



The Garlic Press

FILE #8

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

SUMMER 1990

An editor's responsibility is twofold: first, one must be true to oneself, and second, be accountable to the readership. The reason that I feel compelled to begin by saying this is that situations arise where there is an unsure course between conscience and action. To be not overly political, I am saddened to realize that the world still is unable to break the bonds of war, and greed takes precedence over morality.

On this same level, there is a skirmish going on within this very organization which to many of you, perhaps, is not serious. I am of course referring to the scheduling of herbicide studies for garlic day. I do realize that roughly one half of our membership are not committed to sustainable or organic practices; however, it is my contention that we should not promulgate unwise methodologies that are not proven safe for the earth or future generations.

Without beating the concept into the ground, this is the decade of the environment, because there is no longer time for further abuses under the guise of economics. We must come to realize that what we do to the earth we do to ourselves. This in no way can stop individuals from choosing their own fate, but as an organization dedicated to the growth of one of the earth's greatest medicinal herbs, it is not ethical, in my mind, to include options that again are shortsighted and potentially unsafe.

I am attending garlic day and excited at the prospects of meeting with the many friends I have come to know through the foundation. I do not think that we need to exacerbate the differences between us, but we do need to talk with

each other. Another year has passed and not much has really changed as an organization. We still need to file for non-profit status and we also need to develop a stronger sense of direction. We need some sense of solidarity and I am willing to work to that end.

The harvest this year was the best that we've had and, in spite of the unusual weather patterns, the abundance of rain was critical. I'm sure at this year's trials we should be looking at some spectacular garlics. As our membership has grown, though, so has our responsibility to research and information. Many of you keep records or some kind of notes and we really need a way to get some of these things down on paper and share both our successes and shortcomings.

Please start thinking about these things now, so that on garlic day we will all be ready to share and learn more about doing what we love — and if you can, bring some tips to give me for the next newsletter. I'm still learning and trying to feel my way to make this a good vehicle to voice our concerns and share our knowledge of garlic and thank you all for your patience in watching the foundation grow.

Lastly, please bring a friend to garlic day, or at least put out the word around your area. The time has come to share the harvest, to be joyful, and to give thanks for what we have. Let's make this the start of a new and better season of growth.

— Bob Dunkel

An Appealing Idea

While you are cleaning your bulbs and preparing seed for fall planting is a good time to do a little thinking about the foundation. While it may be one of the less favorite topics, we need to talk and think about money. The last figure I heard was in the ballpark of \$650 on account. For the number of members we have this is pretty minimal.

How can we improve our status and not overburden our membership with higher annual dues? One thing that can really help us out is to invest in some of our fundraisers. Dave Stern put up some pretty serious money to increase our stock of T-shirts, and though it can certainly pay off for the foundation in the long run, we desperately need to sell some. Maybe we can all think ahead and plan to buy some for Christmas gifts or any occasion, but even if we think about it as a tithe out of our garlic profits, we need to invest in the future of one of the only garlic seed foundations in this country.

Another item that we invested in rather heavily is our garlic keepers. These beautiful hand-thrown earthenware keepers have the foundation initials on the front and make a great addition to anyone's kitchen. It may even be worth considering investing in both of these items to have on hand when you go to market. It helps us and, at the same time, can boost your image with your customers. So please take some time now before garlic day and plan to bring home a few T-shirts and keepers.

Also, if anyone has any ideas concerning other ways to raise funds, let's jot them down, and after the judging sessions we're going to all sit down and have another go at getting a little more serious about making this foundation something to be proud of and one that is respected for the commitment its members have made to grower research and quality seed.

[It was such a delight as I was out digging the garlic to have my daughter run up with this little ditty and recite it to me. I promised I would print it if she wrote it down, and I hope it will stimulate others, both young and old, to send us along their poems or stories.]

A POEM TO GARLIC

By Johanna Dunkel (age 8)

Garlic, garlic, garlic

Garlic everywhere —

I look down it's in the ground

It's hanging in the air.

Garlic, garlic, garlic,

Garlic here and there —

In the ground or upside down

Its scent is everywhere.

Cultural Practices and Post-Harvest Diseases of Garlic

An extensive series of experiments in Egypt have identified several correlations between cultural practices and severity of several storage diseases of garlic (due to *Aspergillus niger*, *Botrytis allii*, *Fusarium oxysporum*, *Penicillium citrinum*, and *Penicillium funiculosum*).

Disease incidence increased as the number of irrigations went up. The percentage of infection was about tenfold higher with six irrigations than with one irrigation.

Disease incidence increased when higher application rates of ammonium nitrate were used.

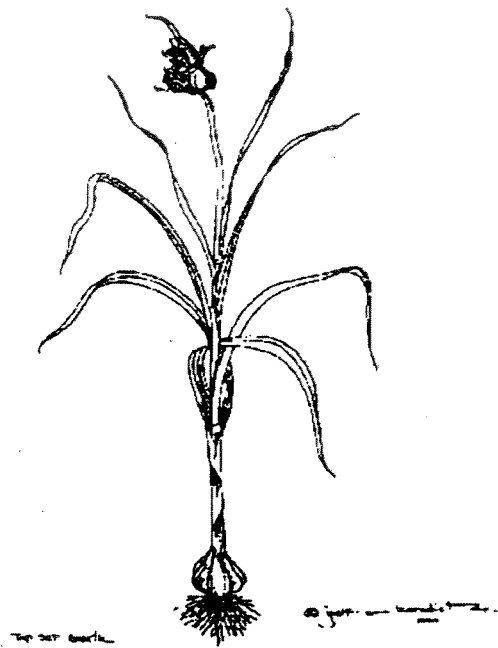
Disease incidence decreased when higher application rates of superphosphate were used.

Disease incidence decreased when higher application rates of potassium sulfate were used.

Disease incidence was reduced by about two-thirds by curing bulbs without neck topping.

Disease incidence was reduced by about two-thirds by harvesting 190 days after planting, rather than 150 days after planting.

Reference: Abstract 2422, *Horticultural Abstracts* 60(4), April 1990, 280.



GERMANIUM

Another trace mineral that is coming into its own these days in GERmanium. It has been around for a long time and yet, as many minerals, its value has been long overlooked. First synthesized organically in 1967 by Dr. Kazuniko Asai from the compound Germanium Sesquioxide, most of the research on this valuable supplement has been done in Japan. Dr. Asai was aware of the high concentrations in the earth's crust and suspected its presence in plants. His research concluded that its highest concentrations were in plants used for medicinal purposes, including Ginseng, Aloe Vera and Garlic.

Most of the evidence suggests that plants as well as animals benefit similarly from its protective nature which stems from the fact that Germanium enhances the cells' ability to generate energy by raising the oxygen supply. It seems to economize the use of oxygen and healthy people using the supplement form feel a sense of warmth from within. Sound familiar? Dr. Asai also concluded that Germanium was beneficial in arresting osteoporosis. In another study of Germanium, Dr. Parris M. Kidd found a regulating effect in many physiological functions, such as regulating blood pressure and reducing stress, especially the potential effects of pollutant stress. It may also turn out to play an important role in heart disease. Not only does it appear to regulate hypertension, but it also decreases cholesterol levels in patients with higher than normal readings. What a wonderful balancer it is!

Finally, studies in 1984 published in the *Journal of Interferon Research* confirm the immune enhancing abilities of Germanium. As it increases the body's ability to produce interferon, it has become one of the primary natural weapons of cancer therapists and an ideal candidate for combating viruses, fungi, and bacteria. Strongest testimonials of Germanium's marvelous effects seem to repeatedly come from the elderly. The return to youthful vigor is something all of us as garlic lovers or growers should appreciate as once again we recognize the important contribution to health of this wonderful food.

DIRECTOR'S NOTES

[from the Lyons Laundrymat)

I wonder how many tons of topsoil are washed from our clothes? It's been a very busy summer here at Rose Valley, maybe as crazy as yours, but now that the garlic crop is in, and cover crop planted, I know I'm a little over half done in the 1990 vegetable season. I love looking at the garlic in the field, but I also enjoy sitting up in the barn just enjoying the smell and the energy. The GSF paper pile on my desk has been very active these past 4 months. Bob down in E. Otto, Dominic and I in NYC, and the release of the vc/gsf #387: Garlic Bulletin, have supplied membership information requests, and some money (14 in one week). The problem is that desk time doesn't come easy or often these days and there are some letters on the bottom that I hope to get to soon. The phone is always quicker than the pen!

One interesting letter/request came from the "Mississippi Valley Garlic Growers"! I sent them our brochure, some old newsletters, and VC/GSF 387 and asked them to send us something for this newsletter, but no word as of yet. Anyway, here are my notes (and time to put the clean clothes in the dryers):

We've had some requests for our mailing list (which is now close to 300) and our policy has been to ask individuals or companies to use this *PRESS* instead of releasing our membership. Do you have a different and/or better idea?

Jonathan Fisher had a great idea — to produce a point-of-purchase flyer for members to give to customers about garlic nutrition, storage, recipes and cooking tips, etc. and a place for you to put your name and phone number. Jonathan, we're not going to finish this idea in time this year, but let's work on it and then we can put a final copy in the *PRESS* for all to copy, fold and use in 1991.

Garlic Day 1991 will be in Niagara County at the request and invitation of Jim and Diane Muscoreil from "Garlic of Eden" farm/garden in Wilson, NY. Any members in Western New York should contact Jim and Diane. (Dr. Ip has already agreed to attend.)

1992? We're still looking towards the Hudson Valley ...

We're not the only Garlic Event this fall in NY — Pat Reppert, GSF member, Shale Hill Farm and Herb Garden, Hammelville Road in Saugerties (914-246-6982) has announced October 6, 1990 for her 2nd Annual Garlic Festival — music, crafts, FOOD, and bulbs for sale. Pat writes that last year's was a huge success and invites us all to attend.

In case you're interested in another copy of the VC/GSF #387 bulletin, they are \$1.00 to members (\$2.00 to non-members). It will be sent free to anyone who joins GSF from now on. I hope you all get a copy. If not, or you want more, drop me a note.

Got an interesting telephone call a few weeks ago from David Douglas, who's an Australian film maker doing a

movie on guess what? The bloaks down under in the colonies don't eat much of it — nor the chaps in the Mother Country! But he'd heard about the GSF and while he's in this country at the Garlic Congress, he's going to come to Rose Valley and do some filming. (Now you know why I'm at the laundry ...). David describes the project as a documentary, similar to public TV with a "PG" rating.

You've heard it before and you all are going to keep hearing about them: **T-shirts and Ceramic Keepers**. We can give some great deals, Christmas and Hanukkah are in 3 months!

Over all, from talking with many growers, the consensus is we had a good growing year — enough water and weeds to call it challenging and successful. Now comes the time to make it profitable!

Included in this newsletter is the "Buyer-Seller" form we've used in the past. Each time I get 10 "buyers," I'll mail this info to the "sellers." I can also give "sellers" information via telephone — call after dark ('til 11). As in the past, it's important to remind everybody that fair descriptions and fair prices are very important. We had some complaints on that last season.

Lastly, and uncomfortably, I bring up my personal consideration not to attend Garlic Day '90 in Oriskany. I don't feel that presentations in irrigation, Chemical Herbicides and the NYS Ag and Markets Seal of Quality are appropriate, educational, or worth my time. My guess is that about 1% of us irrigate or have H₂O access or finances. In this age of trying to reduce chemical (herbicide) dependence and pollution, why add more? Why not concentrate on the non-chemical approaches to dealing with weeds? Rose Valley Farm was denied access to the NYS Seal of Quality because we are a Certified Organic Farming operation. We were discriminated against and I refuse to be part of a program that gives them legitimacy. Situations like this bring up the important issues of how decisions are made and just what road the GSF is going to take. I hope you all will think about this and discuss it in Oriskany. I will miss seeing many of you — our one chance to get together, and that great spread at the pot-luck — but considering I have the opportunity to attend the "First World Congress" (information in this *PRESS*), I think D.C. will be time better spent for me and this farm (and the other reason I need clean socks).

Have a good, and hopefully peaceful, Fall.

— D.S.

PLEASE NOTE

Due to lack of space in this newsletter, we are offering copies of Dr. Ron Brammall's article "Garlic Production in Ontario - Improved Prospects" from Simcoe Ontario at Garlic Day or by special order.

PESTO

For our part in Glastnost here's a little recipe from Mariana Shubsev of Leningrad for marinated garlic:

Garlic cloves (enough to fill a quart jar)
1 quart vinegar
1 tablespoon salt
Black pepper to taste

Peel garlic and place in a jar. Cover with boiling water and let stand for 10 to 15 minutes. Pour water off, then repeat procedure.

In the meantime, combine vinegar, salt and pepper and bring to a boil. Pour this over garlic (fill jar) and seal with sterilized lids and rings; process in boiling water for 10 to 15 minutes.



CHECK YOUR MAILING LABEL!

BE SURE THAT WE HAVE CORRECT INFORMATION (including zip). The letter codes — "G"=Grower, "FG"=Future Grower, "C"=Consumer, "E"-Extension, "P"-Processor, "F"=Friend — are from your membership form. The date on the label is the date your membership expired. If you joined in June 1989, your label would read "6/90."

We seldom ask for dues money, but the time has come to settle up! Officially, we're asking for \$10/year and hope that we can provide enough to make it worth it. If your date is in red, you're 3 years behind, orange is 2 years, yellow is one year late, and we'd appreciate your continued support. If we don't hear from you before our next newsletter then this will be your last *PRESS* and we say goodbye. Your ideas and suggestions are always appreciated.

Make checks to "Garlic Seed Foundation" and send to: Rose Valley Farm, Rose, NY 14542-0149. We'll put a yearly reminder in the *PRESS* about this. Thanks!

Making herb pestos definitely begins with selecting quality ingredients. Fresh basil leaves, garlic, freshly grated hard, sharp cheese, a good olive oil, and nuts comprise the basic pesto.

When picking the fresh basil, pick leaves from stem and measure by lightly packing in measuring cup. Measure before washing. Wash in cold water, swishing lightly in bowl, strain and roll gently in towel.

Good, fresh garlic cloves are essential to this queen of sauces. Elephant garlic can be used, but the number of cloves must be adjusted. Garlic is combined with herbs in processor (blender or mortar traditionally).

Next, cheese is added and must be grated for full flavor. Since Italian Sardo Pecorino is mostly unavailable in this country, a blend of grated Parmesan and Romano Pecorino seems to yield the best combination of sharpness and mellow flavor.

The choice of olive oil is unequaled, and virgin oil (second press) is sufficient.

Pine nuts or pignolia are the classic ingredient in pesto; however, walnuts may be substituted. Toasting slightly (5 minutes for pine nuts 10 minutes for walnuts at 300 degrees) increases flavor and the pieces of nut should be as small as possible.

CLASSIC BASIL PESTO

2 cups fresh basil leaves
2 (or more) large garlic cloves
½ cup freshly grated Parmesan cheese
2 Tablespoons freshly grated Pecorino Romano cheese
¼ cup pine nuts or walnuts
½ cup olive oil
salt and freshly ground pepper

Combine the basil, garlic, cheeses, and nuts in a food processor or blender. Process to mix. With the machine running, slowly add the olive oil. Season to taste with salt and freshly ground pepper and process to the desired consistency. Let stand five minutes before serving. Enjoy with any variety of pasta.

Pestos will keep well in the refrigerator for 3 or 4 weeks if stored properly. Pack in small container, cover with a thin layer of olive oil and cap tightly. When using, spoon out desired quantity and recover with oil. Any discoloration will not affect taste and needs only to be stirred in.

Pesto can also be frozen. Use a small container or even plastic kitchen bags. Oil is not needed and pesto will taste fresher when frozen without the cheese. Some people also prefer to freeze without nuts or salt, but this will have to be determined individually. You can also freeze plain chopped basil in olive oil in ice cube trays for future use.

No matter which method is used, fresh pesto should be a mainstay of all garlic lovers.

[Excepted in part from the book *Pestos, Cooking with Herb Pastes*, by Dorothy Rankin © 1985 (Crossing Press, Trumansburg, NY 14886).]

Please complete the following if you are interested in SELLING garlic:

GSF members have demonstrated a great deal of interest in buying and selling garlic. While the Foundation was not set up to broker garlic, we do want to put these two groups in contact with each other as a service to our membership. Note that we do not inspect the garlic being transacted, and imply no endorsement by collecting and offering this information.

NAME _____ DATE _____

FARM/COMPANY _____

ADDRESS _____

_____ ZIP _____

PHONE NUMBER _____ BEST TIME TO CALL _____

GARLIC DESCRIPTION: (Please note and use our GSF measurement system: Take 10 representative bulbs; weigh in ounces then divide by 10 for average weight; place side-by-side on yardstick starting at zero, then divide by 10 for average diameter; split bulbs apart and count cloves then divide by 10 for average clove per bulb):

Average weight _____ oz. Average diameter _____ inches

Average cloves per bulb = Outer: _____ inner: _____

Softneck _____ Topset _____ Elephant _____

Skin color _____ Have they been cleaned and trimmed? ___ YES ___ NO

Are bulbs overgrown? ___ YES ___ NO

Are they ready for retail sales? ___ YES ___ NO

Quantity available _____

Size of pack _____

When available _____

Price ranges (indicate: by # or pack) \$ _____ to \$ _____

Please add any additional information to help describe your product:

Please use a separate sheet for each garlic you have available.

Return to: GARLIC SEED FOUNDATION, ROSE VALLEY FARM, ROSE, N.Y. 14542-0149

Please complete the following if you are interested in BUYING garlic:

Date _____

NAME _____

FARM/COMPANY _____

ADDRESS _____

_____ ZIP _____

PHONE NUMBER _____ - _____ - _____ BEST TIME TO CALL _____

Please describe what you are interested in purchasing (seed stock, bulk, braids, etc.) _____

Topset _____ Softneck _____ Elephant _____

Quantity _____ Pack size _____

Price ranges (by # or pack) _____ to _____

Date you need garlic _____

Please add any additional information to help describe what you are looking for: _____

GSF members have demonstrated a great deal of interest in buying and selling garlic. While the Foundation was not set up to broker garlic, we do want to put these two groups in contact with each other as a service to our membership. Note that we do not inspect the garlic being transacted, and imply no endorsement by collecting and offering this information.

Return to: Garlic Seed Foundation
Rose Valley Farm
Rose, New York 14542-0149

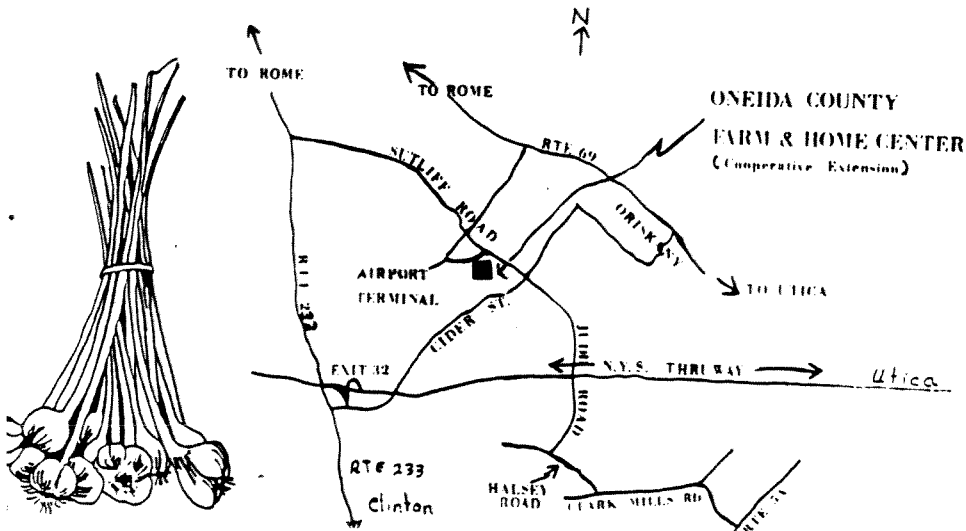
Educational Opportunity — Garlic Day

- What** The Garlic Seed Foundation of New York State and Cornell Cooperative Extension of Oneida County sponsor a day to increase your understanding of garlic — production, storage, and consumption. A festive day of informal discussions and informative workshops, sale of garlic for seed, and a garlic pot luck lunch. Bring a family garlic dish to pass and your own place setting.
- When** Saturday, September 22, 1990, 9:00 a.m. to 4:00 p.m.
- Where** Oneida County Cooperative Extension, Second Street, Oriskany, NY 13424
Phone: 315-736-3394 (see directions)
- Who** Beginning and experienced growers interested in cultivation, harvesting, storage, processing and marketing of garlic, and growers interested in selling garlic for seed stock.
- Cost**
- | | |
|----------------------------------------------|---------|
| Garlic Seed Foundation Members | \$ 6.00 |
| Non-members | \$ 9.00 |
| Garlic marketers and crafters (per business) | \$15.00 |
- There is limited indoor space available. Be prepared to set up outdoors "Farmer Market" style.*
- Information** Contact: Bob Yerina, R.D. 1, Box 13, Little Falls, NY 13365 (315) 823-1241
Doug Bowne, R.D. 2, Box 185D, Little Falls, NY 13365 (315) 866-1403
Steve Miller, Cornell Cooperative Extension of Oneida County,
Second Street, P.O. Box 748, Oriskany, NY 13424 (315) 736-3394

SCHEDULE — GARLIC DAY 1990

8:30-9:00	Registration and Informal Discussion	1:30-2:00	Garlic Judging — Bob Dunkel, Coordinator. Based on visual criteria. Foundation Seed Stock - 1990 Trial Entries and Member Entries. There will be three classes: 1) soft neck; 2) topset or stiff neck; 3) elephant. Enter a 10 bulb sample from your crop. Judging will be by individual ballot submitted by Garlic Day participants.
9:00-9:45	Production Updates Disease studies at Ron Bennett's Herbicide for garlic - Dr. Robin Bellinder's work	2:00-3:30	Slide Shows: Garlic production in NYS and Ontario, Canada Garlic Sales begin
10:00-11:00	Finding the diseased plants in spring Considerations in planning a small-scale irrigation system	3:30	Garlic Winner announced and taste testing
11:00-12:30	Marketing — Learning from other specialty crop growers. "A seal of Quality" for NYS Garlic?	4:00	Foundation organizational meeting — Where are we going? How are we getting there?
12:30-1:30	Pot Luck and Fellowship	4:30	

LODGING Horizon Hotel, Oneida County Airport (315) 736-3377



DIRECTIONS

Location: Oneida County Farm and Home Center, Second Street, Oriskany, NY (315) 736-3394

From NYS Thruway Westmoreland, Exit 32, take first left after toll booth on Cider Street. Continue approx. 3 miles. Take a left on Judd Road, travel ½ mile. Take a left on Second Street.

(For general travel information, Oneida County Cooperative Extension is located approximately ½ mile east of the Oneida County Airport.)

LODGING: Horizon Hotel, Oneida County Airport (315) 736-3377

About the Congress

Historically, garlic (*Allium sativum*) has been used as both a condiment and a medicine. The unique constituents of garlic, including thioallyl amino acids and their derivatives (allyl sulfides, polysulfides, and dithiins formed during the cooking of garlic), have certain interesting nutritional and pharmacological properties. Many studies have shown that garlic, garlic extract, and aged garlic extract can block nitrosamine formation, reduce carcinogenesis, modulate immune response, and alter the characteristics and growth rate of cultured cancer cells.

Additional studies demonstrate that garlic can protect against oxidation, radiation, and certain free radical-producing xenobiotics. Other scientific data point to the hypolipidemic, anti-clotting, and hypotensive effects in animals and humans exposed to the corresponding risk factors.

The First World Congress on the Health Significance of Garlic and Garlic Constituents will bring together research scholars from around the world to present recent findings and to exchange knowledge on this important topic. The major objectives of this Congress are to provide a coherent, integrated overview of the health significance of garlic and garlic constituents, to foster further advances in research in this field, and to document the current state of the art in garlic-related health research.

Location and Time

The Congress will be held at The Willard Hotel, 1401 Pennsylvania Avenue NW, Washington, D.C. (or a nearby auditorium). Presentations start at 9:00 a.m. on August 28 and end at noon on August 30. The hotel can be reached by metro subway; exit at Metro Center Station.

Special Functions

The Congress features several luncheon speakers, including Dr. John Vanderveen, U.S. Food and Drug Administration, who will speak on "Health Messages: Scientific Foundation and Consumer Benefits" (August 28), and Dr. Herbert Pierson, National Cancer Institute, whose topic will be "Research Approaches to Understanding the Role of Garlic in Cancer Prevention" (August 29).



First World Congress on the Health Significance of Garlic and Garlic Constituer

The Willard Hotel
Washington, D.C., U.S.A.

August 28-30, 1990

Partial Listing of Speakers and Topics
An Overview of Nutritional and Pharmacological Properties of Garlic and Garlic Constituents - Dr. Robert I. Lin (U.S.A., Nutrition International Co.)
Health Messages: Scientific Foundation and Consumer Benefits - Dr. John Vanderveen (U.S.A., United States Food and Drug Administration, Director of Nutrition)
Research Approaches to Understanding the Role of Garlic in Cancer Prevention - Dr. Herbert Pierson (U.S.A., National Cancer Institute)
Antithrombotic Action of Ajoene, A Well-Characterized Compound Derived from Garlic - Dr. Raffle Apitz-Castro (Venezuela, Institute Venezuelan De Investigaciones Cientificas), and Dr. Mahendra K. Jain (U.S.A., University of Delaware)
Effect of Garlic in Lipidemia and Atherosclerosis - Dr. David Kritchavsky (U.S.A., Wistar Institute)
Effects of Aged Garlic Extract on Lipid Metabolism - Dr. Asaf Qureshi (United States Department of Agriculture), and Dr. Robert I. Lin (U.S.A., Nutrition International Co.)
Effects of Garlic Compounds on Arachidonic Acid Metabolism and Platelet Aggregation - Dr. Krishna C. Srivastava (Denmark, Odense University)
Effect of 3 Years Treatment with Garlic on the Rate of Re-infarction and Mortality in Patients with Coronary Artery Disease - Dr. Arun Bordia (India, Tagore Medical College & General Hospital)
Protection of Cytomembranes from Peroxidation by Aged Garlic Extract - Dr. Toshiharu Horie (Japan, Tokyo College of Pharmacy)
Garlic in Relation to Cancer in Human Population - Dr. William J. Blot (U.S.A., National Cancer Institute)
Prevention of DMBA Induced Carcinogenesis by Aged Garlic Extract - Dr. John Milner and Jinzhou Liu (U.S.A., the Pennsylvania State University)
Modulation of Cancer Antigens and Growth of Human Melanoma by Aged Garlic Extract - Dr. David Hoon et al. (U.S.A., University of California at Los Angeles)
Inhibitory Effects of Garlic Constituents on the Promotion Stages of Carcinogenesis - Dr. Hoyoku Nishino (Japan, Kyoto Prefectural University of Medicine)
Potential Use of A Garlic Constituent DAS in the Prevention of Colon Cancer - Dr. Michael J. Wargovich (U.S.A., University of Texas)
The Preventive Effect of Garlic Against N-nitroso Compound-induced Tumorigenesis - Professors Lin Xi Yun & Xing Mei (China, Shandong Medical University)
Pharmacokinetics of Garlic Thioallyl Compounds - Dr. C.P. Siegers (W. Germany, Medical University of Lubbeck)
Neuroendocrinological Effects of Aged Garlic Extract in Control and Stressed Rats - Dr. Richard Kvetnansky (Szechoslovakia, Slovak Academy of Sciences)

Sponsor: Nutrition International Company
Co-Sponsors: The Pennsylvania State University
U. S. Department of Agriculture

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CORNELL REQUESTS 20 POUNDS OF GARLIC

As we reported in the last *PRESS*, Clement Ip, Ph.D., is working on selenium and breast cancer. Sulphur is related to selenium, and garlic contains sulphur components. When grown in special soils — high in selenium — garlic contains a higher amount. This is then freeze-dried and put into the food of test animals already known to have tumors, and early results indicate they slow/stop the growth of the cancer.

Anyway, Dan Lisk, Toxicologist at Cornell, needs 20# of NYS garlic to continue his part of the experiment! If you could send me a pound, or give it to Bob Dunkel in Oriskany, it would be a great cooperative and supportive action. Thanks!

— D.S.

"The First World Congress"

To tell you the truth, I've never been to a "World Congress," let alone the "First"! But the invitation to attend came in the mail along with the program. Over 40 presenters from 11 countries — all discussing their work and research on the relationships between garlic and our bodies. I attach a copy of the flyer to show you what I mean [see next page]. Some pretty heavy stuff!

For 5000 years our brothers and sisters have been growing and eating this bulb and we are but the current generation of farmers to carry on this tradition. 5000 years ago their "healers" prescribed garlic and it's good to see our modern medicine men and women catching up to the folkways. There won't be any farmers in D.C., and I'll wear my tam and jeans and dirty fingernails with pride! I'm taking a new pad and two pens, just to take notes (as well as some stinky garlic pens and GSF brochures to pass out). I'll be making contacts and absorbing as much as I can for our next *GARLIC PRESS*.

A Visit to Ontario Garlic Growers Association's Field Day

On June 27, 1990, the Ontario Garlic Growers gathered to share their garlic and production experiences. Bob Yerina, Howard Comstock and I participated in the day and gained a great deal from the farms of Tony Temmor, with 5 acres of garlic, and Al Music, with 11 acres of garlic, and research stations of Agriculture Canada at Delhi and Ontario Horticultural Experiment Station, Simcoe. While many members are small "back yard producers," the farms visited are producing on a commercial scale.

Planting occurs in early mid-October. Machines were used: one purchased 4-row planter from Israel, another was an adapted single-row cabbage/pepper planter that worked very well but required one person to hand feed. Orienting the clove base down was not viewed as essential as long as the clove did not become inverted. Soil fertility was maintained with commercial fertilizers and, in one case, approximately 15 tons of manure was applied after planting in the fall as additional nutrient and mulch. Side dressing of nitrogen was added in the spring. Cultivation of the approximately 36" rows occurred through the spring. Overhead irrigation was available to insure 2" to 2" of water April through June. Herbicides were used some.

Disease had been a problem in 1987, and extensive effort had been made to reduce continued problems (see Dr. Ron Brammall's article). Seed stock was grown separately and treated with fungicide. Care was given to avoid unduly damaging cloves at the time of cracking.

Harvesting was being mechanized by the modification of a 1-row carrot digger. Recent word is that the digger worked well, digging up to 2 acres per day, and modifications are hoped to further improve on the machine. The carrot digger also cut tops in the field. Experiments had revealed that a plant would lose about ¼ of its weight in drying and that 80% of this loss was the top. To date, no perceived damage has resulted from topping garlic in the field. Post-harvest handling was made significantly easier by this system.

The growers visited sold their garlic wholesale in the Toronto market. Scapes were also in demand by the oriental population of the area.

In conclusion, it was a pleasure to share a lovely day with our Canadian neighbors. Their care and commitment to garlic production was evident in their crop. They are actively supported by the provincial and national departments of agriculture. These agencies are also working to develop commercial scale specialized alternatives to traditional crops. Primrose, peanuts, ginseng, and sweet potatoes were a few of the new crops. It was also interesting to note the numbers of local people hand weeding large acreage and the continued use of mechanical cultivation.

An invitation remains open to N.Y.S. garlic growers to visit next year. More on the day will be presented via slides and talk at Garlic Day. If you have specific questions, feel free to give me call at 315-866-1403.

— Doug Bowne

The Value of Tissue Culture for Garlic

At "Spring Fling," held this past March, Luis Lanfranconi, a vegetable crops graduate at Cornell, spoke on garlic growing in his country of Argentina. One aspect of his talk was the process employed to improve seed stock beginning in the early 1970s. The first 8 to 10 years focused on selection of promising strains. The results were marginal. In 1980, techniques of tissue culturing were employed. Full-scale field trials began in 1985-86, and the percentage of large, extra large, and jumbo garlic consistently produced was outstanding.

Increasingly, Argentina garlic is finding its way to New York State farm markets and grocery shelves as attractive braids in net bags and large single bulbs. Clearly, tissue culturing of garlic has merit.

A foundation member, Bill Bradley, has been actively exploring tissue culturing for several years and even applied successfully for NYS Agriculture & Market, Agricultural Research and Development monies. Bill shares his perspective on garlic tissue culture as follows.

Garlic is a high value crop that has an estimated market value of \$30,000,000.00 a year in New York State. The majority of this market is imported from other states and other countries. This presents an interesting opportunity for the New York farming community to increase its income.

Along with the opportunity, is the challenge to find strains of garlic that will do well in the New York climate. To meet this challenge there has been a collaboration between the university researchers and vegetable growers to

identify and improve viable strains for New York. 85 strains have been tested and a number have been chosen for large plantings. To accomplish this the Garlic Seed Foundation and its growers have started to grow garlic for seed. This process, by the very nature of garlic, is slow. Once a viable strain is identified, the bulb is harvested and the cloves are separated to provide seed for the next planting. Six to eight planting cloves are normally available. The time to acquire a reasonable amount of garlic seed is therefore long.

Tissue culture can provide a tool that will shorten the time between selecting a viable strain and making available garlic seed for the farming community. By excising the germ tissue from a garlic clove and culturing it under proper conditions, the cultured tissue can produce, from one clove, hundreds of young garlic plants. This would decrease considerably the time between recognizing a good strain and it becoming available for large-scale planting.

When tissue culture is producing viable plantlets, there exists an opportunity to improve the strains further. Canadian, Russian, and other researchers have determined that virus-free garlic can be produced. This results in greater yields and thus a better return on the time and effort expended.

Tissue culture opens up the opportunity to establish an ongoing effort to enhance the garlic program envisioned by the Garlic Seed Foundation of New York State and that of its advisor, Roger A. Kline.

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