty-smelling substances encased in glands that you'd better not cut into by accident if you want to eat the meat.

Incidentally, the *Joy of Cooking* recommends that you "trap possum and feed it on milk and cereals for 10 days before killing." I can hear the folks who contributed possum recipes to the book *White Trash Cooking* laughing about that. Their advice is simply: "After you kill the possum be careful not to let him get away."

Oh yeah, they also say possum should only be eaten in the winter, though they don't say why.

BRAISED WOODCHUCK

Serves 3-4

Ingredients:

1 woodchuck, cleaned, skinned and cut into serving-size pieces
½ cup flour
3 Tbsp. olive oil
4 slices bacon, cut into small pieces
¼ cup chopped onion
2 or more cloves garlic, minced
¼ lb. mushrooms
¼ cup Sauterne or dry white wine
½ cup chicken stock
¼ tsp. dried thyme leaves
¼ tsp. dried oregano leaves
¼ cup sherry
¼ cup heavy cream
Salt & Pepper to taste

Preheat oven to 375 degrees. Set aside 2 tsp. flour. Dredge the pieces of meat in the remaining flour and brown on all sides in the olive oil in a large frying pan. Arrange the browned meat in a single layer in a large baking dish. Sprinkle lightly with salt and pepper.

After all the meat has been browned, deglaze the frying pan by adding the wine and chicken stock to the hot pan. Let stand for a few minutes, while cooking the bacon pieces in a separate pan until golden brown and crisp.

Add the chopped onion and minced garlic, and sauté until barely tender, then add the mushrooms and continue to cook over low heat, stirring often, until the mushrooms begin to soften.

Pour the wine and chicken stock mixture into the vegetables and simmer for 5 minutes.

Using a fork or small whisk, blend the reserved 2 tsp. of flour into the sherry and add to the pan, along with the cream. Add salt and pepper to taste.

Pour vegetables and sauce over the meat, cover and bake for 40 minutes, or until the meat is tender.

Serve immediately.

HUNGARIAN RABBIT

Serves 4

Ingredients:

1 rabbit, cut into serving-size pieces
2 Tbsp. olive oil
1 small onion, chopped
1 medium clove garlic, minced
2 small tomatoes, peeled and diced
¼ cup chopped green pepper
1 celery stalk, chopped fine
1 Tbsp. hot paprika or 2 Tbsp. mild paprika
1 chicken stock cube dissolved in 1 cup boiling water
1 cup sour cream

Preheat the oven to 350 degrees.

Heat the oil in a large frying pan, add the rabbit and brown on all sides, then add the chopped onion, minced garlic, chopped green pepper and chopped celery to the pan.

Cook over low heat until the vegetables are just tender, then add the diced tomato and continue to cook until the tomato is soft. Stir in the paprika and the chicken stock.

Transfer the meat and sauce to a large casserole dish, cover and cook in the oven for 1½ hours, or until the rabbit is tender. Stir in the sour cream and serve.

Garlic Viruses and the Ontario Industry

by Dr. Lome Stobbs, Research Scientist, Southern Crop Production and Food Research Center
Agriculture and Agri-Food Canada, Vineland, Ontario, Canada

A two-year survey (1998-1999) was conducted by the Southern Crop Protection and Food Research Center (SCPFRC) or Agriculture and AgriFood Canada (AAFC) to assess the incidence of virus diseases in the garlic industry in Southern Ontario. Thirty-one commercial garlic growers were surveyed, with 13 varieties being tested. These included Chinese Softneck, German Hardneck, German White, Italian Red, Italian Softneck, Legacy, Lucie Anne Hardneck, Music, Nellie, Polish Gem, Polish Hardneck, Polish Softneck, and Siberian, although most growers were growing Music, exclusively. Garlic samples taken from all sites were infected with garlic latent virus (GLV), averaging 62% overall infection. Infected plants exhibited mild yellow streaking and mottling. Symptoms were less noticeable or absent by mid-July. Onion yellow dwarf virus (OYDV) was found at 93% of the sites, and was present in approximately 38% of the plants at each farm. Infected plants exhibited mild mottle or were non-symptomatic. Leek yellow stripe virus (LYSV) was present at 85% of the sites, averaging 12% infection. No statistical differences in percentage infection were seen among the various varieties infected with any of the viruses. Many of the plants were infected with more than one virus. By mid-July, the viruses were widespread in the fields, and the presence of the green peach aphid, a known vector of GLV, LYSV, and OYDV, was likely associated with horizontal field transmission.

In garlic, the viruses are seedborne. Since most of the seed planted by growers was either obtained from their previous crop or from local suppliers, the high levels of field infection are not unexpected. Further spread of the viruses occurs as aphid populations rise in the field, with many fields approaching 100% infection by harvest.

GLV and LYSV were transmitted by the green peach aphid from garlic to garlic, leeks, and onion. OYDV was similarly transmitted to garlic and onion. While the symptoms of OYDV infection were mild to negligible in garlic, the virus caused severe yellow striping, leaf curling and stunting in onion. The presence of OYDV in garlic could seriously impact onion production if infected garlic was introduced into onion production areas. Since a source of clean seed is not currently available to garlic growers, it is likely that these viruses will continue to spread and increase within the Ontario industry.

The widespread distribution of viruses within the garlic industry is cause for concern. Yield reductions in excess of 25% have been attributed to GLV, LYSV and/or OYDV infection. With increased public focus on the medicinal properties of garlic, the acreage of this crop across Canada has rapidly increased. Demand for seed has been met by local suppliers, with no assurances that the seed is free from viruses. Efforts need to be made by the industry to develop a clean seed program to ensure the health of an expanding industry.

GARLIC OIL ON SEEDS CAN DETER FEEDING OF BIRDS

From HortIdeas, April 1997

Recent trials with caged starlings suggest that birdseed coated with 0.01-1.0% garlic oil (on an oil volume per seed mass basis) are considerably less attractive than uncoated birdseed for at least some grain-eating birds. Garlic oil has been applied to ripening sunflower heads by some growers to help reduce bird predation; the technique appears to merit field trials with other grains.

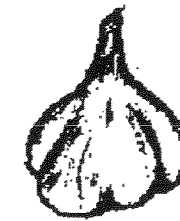
If you've had problems with birds eating your just-planted seeds [for example corn], you might want to try this technique.

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Garlic Production Management

by John Zandstra, Ridgetown College, University of Guelph

With the dramatic increase in garlic acreage in recent years, as well as a trend towards mechanization in garlic production, many challenges face the industry. Research focused on management issues of garlic have been ongoing in Ridgetown College for the past 3 years. Initially, local growers were surveyed in order to develop a direction for this work. From their involvement, several topics were chosen, which included seed orientation, the use of straw mulch, timing of scape removal, and seed quality.

The trials are located at the Ridgetown College research farm, on a site which contains a Brookston clay loam soil. Seed stock (Music strain) was provided by a local grower. The trials are planted in early November in 28" rows, with the garlic spaced 4" in the row.

Seed orientation was evaluated for 2 years, in response to the concern that mechanical planters did not always place seed in an "ideal" orientation. Treatments included planting seed in the ideal position (blunt end down) vs. sideways, and upside down (blunt end up). While we found no difference between garlic planted sideways and right side up, the emergence of garlic planted upside down was consistently delayed, and yield was reduced by 30% in 1998. In both years, the size of the bulb harvested from seed planted upside down tended to be smaller; for example, in 1997 the bulb size from other treatments peaked at extra jumbo grade size while bulbs originating from seed planted upside down peaked at the giant grade size. However, the overall impact of less than ideal planting orientation by mechanical seeders is likely minimal; the frequency of seed being planted upside down is small, and if it does occur, yield reduction may be 30% at the most on this small percentage of cloves.

The application of straw mulch at seeding to prevent heaving over the winter has been investigated for the past 3 years. This practice gained interest after the winter of 1995/96, which saw a lot of heaved garlic and significant yield losses. Some local growers use straw mulch on a regular basis, and find it effective at reducing this problem. Overall, we have found little differences in response to mulch application, due to the mild winters experienced over the past years. In 1999 a significant yield reduction was found in plots receiving mulch, but this was felt due to a delayed maturity caused by soil moisture retention by the mulch. The tops of the garlic in these plots were greener, and top weights were considerably higher, suggesting a delayed movement of food reserves from the tops to the bulbs.

If you plan to use straw mulch, other aspects of production need to be considered. Weed control is often better when using mulches because of their effect of smothering weeds, but we were not able to reach this conclusion. In the first year, most of the straw had blown away by early summer, while in other years weed pressure was not that great. The only problem we found was an increase in grass weeds (wheat) if the straw was not clean, but this is not difficult to control. Harvesting operations can also be affected by the presence of mulch, which was apparent in 1999. In this season the straw did not feed well through the harvester, and caused it to plug on several occasions. This problem was worse than in previous years,

likely due to lack of degradation of the straw because of the dry weather.

Several aspects of scape removal were also evaluated. While work done at Simcoe in the mid-1980s demonstrated improved yield when scapes were removed, there are occasional reports of no yield response, which questions the need for this practice. We wanted to re-evaluate this practice in southwestern Ontario, and also determine how long a grower could delay scape removal without negatively affecting yield. Treatments included removal of scapes at various lengths (4, 8, 12, and 16 inches) and no scape removal. Results clearly indicate that scape removal is beneficial, as yields were reduced on average by 38% when they were not removed. However, no yield reductions were found when scapes were allowed to grow up to 16" long. This would indicate that from a yield standpoint, it is not necessary to remove scapes soon after they appear. If you are using them for consumption, you will still want to remove them when they are small in order to prevent them from getting tough.

Seed from a local grower, which had been overheated and turned light brown during curing, was planted in 1999 and evaluated for vigor and yield. Germination trials were done in the lab, which indicated that while vigor appeared slightly reduced, all the cloves were viable. This study was done because the grower wanted to see if the garlic was fit to sell for seed, since it was not saleable on the fresh market. Early emergence and vigor was good, and top fresh weights at harvest were similar to plants from undamaged seed. Visually, in the field the plants from the browned seed looked as healthy and vigorous as the plots established with undamaged seed, yet yields from plots established with the browned seed were significantly reduced. This was due to a reduction in the number of bulbs harvested per plot, so while the seeds appeared viable, some did not survive the summer or develop into a harvestable plant. Obviously, certain types of damage to the seed which may appear superficial can cause problems later on, and only high quality seed stock should be used.

For the 2000 growing season, we are continuing with several of the topics discussed above. We have yet to determine how long scapes can remain on the plant without affecting yield, or demonstrate a benefit when using straw mulch. We are also continuing to work with foliar fertilizers, and the relationship between seed size or the size of the bulb the seed originates from, and final yields, and should be able to make recommendations in the future. New topics which we are evaluating in 2000 include the effect of various degrees of leaf removal on the yield and quality of garlic, in response to the use of mechanical scape removers. We have also established trials evaluating the influence of row widths and in row seed spacings on garlic yield and bulb size as well as trials evaluating nitrogen rates and application timings.

For complete trial reports, visit the Garlic Growers Association of Ontario website at www.garlicgrowers.on.ca, the Ridgetown College website at www.ridgetownc.on.ca, or contact us at (519) 674-1627 or e-mail jzandstr@ridgetownc.uoguelph.ca.

Garlic Preservation

by Janalyn Froese and Gloria Cáceres, UHS Dietetic Interns, Cornell Cooperative Extension

Freezing Garlic

Garlic can be frozen in any of 3 ways:

1. Grind or chop the garlic, wrap it tightly and freeze. To use, grate or break off the amount needed.
2. Freeze the garlic unpeeled and remove cloves as needed.

3. Peel the cloves and puree them with oil in a blender or food processor, using 2 parts oil to 1 part garlic. The puree will stay soft enough in the freezer to scrape out parts to use in sauteing.

Dried Garlic

Dry only fresh, firm garlic cloves with no bruises. To prepare, separate and peel cloves. Cut in half lengthwise. No pre-treatment is necessary.

Dry at 140°F for two hours, then at 130°F until dry. Garlic is sufficiently dry when it is crisp.

To make garlic salt from the dried garlic, pulverize dried garlic in a blender until fine. Add 4 parts salt to 1 part garlic powder and blend 1 to 2 seconds. If blended longer, the salt will be too fine and will cake.

Garlic Stored in Wine

Peeled cloves may be submerged in wine and then stored in the refrigerator. The garlic can be used as long as there is no sign of mold growth or yeast on the surface of the wine. (Discard the garlic/wine mixture if it molds.) Both the garlic-flavored wine and the garlic may be used. Do not store the garlic wine mixture at room temperature because it will rapidly develop mold growth.

Basil-Garlic Vinegar

½ cup fresh chopped basil leaves
2 cloves garlic, split and peeled
approximately 2 cups wine vinegar

Place basil and garlic in a sterilized pint jar. Heat vinegar to just below boiling. Pour over herbs in jar. Cap tightly with a non-metal lid. Allow to stand 3 to 4 weeks. Strain vinegar, discarding basil and garlic. Pour vinegar into a clean, sterilized jar, adding a fresh sprig of basil if desired. Seal tightly. Use in rice or pasta salads, antipasto, or flavored mayonnaise.

BATH TIME

The Healing Power of Garlic

Compliments of Grecco's Italian Bistro

When working with fresh garlic for medicinal purposes, keep in mind that the form in which this spice appears determines the success or failure in treating a particular malady.

Some preparations are good for immediate use, while others which are alcohol-based can last indefinitely under the right storage conditions.

Baths. The Romans were first to use mineral baths and hot springs. Here in the West, the ancient Mayans developed an elaborate system of baths of similar purposes. Later, North American tribes adapted the Mayan practice into the familiar "sweat lodge ritual." Full or partial garlic baths are baths that have had garlic teas added. The temperature determines whether a garlic bath will be calming or stimulating to the mind and body, whether it will open or close the skin's pores, and whether it will relieve inflammation, pain or itching. When making a decoction (boiled tea) to add to full bath, a few ounces to several pounds of garlic cloves may be tied or sewed into a linen or cloth bag, then simmered in a quart to a gallon of water.

The Partial Bath. A third as much garlic is used as a full bath. Put the bag into the water to extract more

of the properties, and use it as an herbal washcloth for an invigorating rubdown. Warm garlic baths should be around 95°F. They can be calming and soothing to the nerves when combined with dried peppermint leaves. Warm garlic baths are helpful for bladder and urinary problems, colds, flu and fevers. Both hot (100°F to 113°F) and cold (55°F to 65°F) garlic baths shock the system in a positive way, causing increased heart action.

In a cold garlic bath the heart slows down after the initial shock. The hot bath, followed by bundling up in wool blankets, will induce profuse sweating and can be helpful for treating colds, flu and fevers, and for eliminating body wastes retained because of improper kidney function. By adding other medicinal herbs to the full or partial garlic bath, you can create a bath to soften, moisturize or scent the skin, to keep insects away, to remove excess oil, to relieve itching, to stimulate or relax, to tighten or tone the skin, to ease muscular aches, and much more.

The Half Bath. The half garlic bath is halfway between a full garlic bath and the garlic sitz bath. You can sit in water up to the navel with the

legs and feet under water, but the upper portion of your body remains out of the water. A cold half garlic bath should last no more than a minute, once a day. It's useful for migraines, insomnia, nervousness, overactive thyroid, intestinal gas and constipation. The warm half garlic bath can be enjoyed for 10 minutes twice a day, in the morning and at night. It should be 95°F and can be used for lower back pain, low blood pressure and menopausal difficulties. The warm half bath includes a vigorous brushing of the skin with a natural bristle brush or loofah sponge and concluded with a brief spray or cold water on the back.

The Sitz Bath. Put in four inches of garlic water, keep your knees up, and splash the water onto your abdomen. Remain in the tub for half an hour, then rinse with a short cold bath or shower. Garlic sitz baths are beneficial for the sexual reproductive organs and the urinary tract, the lower abdomen and the rectum. They also remedy inflammations, pelvic congestion, cramps, hemorrhoids, menstrual problems, kidney and intestinal pains.

Garlic Taste

(With Thanks to Ron England and "Growing Great Garlic")

No two people describe garlic the same way even when tasting the exact same clove. Garlic taste can vary depending on soil, weather, culture, length of storage, and on each individual's personal chemistry.

Garlic taste is complex, including not only flavor but aroma and texture. It is strongly affected by "reflex taste" which is not a true taste but a reaction to hotness or burning. Finally, many garlics have an aftertaste, sometimes mild, sometimes strong.

All these factors are variable in and of themselves. Some garlics, for example, are hotter than others and cold winters can make them even hotter. In general, any kind of stress, such as extreme cold or sudden extreme heat, can enhance the red colors in garlic. There is often some correlation between the amount of red and the amount of heat. There are also different kind of heat: the heat of some garlics explodes in your mouth and then dissipates; the heat of others burns and continues to burn; the heat of others builds slowly without ever reaching unpleasant levels.

A truly great raw garlic has the right balance of heat and flavor. Both should be enjoyable. Texture should not be too grainy or greasy and aftertaste should not be metallic or fiery.

Most Americans do not eat raw garlic. Many use garlic powder or garlic salt. Most, when they do eat it, eat it cooked (fried, boiled, roasted). Some garlic strains that taste bland when eaten raw are, when cooked or roasted, much richer.

I often include a few comments about the taste of some of the garlics I offer but often other people will disagree with me, finding bland a garlic I consider rich, or finding hot a garlic that I find pleasantly sharp. Remember: when you

plant your own garlic, seed from another region, another soil, will require a year or two to adapt, or settle in, to your soil, your climate.

I personally think Rocamboles are the best flavored raw garlics and they don't lose much when cooked. Artichoke strains can nearly equal Rocamboles when grown in ideal environments. It is the opinion of many people, including myself, that Artichokes tend to deteriorate in quality when cooked.

Porcelain and Purple Stripe garlics are similar to Rocamboles but tend to have more zing and, like Rocamboles, they seem to retain most of their qualities when cooked. Silverskins can taste fine raw when grown in ideal environments but bland or very hot grown in other environments. Several people I've met at taste-tests believe Silverskins gain character and flavor when cooked, sometimes even outscoring Rocamboles.

Remember: these statements about taste are broad generalities. There will always be exceptional strains that you will consider superior to others. Each successive harvest will include varied and subtle nuances in that same garlic, so be prepared to be surprised.

Remember, too, that taste is not the only quality to consider when selecting a garlic. Length of storage can be an important factor, as can "workability" in your kitchen or the demands of different members of your family.

Each variety of garlic has its strong and weak points. Each deserves a place in our cuisine.

[This was the piece used during taste trials at the Garlic Is Life gathering. It may prove useful as information at your local festival or farm market when doing a sampling. B.D.]

In Days of Yore they Stunk Much More...

by Louis Van Devan



From a book on English lore: In the British Isles girls would scratch the names of their boyfriends on each of four onions and put them in the dark to sprout. The first one to sprout will have the name of the boy she will marry. An onion under a girl's pillow on St. Thomas Eve (whenever that was) was supposed to bring dreams of the one she would marry.

And in our U.S., a necklace of onion or garlic placed around the neck of a child was said to ward off diseases, such as diphtheria. Note: I think the antibacterial effects of such vapors have been claimed.

A tantalizing item from 1990 says that at the University of New Mexico someone gave a paper on the use of garlic concentrate in meningitis. They said it worked as well or better than the antibiotics usually given. It was said to be given by mouth. No more information.

And a 1989 book by H. W. F. Saggs, *Civilization before Greece and Rome*, Yale University Press, has, concerning the trade of Sargon with Tilmun, Magan and Meluhha just before 2,000 BC: "The goods brought back included, in addition to copper as the main cargo, beads of precious stones, ivory and onions." And in a chapter on medicine in Egypt in about 2,000 BC, it has: "Another way of testing for ability to conceive was to introduce garlic into the woman's vagina. If the smell of garlic appeared on her breath the next day, she would conceive. Scientifically unsound as this test was, rational thinking and not magic lay behind it; the Egyptians must have thought that failure to conceive was linked to blocked passages inside the woman's body, which would prevent the transmission of the scent of garlic" (pp. 140-141 and 247-248).

Some notes on older references: Theophrastus (*Inquiry into Plants*) has quite a bit on the alliums, but the index in the Harvard edition is a pain to use. Had to look up the English first, and only then could I go to the Greek index and get section and paragraph numbers. Some of the references turned out to be just a mention of "onion" when comparing, say, how the leaves of various plants are arranged, etc. Cato, Varro

and Virgil: These three Latins all wrote of agriculture, but seem mainly concerned with the big cash crops of the day: olives, grapes, grains, and fruit. And the indexes to their works had nothing on the lowly onion or garlic. Consulted were Cato and Varro, both had titles "De rustibus." Virgil's title was "Georgics."

The Egyptian *Book of the Dead* has had many translations. Probably the best known is by E. A. Wallis Budge, 1895 edition. It has many funerary talks. One talks about "the white teeth of Horus." Onions were called this in some hieroglyphs. The words from Budge's book are not as graphically telling as one would hope. Many hieroglyphs are visually obvious, but not for these. Many of the signs for onions share the word "white" and have the generic sign for plant also. I don't know how to reproduce these onion signs.

In *Ancient Herbs*, by the J. Paul Getty Museum, they have: Nero was said to have favored leeks to strengthen his voice before making speeches, and onions were on Horace's list of economical foods. Apicius used onions, leeks, shallots, chives, and sometimes garlic in his sauces, dressings and vegetables.

More on Columella

In the Fall-Winter 1994-95 issue there appeared an article by me on Columella, the elusive first-century Roman who wrote on agriculture. We know virtually nothing about him and the majority of his works have disappeared in the lost files of time. I recently reread his only known extant books, *De re rustics* and *De Arboribus*, and found a few more allium notes. The Harvard Classical Library edition has his complete known works, which isn't all that much; a ten-volume *De re rustics* and a very short book on trees, *De Arboribus*. For that matter, all of his books are quite short, like a chapter in a modern book, like most of the very old books we know of. The Harvard edition has the Latin on the left-hand pages and the English translation on the right-hand side. I believe the translators were a little hesitant to cite the exact phraseology, due to 1940 ethics. The entire Book X (10) is written in verse, similar

to Virgil's works. The somewhat Bowdlerized version of lines 104-106 by Harvard is:

"Let onions' fruitful seed from Megara come, Which sharpen men's desires and fits them for the girls,

Then lines 111 to 113:

With fibres soft, garlic with much-cleft heads, Wide-scented leeks, all that a skilled cook Mixes with beans to make a laborer's meal.

A few other references to alliums are in this poem, but all refer to cooking them in various dishes. Book XI brings us to his "African garlic." The German edition by Lindstrom tells us this is "either a form of *A. sativum* or *A. nigrum*." The modern *A. nigrum*, grown mostly as a flower, has bulbs about one inch in diameter and so is definitely not the *A. nigrum* of Columella. He says that it (and Carthaginian garlic, which is probably the same) is much larger than regular garlic. His recipe for making pickles sounds quite modern. He soaks them in a liquid with garlic, onions and mustard.

Describing the time to plant garlic, he says that in districts that have frost in winter, it is best not to plant in autumn. Quite different from the advice we get nowadays. He recommends planting "ordinary or African garlic" in January. (Much of Italy then, as now, was quite warm then.) But, "Whenever we are going to sow them or, when they are already ripe, are going to store them in a loft, we shall be careful that the moon is below the earth (not visible that night) at the time when they are either put into the ground, or taken out of it; for it they are planted or, on the other hand, laid away under these conditions, they are held not to be of a very pungent flavor nor to give an odor to the breath of those who chew them." Then, "Nevertheless, many people sow them before January 1st, in the month of December in the middle of the day if the warmth of the weather and the situation in the ground allows." So planting by the moon cycles was known 2,000 years back. I wonder how many actually got out and planted at night when there was no moon.

ROSE IS ROSE



BY PAT BRADY

