

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



The Garlic Press



FALL/WINTER 2010

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FRIENDS OF GARLIC NEWS ALERT

Stem and Bulb nematode hits Eastern Canada and Northeastern U.S.

There is an unprecedented amount of disease occurring in these areas of the country, and we want to alert our membership that sales of garlic seed are in a high stage alert status. At our premier garlic fest in the east at Saugerties, NY, festival coordinators, along with David Stern and growers organizer Bob Yerina, have decided that because so many incidences of crop failure in the Hudson Valley may have resulted from the purchase in the preceding year of questionable garlic seed, all sales of garlic as seed will be suspended, and only food grade garlic will be sold. We have alerted our members on the east coast and ask all of you who produce garlic to be aware of quality control in your operations. We are not in a position to determine safe sources of seed across the country and leave that to any buyers of seed to be on alert. This is a work alert in progress and also includes Cornell members, etc., who are attempting to control the spread of this nematode. What follows is a letter from a well-respected pathologist in regard to the situation at hand.

FROM: Fred Crowe Monday, June 14, 2010, 5:21 PM

SUBJECT: Bulb Nematode (*Ditylenchus dipsaci*) spreading in eastern Canada and NE US.

I'm hoping you can help alert Northeastern garlic growers to an increasingly severe pest situation in garlic in your region, perhaps via your newsletter or other means.

I first became aware in March that Bulb Nematode was spreading amongst garlic growers in the emerging garlic region north of Toronto Ontario. A number of these garlic growers now have gone out of business, or are at high risk of doing so. Subsequently, I very recently became aware that some of the seed planted in New York has come from these Canadian fields, with the result that these NY plantings are either currently failing, or may fail yet this season, or may not fail but could be a source of problems next year if the seed from infested fields is planted this fall

Bulb nematode has the nasty habit of spreading widely in fields and with seed lots before the populations rise to the point that the garlic fails. It is perhaps the most common reason entire groups of farmers that share seed lots get out of the garlic business, because the nematode spreads widely before high populations develop. Once plants become highly infested, the covering leaf sheaths become bloated and separate from the stem plate, at which time the plants die and generally decay from secondary rot organisms. 100% losses are not uncommon. Often, the disease is miss-identified and blamed on Fusarium and other fungi. Too often, garlic growers are unaware of this disease until it is too late. This is an important issue, and could have been unrecognized and contributed to some of the losses seen in garlic during the 2009 year, although the very wet 2009 may have been sufficient to ruin garlic during the dry down period.

Garlic plantings can be checked for this pest by submitting plant samples to a qualified nematology lab. Cornell's lab in Geneva is a good one, and George Abawi is an excellent nematologist who already has identified Bulb Nematode from at least one garlic field this year. George's contact info is below. Soil samples are not necessary, as *Ditylenchus* primarily lives inside plants rather than soil. I encourage all growers to have their fields tested, perhaps contacting George ahead of time to coordinate how sample and how to submit samples. Christie Hoepting, a Cornell County Extension Agent in also has recent experience with this pest, and may be able to assist. Her contact info is below, too.

With a positive identification, growers are faced with several high hurdles to stay in garlic production:

(Continued next page)

Nematode (Continued)

a. Crop rotation of 4 yrs after all Allium plants are absent (including volunteers) to allow residual 6/16/20 10 soil populations to decline. While Bulb Nematodes primarily live in infected plant material, they can survive several yrs in soil.

b. Cleaning all equipment and handling areas of all and plant debris. Bulb Nematodes can lie dormant for years in small bits of dried plant debris and dry soil.

c. Obtaining nematode-free seed in future for planting in soil that is free of Bulb Nematode. Small growers may have difficulty determining sources of clean seed, but seed field can be tested in advance and a report could be provided. [FYI, our seed field in Oregon is tested each year for both Bulb Nematode and viruses. I personally conduct White Rot inspections, but this is not a formal certification.

d. Theoretically, seed could be hot water treated to eradicate Bulb Nematodes, but this process is tricky — overtreatment either kills the seed or greatly reduces vigor; under treatment fails to kill enough nematodes. Unfortunately, hot water treatment isn't fully eradicated even when done correctly. When the large California garlic industry uses hot water treatment, it is to keep nematodes at low levels and they must do this each year. Many have gone to tissue culture systems to create plants that are free of all pathogens (viruses, nematodes, fungi...), and monitor the plants closely over several years of seed increase before planting commercial fields. If Bulb Nematodes appear at trace levels in any seed field, they either take that seed into commercial sale (not giving it a chance to increase to high levels), or hot water treat. Anyone who wants hot water treatment protocol can contact me.

I'm informing you of this out of real interest in curtailing this epidemic. If eventually people want to discuss purchase of

clean seed from us in Oregon, we are in that business, too, but that is not my primary reason in communicating with you. I can assist via consulting with anyone that seriously wishes to set up a hot water treatment facility.

Thanks, Fred

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ETC Group: Who Owns Nature?

An international advocacy organization based in Canada. ETC Group has been monitoring corporate power in the industrial life sciences for the past 30 years. The report reveals that:

From thousands of seed companies and public breeding institutions three decades ago, 10 companies now control more than two-thirds of global proprietary seed sales. From dozens of pesticide companies three decades ago, 10 now control almost 90% of agrochemical sales worldwide. From almost 1,000 biotech start-ups 15 years ago, 10 companies now account for three-quarters of industry revenues. The top 10 pharmaceutical companies control 55% of the global drug market.

With collapsing systems .eco, climate, food and financial as the backdrop, Who Owns Nature? warns that, with engineering of living organisms at the nano-scale (a.k.a. synthetic biology), industry is setting the stage for a corporate grab that extends to all of nature.

"About one-quarter of the world's biomass has already been commodified," explains ETC Group's Pat Mooney. "With extreme genetic engineering, we're seeing new corporate strategies

to capture and commodify the three-quarters of the world's biomass that has, until now, remained beyond the market economy."

Advocates of synthetic biology .the creation of designer organisms built from synthetic DNA .are promising a post-petroleum future where fuels, chemicals, drugs and other high-value products depend on biological manufacturing platforms fuelled by plant sugars. In the 21st century "sugar economy," industrial production will be based on biological feedstocks (agricultural crops, grasses, forest residues, plant oils, algae, etc.) whose sugars are extracted, fermented and converted into high-value products. Synthetic microbes will become "living chemical factories" that require massive quantities of plant biomass. ETC Group warns that corporations are poised to appropriate and further commodify biological products and processes in every part of the globe .as well as destroy biodiversity, deplete soil and water and displace marginalized farmers.



OUT OF MY HEAD

Bob Dunkel

INTER-ACTION

Nothing is separate. For years now we have had this conversation about and with garlic and often we tend to see this process as a moebius strip, having one side and one boundary or an endless cycle to itself. This helps us understand why essentially garlic never dies and helps us locate our place in its cycle. Here in the north country we look at it as nine months in the womb of Mother Earth and three months for us to play with it, dig it out, cure it, store it, braid it and cook as long as we can etc. in the window between harvest and replanting. We are well trained and the garlic does appreciate that we are learning!

Time is not linear. Many of us that are growers get used to growing this crop in rows. It is a pattern that is familiar, just like our "sense of the seasons" and the four sided "boxness" that comes with this thought process. Think about cultivating a row or walking and popping scapes and your "train of thought". Your feet may be in the same row, same field, but your consciousness can be anywhere, and it is likely that in moving down that row a lot of things mentally can and do change. What happens is that we enter the feedback loop of time. We are in the garlics' world and we are of course acting upon our original intention, to weed or snap scapes etc...and we are interacting with the garlic, which creates the feedback loop.

Energy is multidirectional. We may be told to stop and tend to a particular plant as it catches our eye, or we may shift thought patterns and wonder how we got from point a to wherever it is in the moment. Well, we should be thanking the garlic all the while, because life is always in communication with itself and sometimes we realize that we are part of the conversation. We have read about the hundredth monkey effect and we know that bacteria is in constant communication over unlimited areas of space worldwide, and so the three trillion cells in our body are also in a perpetual dialogue, carried on primarily through the DNA. Considering all the bacteria that are cohabitating and are part of us and also communicating everywhere else too, and the DNA that is both unique and a part of all life, we may need to learn to appreciate to take time to relax and reflect. We don't make all the decisions that we "think" we do...we interact!

From the birdsong with which we rise, to the peepers that sing us to sleep, we dance and harmonize our days. When we lose that connection to all that is, we then can become vulnerable, out of sorts, and we and or our crops can suffer from disease. It is wisdom that says the best fertilizer is the footsteps of the farmer, but even more it is walking, kneeling, resting upon the Earth awhile that can bring us back into a harmonious state of being. So as this season of warmth surrounds us and we are amidst our three months of play, please take some time to listen, to sing or dance and smile because we are free from the "self imposed" responsibility which "thinks" itself responsible. The whispers are all around us. You will be guided to make the right decisions and proper choices much more by recognizing this loop of life and time, and to appreciate the feedback from everything around us!

THE OTHER HAVE

It is just a moment
A nexus of not-time
Wherein everything changes:
Amidst the palette of leaves
A fall day becomes February snow
Or out of a field of white
The garlic emerges...

The form betrays us
Teases meaning away
Yet, when winds blow thru us
At that instant we are entrained
With a sleight of hand
This sulfur magician metabolizes a thought:

We become the utility
We are sized up and spoken thru
No secondary metabolites fear-sprung
No devouring intentions
Just the peaceful acceptance of now...

It may be the second or third leaves
That invites the image of bulb
Or preparing a stew, we sense
The first tips of spring emerging
Or midseason, bent in wonder
Our roots descend from thought...

Who the guardian, who the guard?
Who the sulfur, who the bard?

— B.D.

HOT WATER TREATMENT OF GARLIC

120 degrees

20 minutes

Hot water treatments are very effective but the water temperature must be kept within a few degrees F of target temperature. A few degrees cooler and it may not kill pathogens, bacteria or fungi. A few degrees too hot and the seed may be damaged. It is recommended that you have a couple of good-quality thermometers to monitor temperatures.

*University of Illinois Extension Report on plant diseases
Bulletin 915*

Gourmet Garlic Gardens Growing Tips -- How to Grow Garlic

Bob Anderson

Bob Anderson is an old friend of the GSF. He is a longtime lover and grower of garlic and has developed one of the best garlic web sites to date at www.gourmetgarlicgardens.com. He lives in northern Texas.

Curing the Garlic

Many growers dispute the proper way to cure the garlic and cut the leaves and roots off for storage. Many growers wash their garlic and see nothing wrong with it while others are horrified by the thought. In my experience, garlic that is washed has a tendency to have wrinkled bulb wrappers that look a little like your fingers do right after a bath. It also seems to me that the extra moisture that accumulates in the bulb could lead to fungal infestation. Some cut the roots and leaves immediately, some wait a few weeks before trimming and some never trim their garlic. What is proper for one but not another may have to do with climate, humidity, human resources, cost of handling or available facilities.



We feel that garlic likes to dry down gradually in temperatures that are similar to those a few inches underground (about 72F). This initial drydown process is called curing the garlic. The idea is for the excess moisture in the roots and leaves to evaporate or withdraw into the bulb. When the roots and necks are completely dried and it does not emit a typical garlic odor when cut, that is the time to trim it. It usually takes two to four weeks to get to that point, longer for extra large bulbs. If you trim it while it is still moist and green, the fresh cuts expose the garlic to fungi, viruses and other contaminants that can set in and cause the garlic to spoil or pick up some disease you don't want it to have. With softneck garlics, many people braid them before they are completely dried down and are still pliable and never trim the roots while other braiders will trim the roots and flake off an outer bulb wrapper or two to make them more attractive.

After the garlic has cured, it is time to decide whether to trim or how much to trim it and how to store it so that it will last and still be good and healthy a few months later when it is time to plant next years crop or to last you for eating through the winter. USDA standards prescribe no more than a quarter-inch of root and no more than a half-inch of stem. I don't go along with that as I think it makes the garlic difficult to handle. We also use stem length as a means to identify certain garlics at a glance-different varieties of softnecks are cut to different

lengths, that is, Locati will have longer stems than Rose du Var, to tell them apart at a glance since both look alike but taste different. It helps our customers identify them better, too. Many growers peel away the outer one or two layers of bulb wrappers in order to remove soil particles and contaminants and to make the bulbs more attractive to purchasers.

If you have harvested your garlic at the right time, there should be several layers of bulb wrappers remaining.

Storing the Garlic?

As you might suspect, there is not widespread agreement among growers about storing the garlic any more than there is agreement about anything else. Again, you might try a few different things to see what works well for you. About the only thing that most people agree on is that it is bad to store garlic in plastic bags or sealed containers as these things promote rotting. They also agree that garlic should not be stored in direct sunlight. Four factors affect the storage of garlic; namely, how well it was grown and cured, its varietal type, temperature and humidity. Garlic that was poorly grown and improperly cured will not get any better in storage. Some varieties naturally store longer than others. Silverskins are the longest storing, with Porcelains coming in second and Rocamboles being the shortest storing varieties, with Purple Stripes and Artichokes falling somewhere in the middle. Specific cultivars of each kind can vary from the pattern, but in general, this is the way it is.

Have you ever noticed that garlic that you buy at the supermarket doesn't seem to store very long once you take it home? There is a reason for that. The USDA recommends storing garlic at 32F, so most large chains of stores do that and require their suppliers to do likewise. Garlic stores well at that low temperature for a few months, (if the humidity isn't too high, which it sometimes is) but when you remove it from cold storage and place it on the shelf for sale, time catches up with it in a hurry. It either deteriorates rapidly or sprouts fairly soon and tries to grow. This makes for a garlic that is good for immediate use only.



We think garlic stores best long term when it is stored at between 55F and 65F and between 40% and 60% humidity. If the humidity stays below 40% for a couple of weeks or more, garlic has a tendency to dry out faster than it otherwise would. If humidity goes higher than 60% for any extended period of time, fungus and molds can set in. If the temperature goes below about 55F for an extended period of time, garlic tends to want to sprout and grow, even if it is not the right time of year (that's why the refrigerator is not a good place to store garlic). If temperatures stay much over 70F for any extended length of time, garlic tends to dry out and deteriorate. These are approximate ranges and need not be taken literally, but are very good guidelines. In our experience, garlic, except Rocamboles will store quite well for four to six months at between 65F and 75F as long as the humidity is moderate.

One of the advantages to keeping garlic around 55 F. is that fungi and other pathogens and pests are much less active than

they are with the temp in the 75-80 F. range. Keeping them cool, but not cool enough to sprout them is the key to storing garlic well. It's pretty hard for the average person to achieve the proper temperature range for ideal storage of garlic.

It is important that airflow around the bulbs not be restricted too much as this hastens deterioration. A ventilated terra cotta storage jar is the best way to store garlic for the average person, since most people don't have grandpa's root cellar anymore. We have found that garlic stored in double paper bags in the shade in a normally air conditioned house seems to do pretty good. Of course, this isn't practical if you have several thousand bulbs, but works quite nicely for a few dozen. Basically, any dark, cool place is ok as long as the humidity is not excessive.

Good luck and enjoy the fruit of your labor. You will probably discover that you get much better tasting and longer storing garlic when you grow your own from selected cultivars than the garlic you get at the local supermarket. Enjoy.

Garlic Gourmand

The poor, lowly garlic, the true spice of life --
So useful in so many ways.
As medicine, food, and as a condiment,
How can you not say words of praise?
When sautéed in butter - that wonderful smell!
Your taste buds will sing with delight!
Then toss in some fish or some chicken or beef
Your mouth will rejoice at first bite!
Or crushed, with some ginger, tossed into a wok
Then stir-fried with bok-choy and rice
In anticipation, your mouth starts to drool
To salivate, to be precise.
Perhaps, the baked bulbs would be your cup of tea,
With olive oil drizzled on top.
The savory cloves are delectably soft
When eating them, you just can't stop!
And not just the bulbs of the garlic are nice,
But "scapes" can be tempting as well!
The scapes (or the stems) are much milder in taste;
In pesto, they simply excel!
Beyond garlic's flavorful uses in food,
It's long been a medicine, too.
Cholesterol, blood pressure, ear aches and worms— In all, it's too good to be true.
Though it's oft considered the lowest of foods,
It has been well-loved, nonetheless.
For garlic has charm and it has "savoir faire" — Am I fond of garlic? Oh, yes!

--LaDonna Olanyk
(meter: 11-8-11-8, rhyme: abcb)



BOOK REVIEW:

GARLIC AND OTHER ALLIUMS, The Lore and The Science
By ERIC BLOCK RSC publishing, Cambridge, UK, 2010
PB ISBN 9781849731805
Reviewed by Bob Dunkel



We have had the pleasure of knowing Eric for a good 20 years and look forward to his visits with us at the Hudson Valley garlic fest in Saugerties NY. From talking with him, we knew that his opus was in the wings and looked forward to what this renowned sulfur chemist would end up with on this treatise on alliums.

Both entertaining, and at the same time a challenging read, there is a lot of valuable information in this book. Although, certainly written from a chemist's perspective, including chapters named "Allium Chemistry 101" and "Chemistry in a Salad Bowl," to the lay reader who may scan or opt out on some of the "hard science", there is still a plethora of data that seeks to cover a wide and varied look at the allium family. The first two chapters give us a historical view of the botany, as well as a quite intriguing look at alliums in literature, art and culture. This is followed by those meaty chapters on the chemistry that really elucidate the in-depth studies that laboratories around the globe have taken on. Chapter 5, entitled "Alliums in Folk and Complementary Medicine" is exceptional in its coverage of the long held conundrum that seems to exist between the more common folk uses of alliums, while incorporating a critical scientific perspective on what works and why. The final chapter, "Alliums in the Environment," is chock full of interesting studies incorporating allelopathy, as well as the use of Alliums as insecticides, pesticides and repellants.

"Microbial and animal studies, intercropping and field trials confirm the ability of Allium-derived organosulfur compounds

to repel predators and kill insect pests and plant pathogens, thereby protecting crops and serving as useful, non-toxic biocides, e.g., for mite-infected chickens and bees.... Because the repellent and toxic properties of Alliums have been naturally developed over tens of thousands of years, the chances for development of resistance to Allium-based pesticides is diminished, although not completely eliminated. If demonstrated to be sufficiently long lasting in the soil and at the same time cost-effective for the farmer, then the combination of an ancient natural and human history and years of scientific investigation, together with the endorsement of green agriculture, bodes well for the widespread use of Allium-based pesticides and biocides. Only time will tell!"

This wonderful book concludes with an appendix with startling hand drawn portraits of the Allium family and a great bibliography for the serious student of this chemistry to pursue. My hat is off to Eric for the amazing contribution to the world's collection of Allium science. As a hardbound science book there is a bit of an issue with its retail price of \$49.95, but it would be an invaluable addition to any agricultural libraries or extension groups and would be recommended for any local library accessions. I learned an inestimable amount of knowledge in the process of perusing this work and it truly did reconcile many of the issues of how and why Alliums are an invaluable part of our lives.

[There is a paperback version through Springer USA for \$39.96 and it is also listed on Amazon.com.]

Garlic cultivation: Profit of Tk 50 to 60 thousand per bigha possible

Shamsunnahar from Rajshahi, Bangladesh (*The New Nation - Internet Edition*, 1/18/10)

The new-system of garlic cultivation without ploughing the land is getting very popular in Rajshahi. The farmers of Mohanpur and Bagmara upazilas usually cultivate boro paddy, wheat, mustard and pulse in their fields, but because of natural calamities, high prices of fertiliser, irrigation and labour cost, farmers are preferring to cultivate garlic without ploughing the land. Farmers living around beel areas are making a huge profit by cultivating garlic.

According to farmers' source, 20 to 25 pounds of garlic can be grown on one bigha of land at a cost taka 30 to 35 thousand and a farmer can earn profit of taka 50 to 60 thousand. After harvesting of the Aman paddy, single celled (bulb) garlic are sown in that muddy soil.

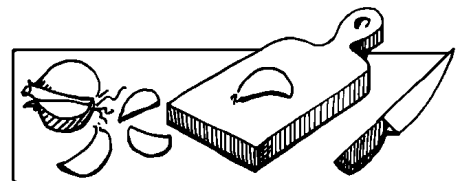
It is known from Directorate of Agricultural Extension (DAE), Rajshahi Office, last year garlic was cultivated without ploughing on 7,550 hectares of land. This year the area has been increased to 9,370 hectares. The DAE officials ex-

pect this year 51,628 metric tons of garlic. At the same time, watermelon is being planted as a side crop. Deputy Director of DAE of Rajshahi said, new way of cultivating garlic without ploughing has become very popular to the farmers. The farmers of Bagmara, Mohanpur and Paba under Rajshahi district and Gurudashpur and Boraigram under Natore district besides the Chalanbeel area are harvesting garlic and sending their product to Dhaka and other districts.

A garlic farmer of Mohanpur upazila stated that in his village a huge number of farmers are interested to cultivate garlic but they are unable to invest money in their land to cultivate garlic due to poverty. So, they want government assistance to go ahead with their plan. Day labourer Rabiul of Motihar thana said, many labourers of the village are getting employed in the garlic field because they have no work at that period.

GARLIC RECIPES

by Ted Jordan Meredith, author of
The Complete Book of Garlic (Timber Press, 2008)



Corn on the Cob with Garlic and Olive Oil

4 cooked ears of corn 4 medium cloves of garlic
4 tablespoons extra virgin olive oil 1/8 tsp. salt

Crush or finely mince the garlic and place in a small bowl. Add the salt and press the salt into the garlic with the back of a spoon macerating the garlic into a slurry. Add olive oil, mix, and drizzle or brush over the ears of cooked corn.

Rich in character but relatively mild in heat, Rocambole garlics are particularly good in this recipe. Vary the amount of salt, garlic, and oil according to your taste. Any oil and garlic remaining on the plate can be mopped up with a piece of good French bread. Other variations include a squeeze of lemon or freshly ground black pepper. This is my mother's recipe and a big family favorite.

Roasted Garlic, Fresh Goat Cheese, and Arugula on French Bread

1 head of garlic Extra virgin olive oil
salt French bread
fresh goat cheese (Chèvre) arugula

Remove the outer skins from a head of garlic. Slice off the top of the head so that the clove tips are exposed. Drizzle with oil, add a tablespoon of water, cover in foil, and roast at 350°F for about an hour. Lightly toast slices of crusty French bread, drizzle or spritz with olive oil, and lightly salt. Squeeze the roasted garlic paste from the skins and spread on the oiled toast. Top with a smear of goat cheese and chopped arugula. For a closed sandwich, place another piece of oiled toasted bread on top.

Richly flavored Purple Stripe garlics are particularly good for roasting. Alternatives or additions to arugula include roasted peppers, sliced tomatoes, minced chives, chopped Kalamata olives, or any number of other variations that might appeal.

Garlic and Olive Oil Bread Dip

garlic extra virgin olive oil salt

In restaurants one sometimes encounters a dish of olive oil, or olive oil and balsamic vinegar, for dipping bread—a healthy and tasty alternative to butter. This alternate version features the nutty toasty character of minced sautéed garlic. This preparation method brings out the best in any garlic but is especially good with garlics having a deep, complex character, such as Asiatics, Creoles, Rocamboles, and Purple Stripes. On the other hand, if you have some aggressive Silverskins on hand, this will tame their harshness and bring out their nutty best.

Finely mince (do not use a garlic press to crush) several cloves of garlic and sauté, in several tablespoons of olive oil. Adjust quantities as needed. As the sautéing begins, salt the garlic to taste, and stir occasionally until the garlic is a straw to light tan color. Undercooked and white, the garlic will be less richly flavored and nutty. Overcooked and dark brown, the garlic will begin to taste burnt and acrid. Cooked to a straw to light tan color, and the flavors will be ambrosially rich and nutty. Transfer the garlic and flavored olive oil into a shallow dish or small bowl.

To eat, dip a piece of good crusty bread into the mixture so that each bite has a bit of the oil and some garlic bits. For a more substantial snack or appetizer, cheese is an excellent accompaniment, as are garden tomatoes and basil, for a variation on the bruschetta theme.

Pasta with Garlic, Bacon, and Beet Greens or Chard

1 large bunch of chard or beet greens
6 ounces farfalle (bow tie) pasta
4 slices bacon 1 medium head of garlic
extra virgin olive oil grated Romano cheese
salt and pepper

Remove stems from the chard or beet greens and reserve for another use. Coarsely chop the greens and set aside. For a more rustic version you can include the chopped stems. Sauté, the bacon until crisp, remove from pan, and mince or crumble after it has cooled. Begin heating the pasta water and cook pasta until al dente. Drain all but a tablespoon of the bacon fat from the sauté pan. Mince garlic, add to pan, lightly salt, and sauté until straw or light tan color. Add the chopped greens, toss, and cover to steam, stirring occasionally. Sprinkles of water can be added as necessary so the greens cook in their own steam without drying. Cook about 7 to 10 minutes, or to desired doneness. Stir in a few tablespoons of extra virgin olive oil and freshly ground pepper to taste. Toss with the drained pasta, add grated Romano and the crumbled bacon bits, and toss again. Plate and top with additional grated Romano.

Any pasta will do, but the farfalle provides a large flat area so that the greens stick well and do not end up at the bottom of the plate. Myzythra is an alternative to Romano. Parmesan is another possibility, but in this dish the sheep's milk character of (authentic) Romano or Myzythra seems to complement the greens particularly well. Rocambole, Purple Stripe, Asiatic, and some of the more flavorful Artichoke garlics suit this preparation well.

Sliced Sirloin Steak with Garlic, Marsala, and Mushrooms

1 pound top sirloin steak 8 medium cloves of garlic,
minced
4 to 6 ounces of mushrooms 1/3 cup beef stock
1/3 cup dry Marsala extra virgin olive oil
salt and pepper

Cut the mushrooms in half, then cut the halves into slices. Sauté the mushrooms in olive oil, lightly salting to help them lose moisture and lightly brown. Remove from pan. Press salt and freshly ground black pepper into both sides of the steak. Lightly coat the pan with olive oil and sauté the steak until brown on both sides and medium to medium rare. Remove from pan and set aside on cutting board to rest. Add about a tablespoon of olive oil to the pan and sauté the minced garlic until straw to light tan color. Raise the heat to high and add the Marsala and beef stock, scraping the pan to merge the fond into the mixture. Add any juices that may have seeped from the steak. Reduce the liquid to about 1/4 of the original quantity and stir in the cooked mushrooms. Meanwhile, thinly slice the steak on the bias, add to the mixture in the pan, toss to coat, then plate.

This is a very flexible preparation. Dry sherry, dry vermouth, and red or white wine are alternatives to Marsala. Thyme, rosemary, basil, and parsley all work well as herb additions. Capers can add a pungent counterpoint. Purple Stripe, Rocambole, and Asiatic garlics work particularly well with recipe.

GARLIC TURNING BLUE OR GREEN

Latest Findings:

Journal of Agricultural and Food Chemistry, Volume 54, Issue 3 (February 08, 2006), p. 843-847, Identification of Two Novel Pigment Precursors and a Reddish-Purple Pigment Involved in the Blue-Green Discoloration of Onion and Garlic, written by Shinsuke Imai, Kaori Akita, Muneaki Tomotake, and Hiroshi Sawada.

Abstract:

By using a model reaction system representing blue-green discoloration that occurs when purees of onion (*Allium cepa* L.) and garlic (*Allium sativum* L.) are mixed, we isolated two pigment precursors (PPs) and a reddish-purple pigment (PUR-1) and determined their chemical structures. PPs were isolated from a heat-treated solution containing color developer (CD) and either L-valine or L-alanine, and their structures were determined as 2-(3,4-dimethylpyrrolyl)-3-methylbutanoic acid (PP-Val), and 2-(3,4-dimethyl-1H-pyrrolyl) propanoic acid (PP-Ala), respectively. Next, PUR-1 was isolated from a heat-treated solution containing PP-Val and allicin, and its structure was determined as (1E)-1-(1-((1S)-1-carboxy-2-methylpropyl)-3,4-dimethyl-1H-pyrrol-2-yl)-prop-1-enylene-3-(1-((1S)-1-carboxy-2-methylpropyl)-3,4-dimethyl-1H-pyrrol-2-ylidene). The structure of PUR-1 suggested that PP molecules containing a 3,4-dimethyl pyrrole ring had been cross-linked by an allyl group of allicin to form conjugated pigments. While PUR-1 is a dipyrrole compound exhibiting a reddish-purple color, a color shift toward blue to green can be expected as the cross-linking reaction continues to form, for example, tri- or tetrapyrrole compounds.

What the above means:

The discoloration is due to pigments that form between sulfur compounds in garlic and amino acids. When the garlic tissue is disrupted, as happens in processing, an enzyme is liberated and reacts with it to form thiosulfinate compounds that then react with the natural amino acids in the garlic to form blue pigments. The age of garlic determines how much alliin there is in the first place, and the nature of the pro-

cessing determines how much enzyme is liberated.

Original thoughts and ideas:

Garlic is known to contain sulfur compounds which can react with minute traces of copper to form copper sulfate, a blue or blue-green compound. The amount of copper needed for this reaction is very small and is frequently found in normal water supplies. Raw garlic contains an enzyme that, if not inactivated by heating, reacts with sulfur (in the garlic) and copper (from water or utensils) to form blue copper sulfate. The garlic is still safe to eat.

- If fresh garlic is picked before it is fully mature and hasn't been properly dried, it can turn an iridescent blue or green color when in the presence of an acid. It may be caused by an alliin derivative.

- A reaction between garlic's natural sulfur content and any copper in your water supply, or in the cooking utensils you are using (such as cast iron, tin, or aluminum) can sometimes change the color of garlic.

- The other sources of copper might be butter, lemon juice, or vinegar.

- Garlic will also turn green (develop chlorophyll) if exposed to a temperature change or is exposed to sunlight. Some people say it can be stored for 32 days at or above 70 - 800 F to prevent greening (but I'm not yet sure that is true).

- Are you using table salt instead of kosher or canning salt? That can cause the garlic to turn blue or green. Table salt contains iodine, which discolors whatever you're pickling. Use kosher or pickling salt.

- Different varieties or growing conditions can actually produce garlic with an excess natural bluish/green pigmentation (anthocyanins*) made more visible after pickling.

- * Any of various water-soluble pigments that impart to flowers and other plant parts colors ranging from violet and blue to most shades of red. This pigment is produced after chlorophyll is destroyed due to environmental changes. This is a variable phenomenon that is more pronounced for immature garlic but can differ among cloves within a single head of garlic. If you grow your own garlic, be sure to mature it at room temperature for a couple of weeks before using it.

Don't worry, greenish-blue color changes aren't harmful and your garlic is still safe to eat. (unless you see other signs of spoilage).





Stinky Replies

Tools for healthier lives
from MayoClinic.com

Recipe: Vegetable and garlic calzone

Dietitian's tip: Instead of high-fat meats, this calzone is stuffed with fresh vegetables, which reduces the amount of fat and calories and provides 3 servings of vegetables.

SERVES 2

Ingredients

- 3 asparagus stalks, cut into 1-inch pieces
- 1/2 cup chopped spinach
- 1/2 cup chopped broccoli
- 1/2 cup sliced mushrooms
- 2 tablespoons garlic, minced
- 2 teaspoons olive oil
- 1/2 pound frozen whole-wheat bread dough loaf, thawed
- 1 medium tomato, sliced
- 1/2 cup mozzarella cheese, shredded
- 2/3 cup pizza sauce

Directions

Preheat the oven to 400 F. Lightly coat a baking sheet with cooking spray.

In a medium bowl, add the asparagus, spinach, broccoli, mushrooms and garlic. Drizzle 1 teaspoon of the olive oil over the vegetables and toss to mix well.

Heat a large nonstick frying pan over medium-high heat. Add the vegetables and saute for 4 to 5 minutes, stirring frequently. Remove from heat and set aside to cool.

On a floured surface, cut the bread dough in half. Press each half into a circle. Using a rolling pin, roll the dough into an oval. On half of the oval, add 1/2 of the sauteed vegetables, tomato slices and 1/4 cup cheese. Wet your finger and rub the edge of the dough that has the filling on it. Fold the dough over the filling, pressing the edges together. Roll the edges and then press them down with a fork. Place the calzone on the prepared baking sheet. Repeat to make the other calzone.

Brush the calzones with the remaining 1 teaspoon olive oil. Bake until golden brown, about 20 minutes.

Heat the pizza sauce in the microwave or on the stove top. Place each calzone on a plate. Serve with 1/3 cup pizza sauce on the side or pour the sauce over the calzones.

Nutritional Analysis (per serving)

Serving size: 1 calzone	
Calories 477	Cholesterol 15 mg
Protein 24g	Sodium 1,071mg
Carbohydrate 68 g	Fiber 8 g
Total fat 15g	Potassium 409mg
Saturated fat 4 g	Calcium 238 mg
Monounsaturated fat 5 g	

Mostly Natural Insecticide

This is really pretty simple and as the title says, it is mostly natural, but it is also pretty safe to use for your vegetable garden, or for flower gardens. It's safe for the environment and your pets. I use this on my garden, but haven't found anything to do about the deer and rabbits, except to spread our hair cuttings throughout the area around our garden. Try this one out if you are having problems with bugs eating everything.

Ingredients:

- 2 quarts water
- 1 cup garlic powder
- 1 onion; chopped
- 2 tbsp cayenne
- 1 cup boric acid powder

Mix these ingredients together in a small bucket and put the lid on. Let stand for about 24 hours, giving it a shake every now and then. After it has set for a day, strain with cheesecloth or you can use panty hose. You want to make sure to get all of the particles out.

After you have strained it, put it into a hand sprayer (\$15 at Walmart). Spray the infected plants and up to 2 feet out from where ever the infestation is found. If you are trying to get rid of ants, follow them until you have found out where their nest is. Be patient, as it could take awhile for them to lead you to their home.

This mixture is safe and most of the ingredients are natural. (Technically, boric acid is found in nature, too, but the kind you get in the store isn't.) It should keep your gardens safe from insects and the environment healthy.

[Editor's Note: I would recommend substituting raw garlic for the powder and maybe forget the boric acid but all a drop or two of ivory or some clean soap as a sticker.]

City Councilman Argues Against Removing Public Garlic Plants For Fear of Vampires

First Posted 01-6-10 03:20 PM | Updated 01-6-10 03:31 PM

The residents of Lawndale, California are causing a stink over the town's plants. Apparently, the roads are lined with garlic — which either smells like skunk or marijuana depending on who you talk to. KTLA did a report on the dispute and spoke with Councilman Jim Ramsey who argued against the removal of the plants.

“The only reason we had garlic put in was so we could keep the vampires out of town. And since we have had garlic I haven't seen one single solitary vampire in town.”

ABOUT THE CHINESE GARLIC BUBBLE

For any of you folks that have missed the headlines on world garlic issues, last

fall there was a huge shift in the monetary value of garlic in China. From March of last year through this February there was an increase of up to 605% up to a price of approximately \$1200! ton. Garlic became the top performing commodity in China in 2009 and was on a wild speculative ride on the future markets there.

Local investors there have made a lifetime fortune by buying up local garlic at a low price, storing it and then reselling, even at times back into the same markets that the garlic had come from. One of the stories followed a young man who had sunk all his savings into garlic and in six months had made enough to buy a new car and a lot of money. After very low pricing in 2008 that forced many small growers into other markets, there was a major cut in production to about half the previous year, that resulted in the swing in market prices. What really helped to propel the prices up was the public's view of the swine flu epidemic, and the hope that garlic would save the poorer folks from this media hyped disease. Interestingly, in eastern Europe, the Moldovan army issued garlic and onions to its troops to protect them in the same assumption that the antibiotic properties of garlic would be of great value. In Russia the school children were given garlic as part of the lunch program as well.

In this country with there not being any futures market on garlic we have seen less of an impact, but wholesale prices out of California have seen an increase, and in light of the fact that at least 50% of the raw garlic consumed in the US is from China there is bound to be a ripple effect. It is expected that the bubble will burst about as rapidly as it appeared as local small growers in China will increase plantings in hope of riding the wave and inevitably drive prices back down.



PHOTO: RFP/GETTY IMAGES

[Ed. Note: In researching this article, I found it quite interesting that in China they refer to garlic as “The White Tiger.” I guess it’s high time this country remembers to get back into greater production of our own white tigers....]



Astronaut Experiments With Cooking in Space

NASA astronaut Sandra Magnus returns to Earth this week with a new skill honed during four months in weightlessness: orbital cooking.

It started innocently enough: She took a can of Russian chicken with vegetables and added olives, sun-dried tomatoes and pesto paste. The result left a bit to be desired.

“In the end, it was a mediocre product since the original base dish already had an overwhelming flavor to it,” Magnus wrote in a journal she kept of her cooking experiences.

Undeterred, Magnus pressed on, often spending her free time on Sunday cooking for her crewmates.

“Whenever I cook, I know the guys enjoy just the different flavors and the different flavor combinations that I came up with,” Magnus said during an in-flight interview.

Among her more practical contributions to the culinary art of orbital cooking are tips for mixing (use sealed plastic bags), slicing (make large pieces) and keeping items in place (duct tape).

“Duct tape is useful,” Magnus wrote in her journal. “You can set it out on the table with the sticky side up. This works for everything from trash to onion and garlic peelings and lemon peel. It does get messy but you can roll up the used tape with the stuff on it, throw it away, and get out a new strip.”

Magnus got a few cooking tips from a former station commander, Peggy Whitson, who invented a way to cook the fresh garlic that regularly arrives on the Russian cargo ships.

“To prepare garlic, and I have added onions to the mix, you keep some of the foil packets that the Russian dehydrated food comes in, put the garlic and chopped onion (large pieces) in the foil, squirt in some olive oil, fold the foil over to fit into the food warmer and turn it on,” Magnus writes. “The warmer only works for 30 minutes or so, so every half hour you have to come in and turn it on again. After about four or five cycles, you have cooked garlic and onions.”

Magnus used the concoction with other condiments to make two sauces for tuna -- one with cooked onions and honey mustard and the other with onions, garlic, ginger paste and mayonnaise.

“Both turned out to be quite good,” Magnus wrote in a report on her cooking experiments.



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