

2002 Summer Conference/ Pre-conference a Wild Success

by Steve Lorenz

It certainly was three (actually, four) days in the sun for those of us who help put together the NOFA Summer Conference, as the weather cooperated and things went off without too many hitches this year. Although the 28th annual conference was not one *without flaw*—an allusion to our keynote program skit—it did seem very smooth and many good times were had by people as young as 8 weeks and as old as 80 years. Even one potentially very bad moment—when it was discovered money was stolen at an entertainment event—was resolved without outside intervention and in a way that upheld the perpetrator's dignity and restored the involved parties' faith in humanity.

It all started on Thursday August 8th with the pre-conference intensive workshop by Keynote speaker Joel Salatin. By and large, participants lauded this presentation on whole farm planning, and were seen and heard talking with fellow participants about points Salatin had made for quite a while after. I did hear from a couple of farmers, however, that Salatin's workshop was not what they had bargained for, that it was philosophical and not "nuts and bolts" as they were expecting.

The topic of the pre-conference was very well suited to NOFA's mission, conference coordinator Julie Rawson said. The pre-conference did better than break even financially, and it seems, provided the theme is suitable, it will become a new conference tradition.

"The trick is finding another topic that fits so well," Rawson said. "But, yes, we're thinking about having a pre-conference each year."

Salatin addressed the gathering in the Robert Crown Center on Friday Evening, and judging by the many folks who stuck around to talk to him afterwards, his message rang true with them. He railed against the industrial paradigm and particularly how it relates to and affects agriculture. Industrialization and the adopted human mindset, he said, seek to make everything simple, while nature is complex. Disavowing himself of the label anti-technology—he likes to feel hot pig iron under his thighs just like any normal guy, he said—the complexity of nature should be celebrated. Contrasting what he was calling Eastern thought (which included Judeo-Christian thinking) with Western thought, which he equated with industrialization, he said there must be a balance between the two and there must be a large place for spirit. Those in attendance especially seemed to appreciate his repeated references to earthworms' propensity for turning left. Up against the space shuttle over the eons of time, Salatin is banking on the earthworm to endure.

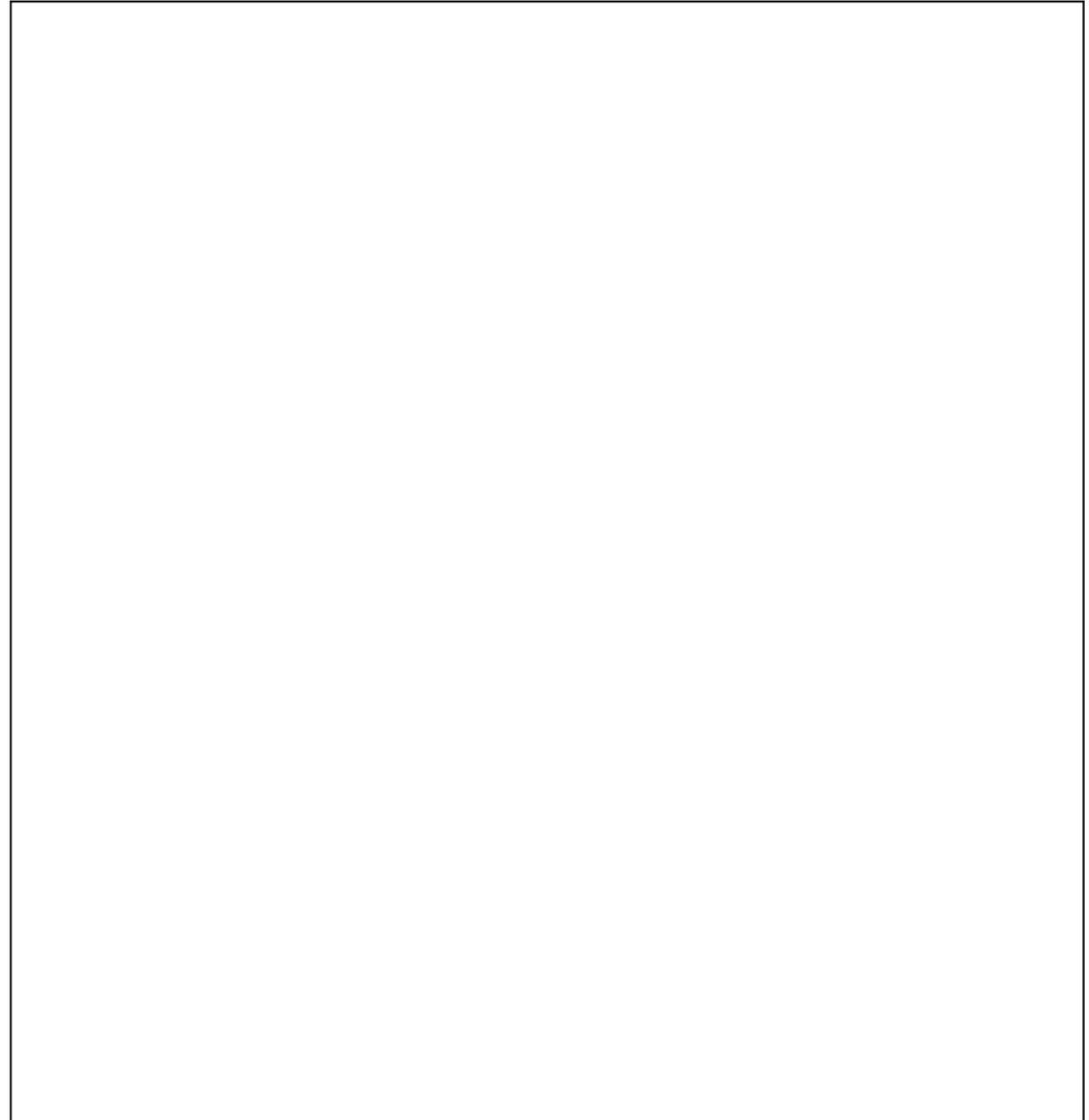


photo by Jack Kittredge

2002 NOFA Summer Conference banner hangs proudly over the registration area in the tent.

He is also interested in making the "job" of farming more attractive to young people. The A and B students, he says, have forsaken farming for too long. His brand of direct marketing should appeal to the best and brightest and if it does that will reinstall farming as a respectable, even hallowed, occupation.

So who were all these folks listening to Joel or among you at the conference? There were a total of 1149 registrants. There were 133 adults at the preconference, and 60 children and teens. Starting with the farthest-flung, there was 1 person from Korea, and 1 from Germany attending the Summer Conference. There were two people from Canada, 1 each from California, New Mexico, Maryland, and Tennessee. Four people listed no state of origin, and there were two each from Florida and District of Columbia. The rest were as follows: MA 548; NY 156; CT 154; NH 84; VT 72; NJ 48; RI 24; ME 23; PA 16; and VA 6. And you all went to a lot of workshops.

The workshop that seemed to generate a lot of buzz, to use a Hollywood word, was Noah Siegel's "Stalking the Wild Mushroom." It was very well-attended, and from what I've heard those who were there couldn't stop thinking and talking about mushrooming.

A parade kicked off the Saturday afternoon Country Fair this year, due to a lot of creative work by the young people in the children's conference. All that's needed next year is some noisemakers, and perhaps some older folks

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Letters to the Editor

Jack—

I just had to write and send my gratitude for the in-depth, well-written coverage of the SARE grants and opportunities. I liked that you summarized several projects that fell pretty flat and that falling flat is not encouraged, but it also is not really all that important. What's important is that projects are interesting, innovative. You seem to have captured something about the farmer grant program that's hard to explain to applicants over the phone: We are looking for farmers who have really thought about what they want to do, and who want to try something new, and who are inquisitive and willing to make use of a failures as well as success.

Thank you again for your hard work and good writing.

Helen Husher, Northeast SARE

Dear Jack,

I want to respond to an article on pastured poultry written by Don Franczyk in the Spring 2002 issue of TNF. He mentioned Clearview Hatchery and the Kosher King chicks that he bought from them. Don stated that he was unsure if the poor weights on his
(continued on page 3)

The Natural Farmer Needs You!

The Natural Farmer is the newspaper of the Northeast Organic Farming Association (NOFA). Regular members receive a subscription as part of their dues, and others may subscribe for \$10 (in the US or \$18 outside the US). It is published four times a year at 411 Sheldon Rd., Barre, MA 01005. The editors are Jack Kittredge and Julie Rawson, but most of the material is either written by members or summarized by us from information people send us.

Upcoming Issue Topics - We plan a year in advance so that folks who want to write on a topic can have a lot of lead time. The next 3 issues will be:

Winter, 2002-03 Beginning Farmers
Spring, 2003 Farm Equipment
Summer, 2003 On Farm Dairies

Moving or missed an issue? The Natural Farmer will not be forwarded by the post office, so you need to make sure your address is up-to-date if you move. You get your subscription to this paper in one of two ways. Direct subscribers who send us \$10 are put on our data base here. These folks should send address changes to us. Most of you, however, get this paper as a NOFA member benefit for paying your chapter dues. Each quarter every NOFA chapter sends us address labels for their paid members, which we use to mail out the issue. If you moved or didn't get the paper, your beef is with your state chapter, not us. Every issue we print an updated list of "NOFA Contacts" on the last page, for a handy reference to all the chapter names and addresses.

As a membership paper, we count on you for articles, art and graphics, news and interviews, photos on rural or organic themes, ads, letters, etc. Almost everybody has a special talent or knows someone who does. If you can't write, find someone who can to interview you. We'd like to keep the paper lively and interesting to members, and we need your help to do it.

We appreciate a submission in any form, but are less likely to make mistakes with something typed than handwritten. To be a real gem, send it via electronic mail (JACKKITT@AOL.com) or enclose a computer disk (MacIntosh or PC in Microsoft Word ideally.) Also, any graphics, photos, charts, etc. you can enclose will almost certainly make your submission more readable and informative. If you have any ideas or questions, one of us is usually near the phone - (978) 355-2853, fax: (978) 355-4046

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Northeast Organic Farming Association

An Incredible Edible Landscape

by Jack Kittredge

When we first moved to central Massachusetts we entered a landscape of wild berries. The kids would disappear for an hour a day during summer, returning with wide smiles and smeared hands. Strawberries the size of marbles but sweet as sugar grew on a hillside in our meadow. Wild raspberries and blackberries flourished at the interface between woods and hayfields. Tiny blueberries could be found wherever there was raised solid ground in the various marshes and swamps in the neighborhood.

Once we started farming, berries became one of our healthiest and most consistent crops. No matter how many we had, however, we were always glad for more. Between those we sold (and berries are easy to sell!) and those we froze, made into jam, fruit leather, wine, pie or ate fresh out of hand, in salads or yogurt, none ever went to waste.

The varieties that earn their living here now are strawberries, blueberries, black berries, and the various raspberries (red, black and golden). But over the years we've tried a number of minor varieties as well: mulberries, bush cranberries, currants, gooseberries and juneberries, to name a few. These we

just scattered around the landscape for browsing by whoever noticed them (usually small children).

Given our happy experience with the world of berries, we're particularly excited about this issue. If you are considering growing them, whether it is a few plants for family use or a half acre of them for production and profit, you will most likely be pleased. Berries are easy to grow organically here. They don't require rich soils, don't have serious pest problems, don't demand a lot of attention (aside from a bit of pruning and weeding), and don't mind our chaotic weather patterns.

Even though the minor varieties will take longer to pick than may pay for your time, a pint or two of currants or mulberries will unquestionably liven up your display at a farmers market and generate lively inquiries (and often fond childhood memories) on the part of your customers.

We hope this issue gives you ideas for how to integrate berries into your own situation. It's an investment which will literally bear fruit for years (and perhaps provide another generation with fond memories of handfuls of summer sweetness).

Advertise in The Natural Farmer

Advertisements not only bring in TNF revenue, which means less must come from membership dues, they also make a paper interesting and helpful to those looking for specific goods or services. We carry 2 kinds of ads:

The NOFA Exchange - this is a free bulletin board service for NOFA members and TNF subscribers. Send in up to 100 words (business or personal) and we'll print it free in the next issue. Include a price (if selling) and an address or phone number so readers can contact you directly. If you're not a NOFA member, you can still send in an ad - just send \$5 along too! Send NOFA Exchange ads directly to The Natural Farmer, 411 Sheldon Rd., Barre, MA 01005 or (preferably) E-mail to JACKKITT@AOL.COM

Display Ads - this is for those offering products or services on a regular basis! You can get real attention with display ads. Send camera ready copy to Justine Johnson, 37 Cherry St, Easthampton, MA 01027 and enclose a check for the appropriate size. The sizes and rates are:

Full page (15" tall by 10" wide)	\$240
Half page (7 1/2" tall by 10" wide)	\$125
One-third page (7 1/2" tall by 6 1/2" wide)	\$85
One-quarter page (7 1/2" tall by 4 7/8" wide)	\$65
One-sixth page (7 1/2" tall by 3 1/8" wide), or (3 3/4" tall by 6 1/2" wide)	\$45
Business card size (1 1/2" tall by 3 1/8" wide)	\$12

Note: These prices are for camera ready copy. If you want any changes we will be glad to make them - or to type set a display ad for you - for \$10 extra. Just send us

the text, any graphics, and a sketch of how you want it to look. Include a check for the space charge plus \$10.

Frequency discounts: if you buy space in several issues you can qualify for substantial discounts off these rates. Pay for two consecutive issues and get 10% off each, pay for 3 and get 20% off, or pay for 4 and get 25% off. An ad in the NOFA Summer Conference Program Book counts as a TNF ad for purposes of this discount.

Deadlines: We need your ad copy one month before the publication date of each issue. The deadlines are:

January 31 for the Spring issue

April 30 for the Summer issue

July 31 for the Fall issue

October 31 for the Winter issue

Contact for Display Ads: Send display ads with payment to our advertising manager, Justine Johnson at 37 Cherry St., Easthampton, MA 01027. If you have questions, or want to reserve space, contact Justine at (413) 527-1920 or johnsonlorenz@charter.net.

Disclaimer: The Natural Farmer cannot investigate the claims of advertisers and we don't vouch for anything advertised here. Readers are expected to exercise due caution when inquiring about any product or service. Different NOFA chapters have different standards for fertilizers, for instance, and a product acceptable in one state may be prohibited in another. Please check with your chapter when in doubt. Remember, however, that advertisers are helping support the paper and, when appropriate, please support them.

Kosher Kings in 2001 were due to poor stock from Clearview or poor feed from VT Organic Grain.

I have been purchasing chicks from Dave Hartman of Clearview Stock Farm and Hatchery for many, many years. I have been very happy with the Kosher King cockerels. Because they grow reasonably fast and dress out as great roasters, and have retained the ability to do some foraging on pasture, I have been very happy with them for many years. Unlike the white fast-growing chickens that seem to mostly sit and eat and develop leg problems, these barred rock lookalikes have been a good alternative for our pastured system.

Last year my Kosher Kings dressed out at 3 1/2 pounds after 14 weeks on range, about 2 1/4 pounds less than normal (5 3/4 lbs). I too was using VT Organic Grain last year. This year I bought my chicks from Clearview as usual, but have since started using feed from Kraemer, Nature's Best. This year's birds, just back from slaughter, averaged 6 7/8 lbs. at 14 weeks of age. There were very few losses and the birds were much more alert and feisty than any that we have previously raised. And we have tasted one already. Mm, mm. I have to assume that the problem was not in Clearview's stock and that, additionally, the switch to Kraemer Feeds has helped them reach their full genetic potential. I have found Dave Hartman to be a businessman and grower of the highest reputation and have had nothing but respectful treatment from him. I hope all the chicken raisers read this letter.

Sincerely,

Julie Rawson

News Notes

Vegetarians Kill More Animals than Carnivores?

An Oregon State University professor of animal science (does he have a bias?) suggests that tilling fields to plant crops kills far more animals than grazing does. He counts the mice, snakes, pheasants, rabbits and other small critters killed by tillers and other farm machinery. Professor Steven Davis calculates that between 2 and 3 such animals per acre die from farm machines per year, and if current farmers returned half their crop land to grazing (and ceased to raise grain gobbling poultry and pigs) we would kill about 300 million fewer animals each year. *source: In Good Tilth, June 15, 2002*

Secret U.S. Biopharms Growing Experimental Drugs

Experimental plants engineered to produce pharmaceuticals are being grown at over 300 secret locations nationwide, a new report has revealed. The report, produced by the Genetically Engineered Food Alert coalition, charges that biotechnology firms are conducting experiments with corn, soy, rice and tobacco that are genetically manipulated to produce drugs designed to act as vaccines, contraceptives, induce abortions, generate growth hormones, create blood clots, produce industrial enzymes and propagate allergenic enzymes. "Just one mistake by a biotech company and we'll be eating other people's prescription drugs in our corn flakes," said Larry Bohlen, director of health and environment programs at Friends of the Earth, a member of the coalition. For full text and graphics visit:

<http://ens-news.com/ens/jul2002/2002-07-16-05.asp>. *source: Environmental News Service release*

Nominations Sought For National Organic Standards Board

The U.S. Department of Agriculture is requesting nominations to fill upcoming 5-year terms on the National Organic Standards Board (NOSB) beginning in January 2003. Nominations are being sought for the positions of organic producer, organic handler, consumer/public interest, environmentalist, and scientist (in the fields of toxicology, ecology, or biochemistry). Written nominations, accompanied by resumes, must be postmarked on or before Oct. 11. Nominations should be sent to Toni Strother, National Organic Program, USDA-AMS-TMP-NOP, 1400 Independence Avenue, SW., Room 2510-So. Ag Stop 0268, Washington, D.C. 20250. For more information, contact Toni Strother at (202) 720-3252; e-mail: toni.strother2@usda.gov; or fax: (202) 205-7808. *source: USDA press release July 12, 2002*

Manure to Feed the Grid?

Environmental Power Corporation has signed letters of intent with six farms near Green Bay, Wisconsin, for the construction of an anaerobic manure digester at each farm. A new technology enables continuous conversion of manure to methane rather than doing it in batches. This lends itself more easily to electricity generation. The company claims the six farms will generate a total of about 10 megawatts of power, which will help meet the peak power needs of the Wisconsin Public Service Corporation. Environmental Power has already signed a 15-year agreement to provide 15 megawatts of peak power for the electric utility, and hopes to sign up additional farms for anaerobic digester systems in the near future. The six new farm energy systems are expected to be operating by August 2003. See the July 11th press release on the Environmental Power Corporation Web site at: <http://www.environmentalpower.com/news.htm>. *source: EPC press release, July 11, 2002*

Bayer/Aventis Merger Approved

The US Federal Trade Commission has approved Bayer's acquisition of Aventis CropScience subject to the divestment or outlicensing of certain pesticides which would give the new conglomerate a monopoly. *source: Fruit Growers News, July, 2002*

Directory of VT Herb Producers Available

The VT Department of Agriculture, Food and Markets (VDAF&M), in collaboration with VT Herb Growers Association, have compiled a directory of herb producers in VT. In addition to culinary and medicinal bulk herbs, the directory includes value-added products like foods, medicines, crafts, potted plants and more. It is intended for anyone utilizing herbs personally or professionally with retail and wholesale listings readily identified. In addition the directory can be accessed on line in pdf format at VDAF&M's website: state.vt.us/agric. Free booklets may be acquired by calling VDAF&M's Ag Development Division at 802-828-2416. *source: VDAF&M press release*

Group Blocks Release of Genetically Engineered Grass

The International Center for Technology Assessment (CTA), a non-profit public interest group, filed a formal legal petition asking the Secretary of the U.S. Department of Agriculture (USDA) to block the release of the first-ever genetically engineered (GE) plant intended for use by homeowners and property managers. Biotechnology giant Monsanto Co. and Scotts Co., the leading lawn and garden product marketer, are seeking Federal approval to commercialize a GE creeping bentgrass, the turfgrass preferred for golf course greens and used in countless lawns across the country. The GE grass variety is resistant to the top-selling weedkiller Roundup. The new GE grass has been altered to be resistant to the weedkiller so that users will be able to spray entire lawns, fields and golf courses with the chemical without fear of hurting the grass. Creeping bentgrass itself is broadly recognized as a difficult to control weed. It is a wind-pollinated species whose pollen blows easily for hundreds of yards and it readily hybridizes with other grasses. Peter T. Jenkins, CTA's attorney and policy analyst on the petition, stated: "What Monsanto and Scotts are doing to creeping bentgrass will make it a more threatening invasive species for those who don't want it in their lawn or park. Their proposal amounts to genetic assault and battery, recklessness and trespassing." *source: ICTA press release, August 1, 2002*

Which Sawdust for Blueberry Mulch?

Sawdust is a good mulch for blueberries, but fresh sawdust can rob nitrogen from the soil and maple and walnut woods are high in tannin, which is toxic to blueberries. Ohio State University horticulturalist Richard Funt recommends pine or oak sawdust which has been aged at least 2 years. *source: Country Folks Grower, June, 2002*

Starved for Food, Zimbabwe Rejects U.S. Biotech Corn

Thousands of tons of U.S. emergency food aid destined for crisis-stricken Zimbabwe has been diverted to other countries, and a new shipload may be diverted within days, because the donations include genetically modified corn that the Zimbabwean government does not want to accept. If some of the corn seeds are sown instead of eaten, the resulting plants will produce gene-altered pollen that will blow about and contaminate surrounding fields. That could render much of the corn grown in Zimbabwe — a nation that in most years is a major exporter — unshippable to nations in Europe and elsewhere that restrict imports of bioengineered food, because of environmental and health concerns. The United States could pay to have the corn kernels milled and rendered unplantable before they enter Zimbabwe, but relief officials said U.S. food agencies typically don't cover milling expenses. That response has fueled suspicion among some observers in the United States and Africa that Washington is using the food crisis to get U.S. gene-altered products established in a corner of the world that has largely resisted them. *source: Washington Post, July 31, 2002*

Free Range Turkey Study Funded

The American Livestock Breeds Conservancy (ALBC) has received funding to study the production performance and health of standard and industrial varieties of turkeys. This two-year project, funded by Southern Sustainable Agriculture Research and Education Program (SSARE), will test whether standard varieties of turkeys have superior immune systems and perform better in range-based production systems than industrial stocks. Standard varieties are those recognized by the American Poultry Association (APA). The turkey is the most genetically eroded of all livestock species. Industrial stocks are limited to a few strains of the Large White turkey which have been selected for rapid growth, broad breasts, white feathers, and ability to produce in confined systems. The American Livestock Breeds Conservancy 1997 census of turkeys found only 8,212 breeding females of seven varieties of standard turkeys. These genomes are in grave danger of extinction. Limited genetics, like all monocropping systems, makes the whole population vulnerable to outbreaks of disease, market fluctuations, and environmental change. Researchers at Virginia Polytechnic Institute and State University will assess the immunological health and DNA fingerprint of these same varieties. Turkeys will be placed on eight farms across the country. Participants will document the production, performance and biological fitness of the Bourbon Red turkey and the BUTA Medium White turkey in range-based systems. *source: ALBC press release, August 2, 2002*

World Organic Ag Covers 17 Million Hectares

According to an IFOAM study, 45% of organic land is in Oceania (Australia has 7.7 million hectares), followed by Europe at 25% (Italy leads with over 1 million) and Latin America at 22% (Argentina has 2.8 million). The US is fourth among nations with 900,000 hectares. *source: The Organic Report, June, 2002*

Organic Farms More Efficient, Biodiverse

In what would not be a surprise to most NOFA members, a 21-year study by Swiss researchers found that organic systems use resources more efficiently, have healthier soils and support more biodiversity than conventional ones. In organic plots fertilizer and energy use are 34% and 53% lower, respectively, with pesticide use 97% lower, while crop yields are lower, on average, by only 21%. *source: Alternative Agriculture News, July, 2002, BBC News Online, May 30, 2002*

Bt Corn Cause of Hog Breeding Problems?

A sow which can't breed is not long for this world. Now it appears that some neighboring Iowa hog farmers had farrowing rates drop as much as 80%. Management styles, breeding methods and swine genetics were all different, but the common denominator on all farms was the use of Bt corn hybrids. This genetically modified corn variety was dropped by one of the producers, who noted a switch back to regular hog breeding rates. *source: The Inspector's Report, Spring, 2002*

Organic Produce Has Fewer Residues

A study by the Consumers Union and the Organic Materials Review Institute (OMRI) compared 94,000 food samples and found that 23% of organic produce has at least one pesticide residue, compared to 73% of conventional produce. In California, the numbers were 6.5% and 33%, respectively. While no one is pleased to find residues on organic produce — speculation suggests anything from spray drift to soil or water contamination to fraud — study spokesman Charles Benbrook said “We can not say with confidence that organic farming systems help reduce exposure to pesticides in the human diet.” *source: Organic business News, May, 2002*

Quebec to Go (Mostly) Organic

In July the Canadian province of Quebec voted to ban pesticides on public lands immediately, and extend the ban to private and commercial lands in 2005. Farms will be exempt, however. The decision follows a 2001 Canadian Supreme Court decision allowing cities to ban pesticides in residential areas. *source: Reuters, July 5, 2002*

USDA Accredits 42 Certifiers

The National Organic Program has accredited 28 private certifiers (including CCOF, NOFAs in Massachusetts, New Jersey and New York, OEFFA, OCIA Nebraska, Oregon Tilth, and QAI), 10 state certifiers (Idaho, Iowa, Maryland, Montana, New Hampshire, New Mexico, Texas, Utah, Virginia, and Washington), and 4 foreign certifiers. Other applications are still pending and further accreditations will be announced. *source: Country Folks Grower, July, 2002.*

Sensible Scots Refuse to Insure GM Crops

NFU Insurance, a leading Scottish farming insurer, told the Scottish Sunday Herald that genetically modified crops are “a new and unknown quantity and until there is more scientific evidence and legal information it is impossible for any insurance company to provide cover”. Possible liabilities include direct harm to consumer health, harm to neighboring organic farmers, and environmental contamination. *source: The Inspector's Report, Spring, 2002*

Insurance for the Rest of Us Harder to Find

Ever since September 11 the insurance industry has been re-examining its risks. Policy premiums have gone up across the board, often by as much as 30%. The policy offered by the North American Farmers' Direct Marketing Association to folks participating in farmers markets was cancelled in March, after an analysis showed it lost almost eight hundred thousand dollars — a loss rate of four times what the sponsoring company earned in premiums. A follow-up investigation by a Washington state organic farmer, however, found that the bulk of those losses came from three accidents: an elderly woman who fell while exiting a haunted house, a fire at a corn maze that destroyed 28 vehicles, and four separate injuries involving a pumpkin launcher — whatever that is. The farmer, Christie Stewart Stein, reasonably asks: are these farming activities? No, she concludes. They are amusement park activities. Can we find someone to insure us as simple food producers? *source: Growing for Market, May, 2002*

Country-of-Origin Labels for Produce Heralded

One part of the recently passed US farm bill calls for labeling the country of origin on all produce sold in the US. The program will be voluntary for two years, and then mandatory. It has been lauded by the fresh fruit and vegetable association as a major victory for US farmers. *source: Vegetable Growers News, May, 2002*

“O’Naturals” Opens

Stonyfield Yogurt co-founder Gary Hirshberg has opened the first of what he hopes will be a chain of fast health food restaurants. On the menu is an organic stir fry, buffalo burger, and an Asian salmon sandwich plus fresh-squeezed lemonade and shakes made with, what else, Stonyfield Yogurt. The first restaurant is in Falmouth, Maine, and Hirshberg hopes to have six more open in New England by the end of 2002. *source: Maine Organic Farmer and Gardener, Summer, 2002*

NOP Spreads Organic Blanket

On its own authority, the National Organic Program has broadened the coverage of organic certification beyond plants and animals raised for human food to items such as cosmetics, body care products, pet foods, mushrooms, fabrics, medications, dietary supplements, fertilizers, soil amendments, and products from greenhouses, apiculture or hydroponic systems. The decision to extend certification to anything made with agricultural products caught many certifiers off guard this spring, with some wondering if they have the expertise required in these new areas. The NOP saw the glass as half full, however. “This creates more market opportunities, and opportunities to get more clients”, said Richard Mathews, NOP manager. *source: Organic business News, May, 2002*

Meanwhile, Down at the NOSB...

The spring NOSB meeting was a contentious one with efforts by special interests to roll back organic protections along the line. By and large, the NOSB has help up well, organic advocates think. Among the items: **Chickens and Access to the Outdoors** — the board voted 12 to 1 to continue to require outdoor access for poultry. Since this was already required by the enabling law passed by Congress, however, the vote struck many as hollow. Some even said that the granting of exemptions in cases of bad weather, conditions which threaten soil or water quality, or for the health and safety of the birds, are vague enough to drive a Tyson truck through. **Transition Policy Approved** — While approving the framework for a transition-to-organic label, the NOSB ran into opposition from the USDA, which refused to operate a transition certification program since such a program was not mandated in the Organic Foods Production Act, passed in 1990. **Dairy Replacement Animals** — Action has been delayed until September on a policy to clarify dairy replacement standards when animals raised organically from the last third of gestation are not commercially available. *source: Organic business News, May, 2002*

2 More Smoking GE Guns

Researchers have (again) discovered that genetically modified crop plants cross-breed with local weeds, making the latter more difficult to control. A Ohio State University researcher working with sunflowers admitted she was “shocked” by the results. Pioneer Hi-Bred, which developed the sunflower, has abandoned the idea of selling the strain. In France, a University of Lille team working with sugar beets said they had underestimated the likelihood of beets swapping genes with local beet weeds. *source: The Guardian, August 15, 2002.*

NOFA Exchange

I have a **2 acre piece of land** where I raised meat and vegetables for myself for 8 years. I'm moving to a bigger piece of land in NY. I am looking to rent this to peaceable people who care for the land. The house is a small gambrel one bedroom, wood stove, gas and gas for heat. Large garden, make do hen houses....perennial gardens 2 small sheds all out in the boonies (3 miles to the grocery store). I think 2 people could fit in this small home without too much trouble. Reply by my email address: Sue SSSSUEMC@AOL.COM

Assistant farm manager wanted for 2003 season. Ol'Turtle Farm, 18 acre diversified vegetable farm, looking for an energetic person eager to take on shared responsibility for the management of the farm and CSA. Field work and tractor experience necessary. Potential for long term position. Living space, farm vegetables, workman's comp and salary. Contact Eileen, Ol'Turtle Farm, 385 East St., Easthampton, MA 01027, 413-527-9122 olturtle@rcn.com

Why pay rent, or make mortgage payments, when you can **live rent-free**? The Caretaker Gazette contains property caretaking/housesitting openings, advice and information for property caretakers/housesitters. Published since 1983, subscribers receive 800+ property caretaking opportunities each year, worldwide. Many landowners request caretakers for their organic farms. Subscriptions: \$29/yr. The Caretaker Gazette, PO Box 540-NF, River Falls, WI 54022. (715) 426-5500. www.caretaker.org

Drumlin Farm Sustainable Agriculture

Internship: Gain hands-on experience at 232-acre Massachusetts Audubon Society's Drumlin Farm Wildlife Sanctuary. Assist in organically managed vegetable production and marketing. Interns also work with livestock (including draft animals), hay, and share knowledge with visitors and volunteers. Learn from local growers in the CRAFT network. Interns needed starting September 1, 2002. Weekly stipend: \$175. Housing available. 40 hours/week. Please send cover letter and resume to: Molly Hawkins, Drumlin Farm, South Great Road, Lincoln, Ma. 01773. tel. 781-259-2207, fax. 781-259-7941, mhawkins@massaudubon.org.

If you have a market stand or a CSA you can extend your season by selling our beautiful Earth-friendly **Christmas trees**. We grow our own strain of balsam fir. These trees have long lasting needle retention and the aroma that reminds you of Christmas past. Call us for more information. Rick Morze, Morze Tree Farm, Rt. 114, Box 14, Canaan, VT 05903, (802) 256-3512

Randall Cattle for sale. Randalls are the only surviving remnant of New England Landrace cattle. Triple purpose, functional, ideal for low input subsistence and grass farms. Our first ever offering, to serious conservation breeders. We have calves started on the bottle, weaned heifers, yearlings, bred heifers and cows. \$800 - \$1500. Organically raised, never fed grain. Howland Homestead Farm, 175A Geer Mountain Rd., South Kent, CT 06785 or call Phil at (860) 927-4457 before 8 pm.

Sophia Garden, a 40 full share CSA in its fifth year **seeks an organic grower** for the 2003 growing season (March thru October). Please send letter describing your interest and background to Sophia Garden, 555 Albany Ave., Amityville, NY 11701. For more information call our office at (631) 842-6000 est. 307.

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Chuk Holds Forth

by Chuk Kittredge

There are, it seems, some advantages to having the old man edit this august journal. Come press time, I suggested he leave space for the opinions of one of the younger NOFA crowd. He acquiesced. The rest, as they say, is history.

But allegations of nepotism aside, I'm here to talk about NOFA Nibbles. For those of you who don't know me, I'm the son of Jack Kittredge and Julie Rawson, the NOFA 2002 Summer Conference coordinators. If you ate at Nibbles and had your money taken by a sweaty, energetic blond kid, that's me. But enough about me - I'm here to talk about Nibbles.

This year, under the tutelage of three college students, NOFA Nibbles once again reared its cheap and flavorful head. But what price was paid for those three days of glory, one might ask? What portraits lie decomposing in dark attics, crumbling like so much feta cheese? I can assure you, three round-heeled pairs of dancing shoes were put away at this conference, replaced by aprons of responsibility. But our customers were satisfied; our workers, happy; ourselves, tired and pleased. And giant NOFA, like a doting parent, chucked the chin of its favorite little go-getter enterprise.

The only thing missing, then, is the secret to what was behind the magic. Having spent Friday morning slaving over a hot stove, I can attest to the fact that the following is, if not magical, then very tasty nevertheless.

Thai Peanut Noodles

- 1) Cover the bottom of a frying pan with sesame oil and wait until hot.
- 2) When hot, add 1 handful diced onions, and sautee. If feeling racy, a whiff of minced garlic won't hurt.
- 3) Once sauteed, quickly add 1/2 can coconut milk. Stir in until warm, then toss in 1.5 cups of peanut butter (salted) and a little more sesame oil. Follow with 1/3 can orange juice concentrate. A squeeze of lemon, a touch of lime - both fresh, if possible.
- 4) Let sit until warm and homogeneous in texture, and add 4 oz. Brown rice vinegar and 2 oz. Soy sauce.
- 5) Stir and set aside on low heat.
- 6) At the same time, heat water for lo mein noodles. Once heated, throw in a pinch of rock salt, some olive oil, and the lo mein noodles (a circle between thumb and forefinger feeds two, assuming appetites somewhat correlate with hand size.)
- 7) Cook and drain noodles. Serve sauce over noodles, mixing by hand and stopping to lick the tasty chunks.
- 8) Top with minced cilantro, scallions and sesame seeds.

And that's all there is to it. The combination of sesame oil and brown rice vinegar is what gives the dish it's distinctive flavor, and the soy sauce can be adjusted for the salty or non-salty of palate.

And remember - I don't know how to cook. Mess with the recipe. Add tofu chunks. Water it down. Do anything you want to it. And maybe one night, between bouts of frenzied cooking, you'll remember fondly the summer breeze that wafted lunch to you all the way over in Adele Simmons. The pleasant music and lively banter. The young, attractive (and modest) staff. The magic that was NOFA Nibbles 2002.

In closing, I'd like to give a shout out to my awesome helpers, Jocelyn Langer and Alison Cella-Mowatt. Their artistry, patience and tact were the perfect compliment to my flailing, posturing and incessant eating. As well, Penny Pitts pulled through again, throwing open the doors of her incredible kitchen to the vagaries of our goofiness and gazpacho.

NOFA made about \$1200 for our troubles. Hungry people got fed. I had a great time. But, gentle reader, just wait until next year. I've got my staff working on a béarnaise sauce like no other. Until then -

Chuk

Blow Your Own Horn!

Note: This classified section is regularly updated on our website: www.nofaic.org, so check there for current listings.

Seeking grassfed meat recipes from pasture-based livestock farms for forthcoming cookbook to be published by Chelsea Green. All published contributions will include a brief farm profile and contact information. Contact Shannon Hayes before October 1st. 1314 West Fulton Rd, Warnerville, NY 12187; email: shayes@midtel.net; phone: (518) 827-7595.

Full-Time Position. The Green Spot, Ltd., mail order firm specializing in biocontrol and IPM, is seeking a person to fill the role: "IPM Consultant." Job includes: biocontrol/IPM consultation with growers; lab work; orders and follow-up calls; shipping and receiving; and office duties. Good wage, based on experience and performance, nearly-full medical, sick/personal days, holidays, flex-time/investment opportunity, etc. Looking for a career-minded person wanting long-term employment - a person willing to help grow the company to its maximum potential and be there every step along the way. Send your résumé to: The Green Spot, Ltd., 93 Priest Rd., Nottingham, NH 03290-6204

The Good Life Center is seeking applicants for its **Residential Stewardship** at Scott and Helen Nearing's homestead on the coast of Maine. This is a one-year renewable appointment for two people, beginning March 2003. Applicants must be knowledgeable about sustainable living, organic gardening, and the Nearings. For information and application (207) 326-8211, info@goodlife.org, or see www.goodlife.org Deadline: October 31, 2002.

The Natural Farmer

Special Supplement on Organic Berries

Uncommon Organic Berries

by Lee Reich

Raspberries, blueberries, blackberries: they're all luscious. But why stop there? Within the loose definition of "berry" exist other, equally luscious, but not as well-known, fruits. And like raspberries and company, these uncommon berries are also easy to raise organically.

A "berry" is generally taken to mean some small fruit, even though not all small fruits are, botanically speaking, "berries." Blueberry, for example, is a pome fruit, like apple and pear. The British use, instead, the phrase "soft fruit" when they're talking about what we call "berries." But a gooseberry — one of our uncommon berries — is not particularly soft. "Bush fruits?" Yes, this phrase has also been substituted for "berries," and most of these fruits do, in fact, grow on bushes. But not all: the nursery rhyme may sing about going "around and around the mulberry bush...", but mulberries are borne on what usually become massive trees. Juneberries also are borne on trees.

By now, even if our definition of "uncommon berries" is a bit muddled, we should be all pretty clear what fruits I'm going to be talking about: small fruits that are not well known. You'll rarely find these offered on market shelves, but they are worth growing for their unique, delectable flavors. Some of these plants also are great ornamental plants as well as good niche crops for specialty markets.

Juneberries, Serviceberries, or What?

I usually am suspect of any plant that parades under a number of aliases. (The mango peach, also known as vine peach and mango melon, an insipid cucumber relative, comes to mind.) Such suspicions are unfounded when it comes to juneberries, known variously as serviceberries, shadblow, and, in the case of one species, saskatoons.

Juneberry is a blueberry look-alike often compared with blueberry and recommended for growing where soil conditions for blueberries (very low pH, very high aeration and humus) are unsuitable. In fact, though, juneberries taste nothing like blueberries. The best juneberries are sweet and juicy with the richness of sweet cherry and a hint of almond.

Juneberries grow wild throughout the northeast — throughout North America, in fact — blooming around the middle of April in my area. The plant has long been valued as an ornamental, in spring for its white, sometimes reddish, blossoms, in autumn for the blazing color of its leaves, and in winter for its neat form and attractive charcoal-striped, gray bark. Only in the Canadian prairies has this fruit been raised commercially.

Juneberry is a fruit you can grow with little need for sprays or even pruning. Plant in full sun in average

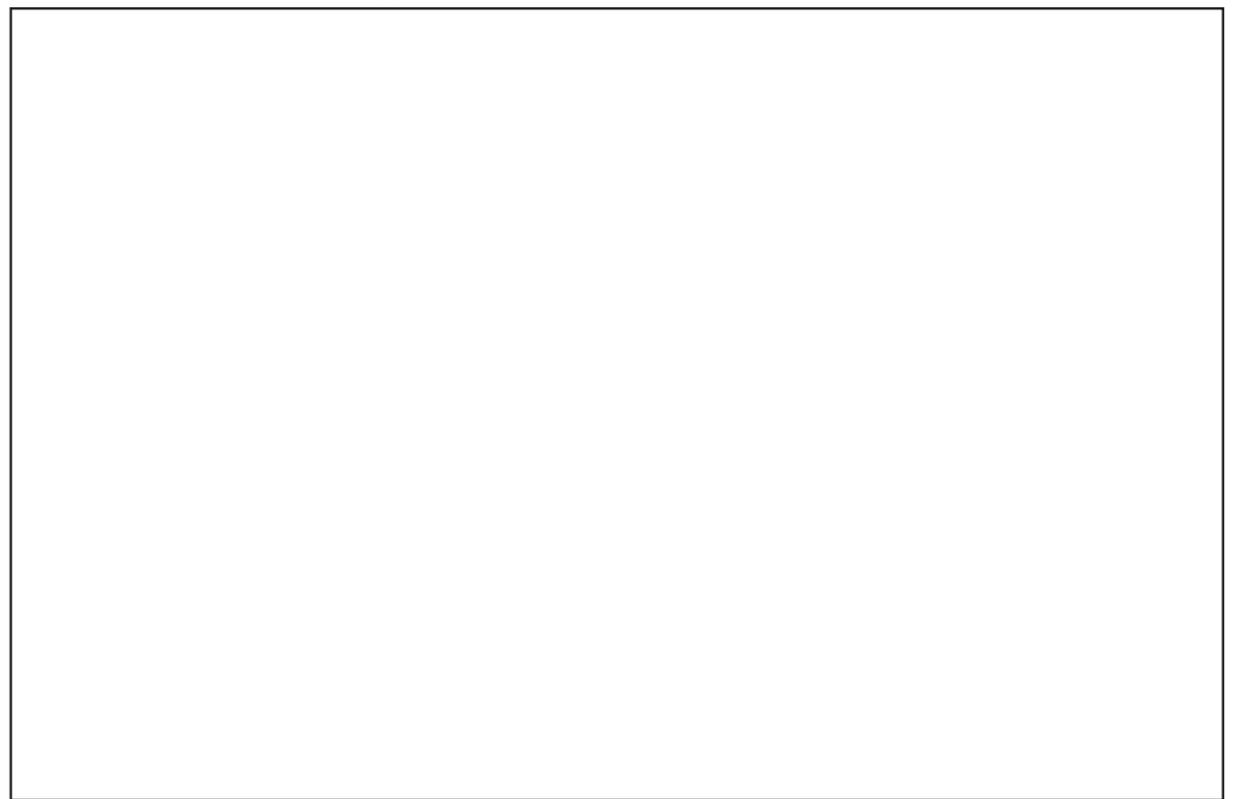


photo courtesy Lee Reich

Current Espalier (one arm of my red currant espalier on vegetable garden fence)

soil that is not too wet and expect berries within three or four years. Depending on the species, juneberry can be more shrubby or tree-like.

In my experience, production here in the Northeast is variable. As close kin to apple, juneberries do sometimes suffer similar pest problems — especially my (!) own plants, although a couple of ornamental plantings just a few miles from my house bear regular, delectable crops. The fruits ripen, of course, in June. Like blueberry, they are pome fruits rather than true berries and, again like blueberry, birds are extremely fond of them.

Something to Make Swedes Swoon

Just mention the word lingonberry to someone Scandinavian and watch for a dreamy look in their eyes. This relative of our Thanksgiving cranberry has long been a favorite of not only Scandinavians but of other northern peoples throughout the world. Despite having dainty, evergreen leaves and slender stems, lingonberry is a tough plant able to withstand rigorous climates.

Not to be unpatriotic, but the cosmopolitan lingonberry outshines our native American, Thanksgiving cranberry in a number of respects. Yes, both fruits are used in the kitchen in similar ways, and neither fruit is sweet. But a lingonberry fruit couples just enough sweetness with a rich, unique aroma so that the fruits — if picked dead ripe — are delicious plucked right off the plants into your mouth or mixed with, say, morning cereal. As far as I'm concerned, a cranberry is never tasty until doctored up with plenty of sugar and heat.

While you're picking lingonberries, take a look at how pretty the plant is. It grows but a few inches high but spreads sideways to blanket the ground with thick, yet dainty, evergreen leaves having that same green gloss as those of holly. Again outshining the Thanksgiving cranberry, whose leaves turn a muddy purple with the onset of cold weather in later fall, lingonberry leaves retain their lush, green color right through winter. Along the front of my home, a rock retaining wall anchors a bed of lingonberries whose glossy greenness is livened in autumn by the red leaves, then, in winter, the red stems, of the interplanted lowbush blueberries. Good eating and good looking!

Lingonberry is a plant that can be enjoyed in one way or another year 'round, surely so with your eyes and almost so with your mouth. Let's start in spring, when the cutest little urn-shaped blossoms dangle near the ends of the stems. These urns hang upside down (upside down for urns, that is) and are white, blushed with pink. They're not going to stop traffic from the street, but are appreciated best when plants are grown where they can be looked at frequently and up close — such as in my bed anchored by the rock retaining wall.

If you miss the spring floral show, you get another chance, because lingonberries blossom twice each season. The second show appears in mid to late summer on young stems.

If site conditions are suitable, lingonberry is an easy plant to grow. And to see what conditions suit it best, we can look to its natural habitats. The plant is

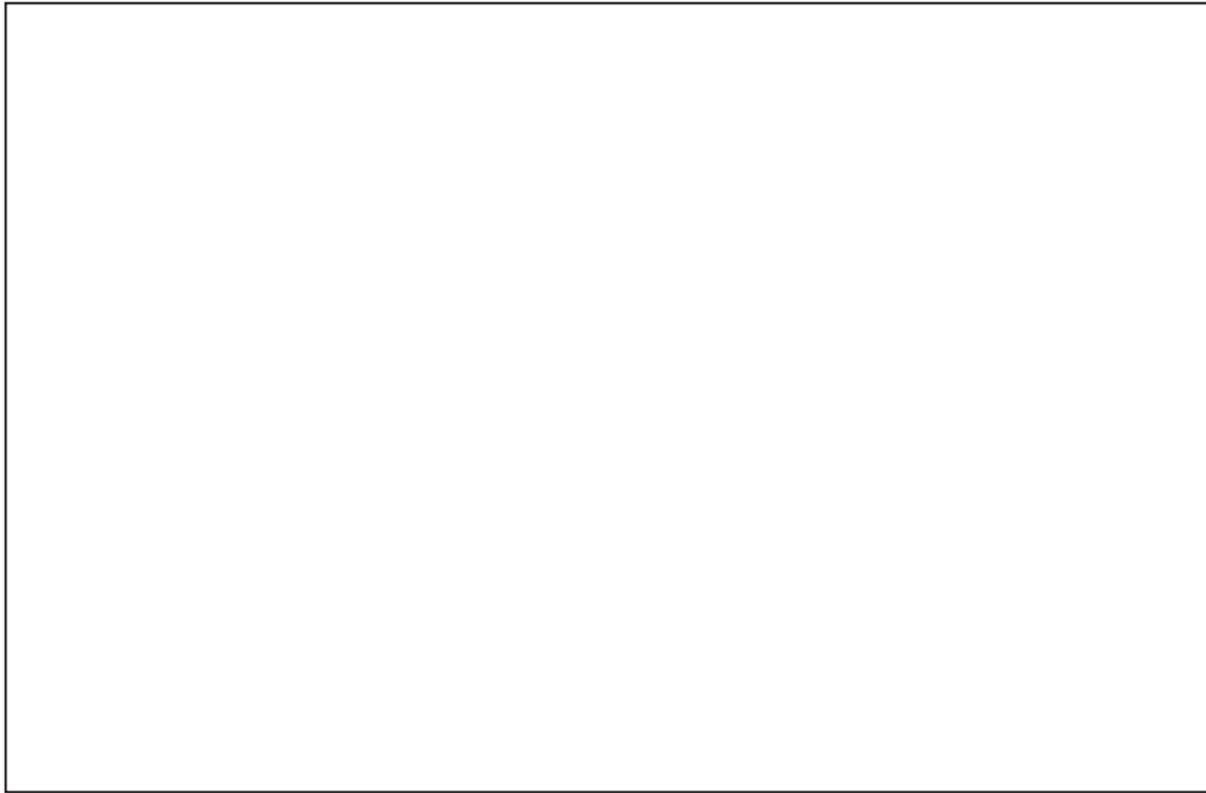


photo courtesy Lee Reich

Juneberry fruit on plant

found growing on raised bogs, rocky barrens, and woodlands of boreal taiga as well as in dry heaths, tundra, mountaintops, and other cold, sometimes exposed habitats — that is, among the harshest conditions in the world, especially for an evergreen. What the lingonberry has going for it, though, is that it hugs the ground, where it's sheltered from wind, nearer the earth's warmth, and often further protected by snow cover. The soils that lingonberry inhabits are extremely rich in humus (decomposed organic material), which provides good drainage and at the same time holds moisture.

Adapting site conditions to suit lingonberry is not at all difficult on a garden scale (or a small farm scale as long as natural conditions are not too far off the mark). After ridding an area of weeds, against which lingonberries are poor competitors, mix a bucketful of acidic peat moss into each planting hole to

provide the needed humus as well as to acidify the soil. Lingonberry does not like a rich soil, which can burn its delicate roots and encourage ranker growing weeds; peat moss is humus source that is poor in nutrients. Backfill soil for behind my rock wall, where I planted my lingonberries, was nothing more than a great quantity of old potting soil, most of which was fifty percent peat moss.

If natural acidity is not sufficient — which means a sufficiently LOW pH, lower, say, than about 6.5 — before planting also dig elemental sulfur into the top six inches of ground. Use three-quarters of a pound per hundred square feet in sandy soils or two pounds per hundred square feet in loams for each pH unit the soil is initially above a pH of 4.5. Where soils are naturally very alkaline (pH higher than 8), such as in many parts of western United States, either excavate soil at the planting site and replace it with

a fifty-fifty mix of peat moss and sand or use this mix in containers plunged into the ground up to their rims. If the soil at the planting site tends to stay wet, build up mounds of soil and peat and plant the lingonberries on the mounds, where their shallow roots can stay above the water level.

Lingonberry thrives in full sun but can tolerate some shade. This is a plant of northern climes, so where summers are hot it appreciates the coolness of some shade or — like my lingonberries on the east side of my house — a site shielded from hot afternoon sun. Be careful of shading plants too much, because although the plants will grow vigorously, yield will suffer.

Right after planting and then each year sometime between fall and spring, mulch the plants. The ideal is a two inch depth of some finely divided, organic material that is not rich in nutrients: sawdust, woodchips, chopped straw, or shredded leaves, for example. Such mulches sift down through the leaves and stems to keep the ground cool and moist, prevent frost heaving of plants in winter, and decompose to maintain high humus levels in the soil and provide some nutrition and buffering of soil acidity — all of which translates to larger berries and more of them. New roots, which form mostly in spring and autumn, will also eventually form along covered portions of stems. Sand has also been used as an annual mulch, as it is for cranberries, but has the drawbacks, especially in a backyard garden, of being heavier to move and providing no nutrition or buffering of acidity.

Beyond annual mulching, occasional pruning, and perhaps additions of fertilizer and sulfur, lingonberry is a carefree plant. Insect or disease pests are rarely significant, so your main “job” will be picking and enjoying the berries.

Gooseberry & Company, Once Spurned

Say “gooseberry” or “currant” in front of a forester and the conversation will quickly chill. These fruits are in the Ribes genus, some of whose members can help spread white pine blister rust to white pines, so common here in the northeast. About a hundred years ago, in fact, federal law made it illegal to plant any Ribes and Civilian Conservation Corps crews combed the countryside ripping plants out of woods and gardens. The federal ban was lifted in 1966 because cultivated Ribes (except for most European blackcurrant varieties) are not very susceptible to the rust and because abundant wild Ribes spread the disease for miles and miles to infect pines wherever environmental conditions are suitable. Ribes regulation is now under state mandate and in flux, so check with your state's department of agriculture for current restrictions.

Most people think “tart” when thinking about currants or gooseberries, considering them to be fruits edible only after being doctored up with sugar in the kitchen. Not so: I grow about three dozen varieties of DESSERT gooseberries, that is, gooseberries that are delectable popped fresh right into your mouth. (One British writer has called such gooseberries “the fruit, par excellence, for ambulatory consumption.”) Among my favorite gooseberries for ambulatory consumption are the varieties Poorman, Achilles, Black Satin, and Hinonmakis Yellow. Each has its own unique flavor, but all are sweet and as pleasant to eat as a well ripened grape.

Redcurrants are, admittedly, a tarter fruit, but still, some varieties are tasty popped fresh into your mouth. Two standouts in this regard are the varieties Pink Champagne and Albatross. The latter is one of many varieties of white currant, which are the same fruit as redcurrants except for their color.

In contrast to most other fruits, currants and gooseberries can yield well even in a bit of shade. They are fruits of northern climates, enjoying cool weather and cool soil, so give them plenty of organic mulch.

A few pests sometimes appear, but generally they can be grown without spraying, especially all the gooseberry varieties I mentioned except for the variety Achilles. Aphids usually pucker and redden my currant leaves in spring, but this pest disappears

in a few weeks with little harm done. Powdery mildew sometimes appears, especially on susceptible gooseberries. Currantworm can attack either Ribes, stripping the leaves early in the season. One spray, as soon as damage is noticed, does in this pest.

I can't leave Ribes without mentioning one other species: Ribes odoratum, the clove currant, a native of the upper Midwest. Clove currant is probably the easiest fruit in the world to grow, fending off by itself all disease and insect pests as well as birds and deer. Neither cold, heat, nor drought will likewise affect established plants. What's more, trumpet shaped yellow flowers adorn the bushes in spring, scented, as the plant's name suggests. Flowers are followed by large (a half-inch or more) black currants having a delectable sweet-tart, aromatic flavor.

Round and Round the Mulberry...Tree

This last uncommon berry is not really uncommon at all; it grows wild, fruiting prolifically, over much of the country. Not only is there a native species, but mulberry trees native to China were introduced into America early on in an attempt to begin a silkworm industry. Silkworm eggs were shipped to Virginia in 1621, and settlers were mandated to care for mulberry trees, whose leaves were used to feed the silkworms. Virginia silk made the coronation robes of Charles II. The American silkworm bubble burst by 1839, the result of disease, winter cold, and cheap labor in foreign lands. The legacy of American silkworm culture was more mulberry trees to mingle with, and in some cases replace, the native species.

The "mulberry bush" of Mother Goose represents just one form of the plant; some mulberries grow to become large trees. Mulberry leaves are variously lobed, even on the same plant, just like those on fig (a relative of mulberry) and sassafras trees. Some leaves are unlobed, some are mitten-shaped, and some are the shape of a crude glove.



photo courtesy Lee Reich

Saskatoon makes a beautiful landscape

Three species of mulberries are grown for their fruits: the white mulberry, the red mulberry, and the black mulberry. There also are wild and deliberate hybrids of the white and the red mulberry. (Red and white mulberries have the same number of chromosomes, the black mulberry has a different number.) In spite of the common names, white, red, and black, do not look at the fruits to identify a mulberry by species. White mulberries, for example, might bear white, lavender, or even black fruits.

The best tasting of all mulberry species is the black mulberry. At a fruit meeting in California one August about ten years ago, we were presented with the best that California had to offer, including tree ripe peaches, apricots, plums, and figs. The black

mulberries, also offered, were among my favorite fruits tasted that day.

Black mulberry, unfortunately is not hardy in the Northeast; in fact, it does not fare well anywhere in the East. Fortunately, we can grow some varieties approaching the quality of black mulberry — Illinois Everbearing, for instance, a natural hybrid of white and red mulberry discovered in Illinois in the 1950s. In fact, all mulberries taste good, but some are better than others.

The white mulberry is the second most common weed tree in New York City, which should be testimonial enough to mulberry's tolerance of abuse in the form of drought, pollution, and poor soil.

Mulberries do need full sun and adequate space: fifteen feet of elbow room all around for most cultivars. Also, do not plant a mulberry near a walkway, or stains from fallen fruit will find their way indoors on the bottoms of shoes.

Once a mulberry tree's branches have been trained to a sturdy framework, no special pruning techniques are required. Just remove dead, exhausted, and overcrowded wood. If desired, mulberry trees can be kept to a tidy form by developing a set of main branches, then pruning laterals to six leaves in July in order to develop spurs near the main branches.

Birds are very fond of mulberries. But unlike junberry and blueberry bushes, which birds strip clean of fruit, mulberry trees usually produce enough fruit to satisfy fruit-loving humans as well as birds.

These uncommon berries are among those fruits covered in Lee Reich's book UNCOMMON FRUITS WORTHY OF ATTENTION: A GARDENER'S GUIDE (Addison-Wesley, 1991). The book is currently out of print but should be back in print in about a year; until then, it's available on CD-ROM for \$17 (plus \$2 shipping) directly from Lee (387 Springtown Rd., New Paltz, NY 12561).

The Keeses of Cranberry Hill Farm

by Jack Kittredge

If you have talked to anyone in the cranberry world in the last decade, you have without a doubt heard the names of Bob and Kristine Keese, the Plymouth, Massachusetts growers who pioneered organic cranberry production. They are located in a typically built-up section of Plymouth between Great Herring Pond and Little Herring Pond. Standing in their bog you can hear families splashing and swimming a few hundred yards away. But you also hear frogs and bird calls, and see nothing but trees, grassy dykes, reeds and wild blueberries.

The Keeses got into organic blueberry production rather haphazardly. As Bob tells it: "When we got into this we were sea scalloping in Alaska, and doing pretty well. So we bought this house and twelve acres [in Plymouth]. An old couple owned the bog in the back, and they put it up for sale. But the only way you could get to it is to cut through our back yard. We didn't mind them running the bog, but we got nervous about somebody else buying it. So we picked it up ourselves with the idea that if it paid the taxes that would be fine.

"The old timer who owned it," Bob continues, "said we should put something on the bog or the bugs would get it. I asked about the crayfish and the turtles and the frogs. He said: 'Don't worry about them. It will kill everything!' I'm an avid fisherman and I use a lot of the frogs and crayfish for bait, and my grandchildren come down and play in the ditches. So I decided not to use anything."

While they were scalloping, the Keeses had a young man caretaking the house. They told him to keep the bog up but not use chemicals on it. Whatever he got for the berries was fine. After a year selling them as wild and unsprayed, however, the fellow reported that the berries would command a much better price if they were certified organic.

So the couple went to the Extension's Cranberry Station and told them they were interested in growing organically. But they were told that Ocean Spray had just completed a study showing that cranberries could not be grown organically.

At that time the conventional growers were very upset at the word "organic", Bob says. "They felt we were saying something bad about being conventional. The old timers would say: 'When you get serious about growing cranberries come talk to me.'"

The Keeses, however, knew that they had a wild bog that's been there for a hundred years and somehow it's still producing cranberries! One other thing that the Keeses had was clean water. They draw water out of the Carter River, which flows right from the ponds into the Cape Cod Canal. No other cranberry grower is upstream of their operation, a real advantage for certification. So they decided to go for certified berries

A lot of research has been done on how to grow cranberries chemically. But the Keeses feel very little has been done on how to grow them organically. More information would greatly improve their yields, far better than trial and error. But, they understand, it is hard to do formally, because there are so many variables – the weather, the portion of the bog. And whatever you do this year doesn't pay off until next year, as the fruit grows on buds that were set the previous fall.

"We went to all the trainings provided by the UMass Extension", Kristine recalls, "and did everything they suggested but the chemicals. We had the luxury of not needing the bogs for income — we just liked to have it as a piece of land because it was pretty.



photo by Ellen Hanson

Kristine and Bob use cranberry scoops to dry pick their bog.

"Some of the entomologists were really quite sympathetic," she continues. "But if we went to a meeting and asked a question, they would give us a chemical answer. Then, afterwards, they would come up to us and give us a real answer. It was so clear that all their research money came from the chemical industry."

But slowly the tide began to turn. They got calls from people who had been looking for organic cranberry growers. They got a small grant from the state Department of Food and Agriculture to do a newsletter and to organize discussions about organic cranberry culture. Now, says Kristine, "The Cranberry Station brags about us as their 'organic growers'!"

The couple is convinced that organic berries will only grow in popularity. They've had their berries tested and they're high in pectin and vitamin C. Bob believes that only occurs if you keep nitrogen low. The fruit might be bigger with more nitrogen, but it won't taste as good. They also think environmental restrictions are going to lead to a bigger future for organic bogs. The Manomet bird observatory is currently following a particular species of turtle with radio transmitters and taking regular blood samples, tracking various toxins in bog water.

Cranberries evolved to grow in the kettle holes left over by the glaciers. A big piece of ice drops off and melts very slowly, forming a pond. When it finally fills in with organic matter and peat, it's a bog. That's why most cranberries have come from Massachusetts, Wisconsin, and Oregon — because that's where the edge of the glaciers saw for thousands of years. These natural bogs are irregular in shape and of various sizes. Massachusetts has more small bogs than any other state. The biggest bog the Keeses have is only 3 acres.

As industrial scale has increased in agriculture, however, even cranberry production has been affected. There are now man-made bogs, built in the shape of a perfect rectangle. First they excavate, then put down a layer of clay, then peat, then sand, and plant berries. One incentive to make a bog is that often what you excavate is gravel! In Massachusetts it's about the only way to get a permit to mine gravel—to say you want to start a bog.

These man-made bogs are built 127 feet wide to accommodate big booms, supported by computerized tractors traveling on either side of the bog. The booms can move up and down the bog without touching the surface, and are used for administering chemicals and harvesting. No one ever goes on these bogs. The picking machines run down the dykes with a scoop that goes out and harvests a section, then comes back and collects the next one. Although it's a big investment, calculations show that you can get the money back in as few as five years!

The Keeses helped a Canadian grower with advice about organic berries until they learned the scale at which he was operating. As Bob puts it: "Up in Canada they have this tundra which is as flat as a table and goes as far as the eye can see. It has 6 feet of peat, and then hardpan, good for nothing except cranberries. You can drive right out on it and not disappear, like you would here on 25 feet of peat. This fellow got 600 acres for \$25,000! He just scraped all the brush off, put on a few inches of sand, and planted it to organic cranberries. It's perfect! The labor is cheap there, the land is cheap. He can undercut like crazy. With Canadian berries coming down, he can afford to get \$100 a barrel if he wants."



A ripe Early Black cranberry hangs from an upright vine.

photo by Ellen Hanson

To start a cranberry bog you use cuttings, taken from mature plants. The seed is never used in planting a bog — in fact you want to get the berries off, since they will sprout and they don't breed true to the mother plant. Once you have laid down bare sand, you scatter the cuttings out so there is no bare space, and then you run a vine setter over them. It's like a dull harrow.

The vine is planted and it's good forever. Old time growers claim that eventually the vines wear out — lose productivity through cross breeding with other vines. But the scientists say no, the productivity is in the vine's genetics. If you get all your trash out and don't let berries seed the bog with their crossed genes, you'll be okay.

The Keeses still have the original varieties they got with the bog — Early Blacks and Howes — which originated on Cape Cod. But in recent years scientists have started developing new, hybrid varieties that are larger and more productive, like the Stevens berry. A lot of growers ripped out their old vines and planted Stevens. In Wisconsin almost all the berries are Stevens. But the variety was developed for the juice market, and isn't meant to be eaten fresh. They don't have the acidity or the color of the old varieties — although they have a lot more liquid. But in recent years the price of juice berries has fallen and fresh berries have stayed better. So one sees some juice berries sold as fresh berries now.

Organic management means growers take a serious production hit from not using chemical fertilizers, herbicides, and fungicides. "I've found," says Kristine, "that if a conventional grower can get a certain yield from a cultivar of berry, an organic grower can get between 40% and 60% of that yield. Of course the cultivars differ. A good Stevens grower can get up to 400 barrels per acre. (A barrel is 100 pounds.) The maximum you can get from an Early Black is about 100 barrels.

Instead of chemicals, the major inputs for organic growers are sand and water. If you were to cut out a piece of bog you'd see layers of organic matter, sand, organic matter, sand — just like a layer cake.

Sanding about a half-inch a year buries the plants' runners, so they shoot uprights into the air. The uprights are the parts of the vine the fruit grows on. Without sand, they won't put as many uprights up — maybe 5 instead of 30 on a vine. Sanding also buries the dead leaves, which cuts down on fungus inoculation. It also increases the drainage and buries habitat for bugs. But how to apply the sand is always an issue.

"You used to flood in the winter," Kristine explains, "to protect the vines during the dry cold January. You would flood the bog after Christmas, wait for it to freeze, and then let the water go. You end up with a layer of ice maybe 4 inches thick on top of the bog. That would protect the vines without having them under water all the time — which you don't

want. Ideally you could also drive out on the ice and sand the bog at that time without hurting the vines. But we don't get those cold winters anymore."

Bob continues: "This year I had to bite the bullet and I took my sander right out onto the bog. I put an inch down this spring. It beats the heck out of the bog, even when you do it before dormancy breaks. But it's better than not sanding."

When it comes to water, you want the roots to always have access to water, but have to reach for it so they grow deeper. According to Robert, "If the bog water is within 8 inches of the root zone you have capillary action which can get enough water to the plants. You don't want to irrigate then from above or you will risk fungus. I used to go down and scratch the surface of the bog and find out whether it was dry or not. Now we have floats installed at the corners of the bogs — they're PVC pipe with a float inside. I can tell exactly where the ground water is — how far down. So I know when to add water."

Besides the Christmas flood in really cold winters, the Keeses do a late flood — an old time practice. From mid April to mid May they put the bog underwater. That retards the major weeds and also pest development — they find a lot of larva floating after doing that. The vines don't mind it, apparently. They just wait and as soon as the water goes out they burst forth in buds. Conventional growers don't like it because blossom development happens all at once and they think you get fuller pollination if you spread that out. So they figure it cuts into yield. But Kristine thinks they lose only their weakest buds,

which they would lose anyway because they don't use chemical fertilizers.

The Keeses use fish emulsion and rock phosphate as fertility sources, but recognize that conventional growers get better yield because cranberries seem to thrive on ammonia! One problem with using fish fertilizers is that bogs need a pH of about 4.5 to be very productive but the fish solution tends to offset the acidity — probably because of the calcium in it.

Weeds are a major problem in organic cranberry management, says Bob. "They're a constant problem. If you don't maintain your bogs they'll get overgrown pretty quick. You weed in stages. When the plant is breaking dormancy we start where the plants are clean, working from the centers out. That way, when the plant is more fragile you can stay off your high producing areas. You end up with a lot of weeds by the ditches and dykes. Then you can put your boots on and weed those areas from them. In low areas, where the weeds are rushes, I take a cutter and just mow them off and lay them down. Then we take those off so the seeds don't spread.

The couple keeps bees for pollination. They haven't had much trouble with mites, perhaps because they don't take off most of the honey. A bee expert told them they had a lot of different kinds of bees at work in the bogs.

Cranberries blossom and set fruit in June. Blossoms alternate with vegetation so that uprights that are blossoming this year will be vegetative next year, and the ones that are vegetative now will bear fruit next year. The plant stays in bloom for a couple of weeks. When I was there in late June the berries were about 20% out of bloom — 20% of the blooms had fruit set. Each of the blooms has an extension on it which, after the berry starts to grow, should be 2 inches long. That's how you know how you're doing on nutrition, says Bob. If it's starved, the extension is real small. If it's too long, you have excess nitrogen and the berries won't taste as good.

Bob says their worst insect pest is fruitworm. They lay their eggs in the bog in the fall. An old pesticide used by conventional growers was sodium cyanide. But water is also a control. Bob says if you use late water in the winter you kill the pupa, and if you reflood in the middle of April until mid May, that kills the emerging fruitworms. You also set back a lot of weed growth with late water.

Their other insect control, after water, is bug lights. There are two on each bog — industrial zappers that operate at 5000 watts, on timers. They kill rootworms, beetles, tip worm, moths, fruit worm, male mosquitoes. Bob has experimented with the colors of the lights and finds his best combination is a black light with a regular white light.

The Keeses use two kinds of pumps. One is a flood pump — instead of a pressure pump it's a free flow

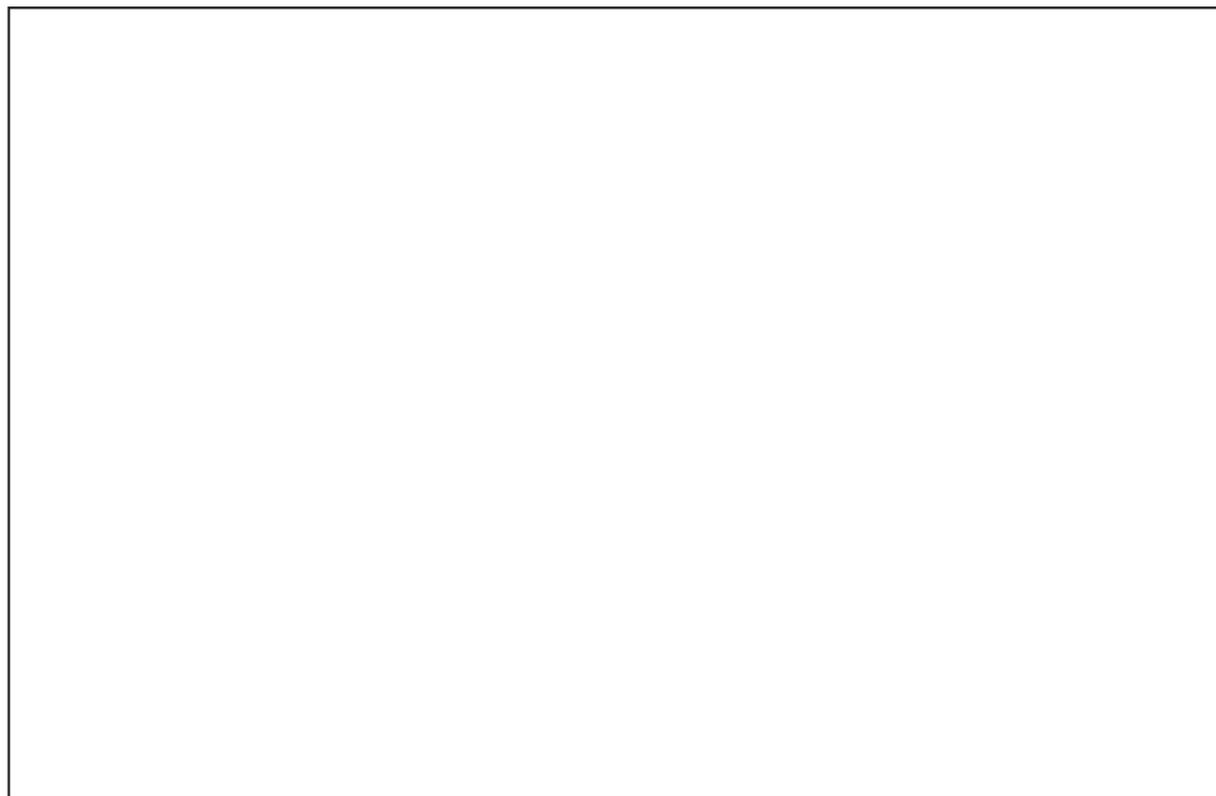


photo by Bob Keese

Kristine and several workers sort cranberries, picking out the ones with dents and nicks. The Keeses sort for about 12 hours a day during the harvest.



photo by Ellen Hanson

Bob fills one of their colorful half-pound bags. The bags are wholesaled in cases of 12.

pump that can handle a thousand gallons a minute. This is used to bring in water from the river to raise the level of water in the bog. They turn this pump on at about 3 in the morning to make sure the water table is high enough so the plants can draw up water and not desiccate. They also use an irrigation pump that sprays water over the bog. They use this only because the bogs are out of level and raising the water in the bog won't reach some portions. This is also used sometimes to try to avoid frost damage on cold fall nights

They use a pruner about every three years. According to Bob: "You need to keep your top growth down so the berries will color up well. You want to keep your canopy open so you don't get much fungus inoculation. The pruner lays the vines out in one direction behind the tractor, then behind it is a chopper head that cuts the long vines, and behind that is a rake that picks up all the cuttings. You're after the long runners, cutting those off."

The sander has a screened hopper that you fill with sand. It shakes and vibrates on filling so that only sand enters the hopper. The sand comes out the bottom on a roller, driven off a PTO. The whole thing is built on a 1953 Willys, retrofitted with wide tires.

There are two methods of picking cranberries — dry picking and wet picking. In wet picking you flood the bogs, you beat the berries off the vines with a simple machine, they float to the surface, and you get every one. But if you wet pick the fruit has no shelf life and is only good for juice. The Keeses go with a dry picking machine because they sell for fresh berries. But they lose a lot of berries that way.

The berries ripen from the end of September until mid October. The Early Blacks are earlier, and the one section of Howes is a little later. The harvest can't begin until 10:00 in the morning, when the dew is gone. Then the weather changes again by 5 or so and the dew comes back. So harvest times are limited if you're doing a dry harvest as the berries have to be as dry as possible.

Once picked and boxed, the berries are taken to the Keeses' sorting area. "This room here," says Bob, "will hold 15,000 pounds of berries. We back the truck up and unload and stack the boxes. This is the winnower. That's how we get the crap out. Then they go to the separator where we inspect them on belts. The way we're set up here we can do 3000 pounds a day. It gets pretty intense on those long days!"

The average state yield for cranberry production is 140 barrels, or 14,000 pounds, per acre. On some pieces of bog the Keeses get state average yields or above, on some not. With some of the new cultivars and fertilizers, yields have been boosted up to 400 barrels an acre. But Bob feels growers who adopt these practices are cutting their own throats since the price per pound is going to decline with higher production. The same thing happened in fishing, he points out. With better boats and equipment the catch grew, but the price declined.

The price growers can get for their berries is quite erratic. A few years ago the conventional market went from paying \$85 a barrel to as low as \$10. Last year the growers were getting \$44 a barrel for fresh, and for juice berries they were getting \$12, then \$17. There's no fixed price set. When you deliver to the handler you sign a contract that says "market price". As the berries are sold, the price changes. You get a quarterly check for what was sold, and sometimes it goes up, sometimes down. So for last year's harvest, your final check will come next December.

Of course that "market price" is at the bog, harvested with trash and not cleaned. "Years ago," Kristine says, "everybody had his or her own little screening house. But handlers began to pop up who did that for the growers. Now there are 5 handlers nationwide, and they control the price. One of the advantages that our growers have is that we pay right away, after we sell the berries. Plus, when we buy organic berries we do the screening and our price includes that."

Although the organic price is considerably higher than the conventional one, many growers are wary of the fact that for the three years required for transition they would have to produce organically (including getting significantly lower production) but could sell their berries for only conventional prices.

The Keeses sell a few berries on the Internet at their site www.organiccranberries.com. But their main market is to organic distributors, either in cases of 12 half-pound bags, for resale, or in 25 pound boxes for use in processing. But Bob isn't very happy with this. "I'd rather," he muses, "go with a more boutique market, custom packing for gifts or selling on the Internet, and get out of wholesale. I'd rather get out of the rat race, instead of selling a product where everybody else makes money on it. When our berries are packaged up we can get \$4.00 a pound for them. But they get bought in California and hit the stores at \$12.00 a pound. That's outrageous! When you have a commodity that people are interested in selling for that kind of money, you think you can do more with it yourself. We sell for \$5.00 a pound on the Internet. If we did a custom pack for \$6.50 or \$7.00 a pound, people still would be getting a good deal."

Part of their unhappiness with wholesale stems from the hardship it poses on small growers. As Kristine recalls: "We used to fill a container and airship it to California. But our buyer said the markets had changed and required a barcode, a label, and a package. So we got all that. We now sell 12 half-pound bags in a 6-pound box. But we had to buy 100,000 bags to get a decent price. The bag is labeled by weight, but our bag filler is based on volume. It would cost a lot to get a bagging machine based on weight. So we go by volume and because we're nervous about the packaging we overfill."

But another part of the Keeses' marketing concerns comes from the increasing competition they are facing. Last year a California Indian tribe decided to grow an organic berry. Fortunately for Bob and Kristine, they messed up and their product wasn't good. Then, after one year of hand labor, they decided it was too much work. So the Cranberry Hill buyers came back. But the organic price is going down because of the Canadian competition.

"The Canadians have been pretty frank," declares Kristine, "at saying we're going to have a hard time competing with them. They ask us why we don't just sell to our local accounts? But our best account is on the West Coast. Around here cranberries are a common thing and organic cranberries can't support the price differential they get out there." The Keeses tried to start an organic growers coop, but no one was willing to put the money or effort into it that would make it a coop. They like the idea of a coop ideologically — sharing the work and the profits. Plus, marketing-wise, a coop is the best form of organization because it's the only legal way you can set prices. But until they can get support for a coop, they will act as a buyer for other small organic growers. Right now what they purchase is insignificant — perhaps a thousand pounds.

For the future, Bob and Kristine are looking for a way to add value to their berries. Not only could they get a higher price for their product, but also they could use their seconds. As Kristine puts it: "If you have a berry with a tiny dent in it, as fresh fruit it will go bad and the ones around it will spoil. But if we had a value added product, we could use our seconds, because we wouldn't need to worry about them spoiling as fresh fruit. Degas is doing sweet, dried cranberries — they're frozen, cut in half, infused with syrup, squeezed a little, and dried. There's also a market for organic sauces and chutneys."

Whatever happens, the couple seems in the cranberry business to stay. Bob sold off the scalloping boat that took them to far off places, and now he captains charter boats for two local companies, taking people fishing or whale watching. "Business is good", he grins. "It's a lot easier catching people than catching fish!"

Some Thoughts on Organic Strawberry Production

by Joey Klein

Strawberries certainly are a tempting crop for the market gardener or truck farmer to try. The demand is high and the crop comes in at a time when there is a great need for cash, early in the season. Having grown this crop organically since 1983, I have learned that it is not a sure bet, but frequently can be rewarding.

Choose a piece of land that is 100% free of perennial weeds, and where a good cover crop has been grown the year before. Buckwheat or oats and peas are good, because they will not leave you with a lot of residue when you are ready to put in your strawberry plants. Another strategy is to have strawberries follow a very carefully weeded crop like carrots. 10 tons of compost is the least to use, as the plants will be growing for 2 seasons. I try to set my plants in early May, using two rows 30 inches apart, with plants 16 inches apart in the rows. This requires about 10,000 plants per acre. Try doing a 1/2 acre at a time to begin with. Irrigate after transplanting to help get the new plants off to a good start.

This layout allows for the use of a Lilliston cultivator, which is a ground driven, highly adjustable rotary hoe. It can be set to throw the runners into the rows, and hill the rows to kill small weeds. A Lely tine cultivator is also a good one to use on strawberries, as they are a tough plant and can get banged around a bit. If you lack tractors and equipment you can use a walk behind tiller between the rows and set the runners by hand. The latest technique is to plant through black plastic and set no runners, but I have not been able to get enthusiastic about generating so much garbage just to grow some berries. I enjoy cultivating, but I admit that there is a lot of hand weeding that goes into a good organic strawberry patch. Pick off the blossoms so the plants put all their energy into their roots. Weed control is essential for the health of the plants and for insect control as well.

Top dress your 1/2 acre patch with 500# of an organic 5-3-4 fertilizer in August or early Septem-

ber. This is the time that the plants are storing up energy to make their blossoms the coming spring. Keep cultivating, cutting off the runners that spread into the aisles. A mother plant should have 4 to 6 runners. Keep watering, too. When the ground starts to freeze, about Thanksgiving here in North Central Vermont, spread a 6 inch layer of straw over the rows. This protects from freezing and thawing, and will act as a mulch between the rows when it is raked off in the spring.

The following spring the work continues. Rake off the mulch after the snow melts and the plants begin to push up new leaves. Don't try to hold them back, it is not good for their production. Set up the irrigation system and be ready to protect the blossoms from late frosts, which are a regular feature at my place. Water protects the blossoms down to 26 degrees, but you must start sprinkling before the freezing temperatures begin. This results in a series of sleepless nights.

Now come the insects. If you are just starting with strawberries, you may wonder what all the fuss is about. If you have been growing them on the same farm for a while you know what I mean. I dust with 5% rotenone once or twice for strawberry bud clipper, a weevil that lays its eggs in the stem of the flower and essentially cuts it right off. More problematic is the tarnished plant bug. As few as one nymph per flower cluster can result in deformed fruit. Put out some white sticky traps so you know when the adults arrive. Watch the catalogs for an OMRI approved formulation of beauveria bossiana, which is a fungal disease of TPB. I sprayed Naturalis this spring, with some effect. It held the population growth back but failed to prevent the numbers from cresting at about 3 nymphs per cluster at the end of blossoming.

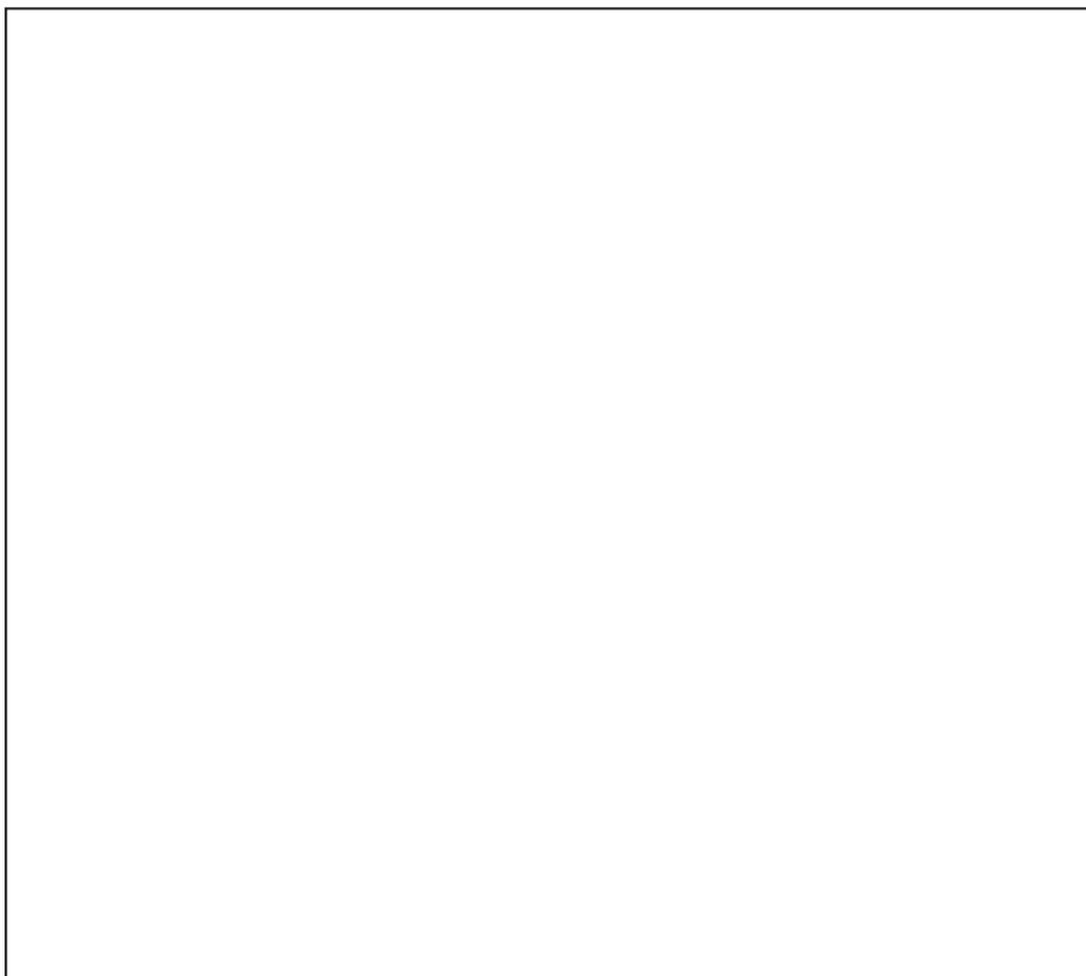
This is where the reason why so few people grow any quantities of organic strawberries becomes clear. This TPB damage means losing the last third of the crop, which is a serious blow to making a profit on all this work I have described here. I love knowing that my fruit is pesticide free, but I also

know my pesticide using competitors have their reasons. This insect remains the main stumbling block to more wide spread organic strawberry production, and this insect is relatively easily controlled with chemical sprays. The organic berries are healthier by miles for the consumer, and sell for 25% more. But the later part of the crop is frequently ruined.

Another tack to try is that used by Paul Hartshorn, an organic farmer in Waitsfield, Vt. Paul has pioneered in covering his entire strawberry field each fall with a large row cover, which he leaves in place the following spring. This does not so much act as a barrier against the TPB adults as it encourages much earlier flowering, before the population of TPB nymphs has reached that critical threshold. It also makes the whole crop come on one to two weeks earlier, which can be during some seriously cold weather for which the row cover will not offer enough protection. So it has its risks. I think I am going to try this system out, as I am growing frustrated with the spotty effectiveness of any approved spray material for TPB control.

Strawberries can be renovated and kept for a second fruiting year. Mow them down to sticks, and narrow the rows again with cultivation. Then water and fertilize and let the rows grow out again. Weed control is problematic with the 2nd fruiting year, and many organic growers skip it. I usually keep my patch for a 2nd try but also plant a new one every year. This adds greatly to the cost of organic production, as our chemical using neighbors just solve this problem with herbicides. The herbicides frequently end up in the groundwater and on into the environment. Better to ask the public to pay more for their fruit and grow it in a manner without lots of hidden costs.

Growing strawberries organically will make you very popular with your neighbors, whether you pick or invited them in to pick their own. Good luck!



The Organic Blueberry Field of Dreams

by Ron Maribett

When we bought those seven bushes back in '83 it wasn't because blueberries were one of the healthiest sources of nutrition available to humans (who knew?). It certainly wasn't to embark on a life of farming in exurbia (rather than heading for the hills in the great American tradition of noble escapism), and it wasn't to get rich. It was just because we had a little sandy soil in a sunny spot, some water nearby and because I love blueberry pie, and muffins, and cake, and jam, and...well, you get the picture.

As we approach the end of our second decade of blueberry farmin', our families still think we're nuts, but we've learned quite a few things — some of which we'd like to share with you here. But there are many details to it. So in order to provide some decent perspective on some of them, we are limiting this article to the areas of what kind of work it is, the planting, the harvest, and the pruning. We'll have to leave a study of varieties, pests and bird control for another time.

A Labor of Love

If you want to have a pretty shrub that feeds the local birds and displays a lacelike garment in spring-time, a rich green mantel in summer along with a few small berries, rich red hues in the slanting sunlight of autumn, and brilliant crimson spikes against a winter snow scene, it doesn't take much to grow blueberries. They need to have plenty of moisture, some loose, well-drained, acid soil, but cannot have their roots immersed when the plants are active. If you have soil immersion in winter but the water table settles down below one to two feet during bloom (May to early June depending on varieties) through the harvest (Late August to mid-September) you'll be fine. Dig a test hole or two a year or so before you plant if you have the luxury. If there are wild blueberries in the area that's a good indicator you have a hospitable habitat.

But if you want production, be prepared to enter into a dedicated and lasting relationship with your plants, characterized by physical labor, close contact and a commitment to learning something new every day.

The Planting

Plants should be set out 8 feet apart on center in rows 12 feet apart on center, ideally in March or April, when soil is thawed enough to accommodate, no later than June (depending on how far north you are) for best chances of success. We've had good success planting in the Autumn if we can find plant stock, which usually allows for two rainy seasons. These distances allow for full extension and plenty of ventilation and sunlight for a healthy plant, easier care and maintenance, and more comfortable picking operations.

To plant a 2-3 year old nursery plant, you first dig a hole roughly 3 feet in diameter and about 2 feet deep. Blueberries have a shallow root system (one to two feet below the surface) and draw their nutrients through a vast network of tiny, white root hairs. Incorporate 2-3 cubic feet of well-soaked humus or other well composted, acidic, organic material into the soil, and then pack it around the root system so that the plant is sitting about 3 inches below the original grade. The remainder of the soil should be used to create a small berm around the perimeter of the hole. Add some well-composted manure (at least a year old-see NOFA standards for organic production). We prefer horse manure because it is slightly more acid and much more readily available these days. Mulch the whole 3-foot diameter area with 3 to 6 inches of the most

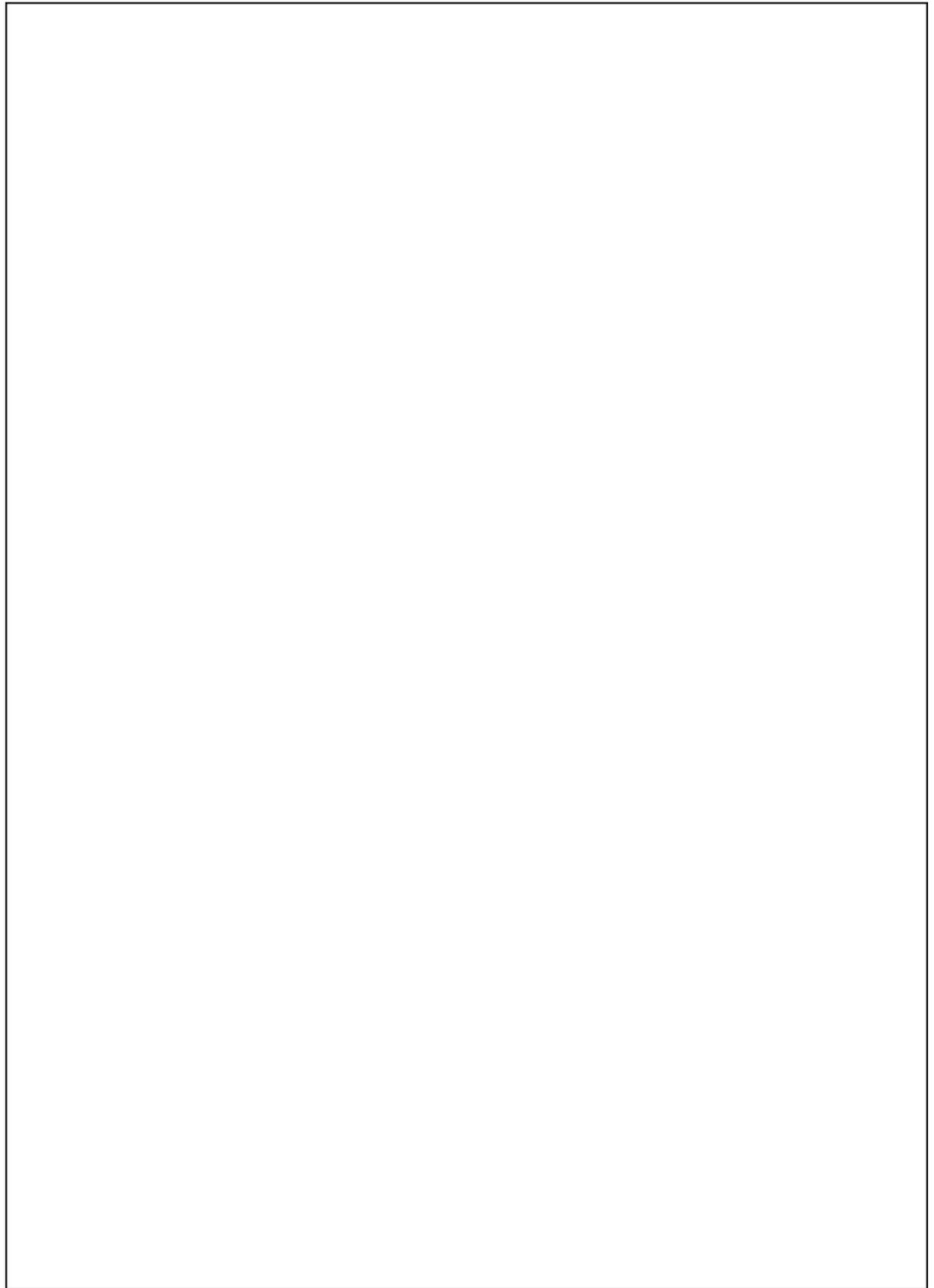


photo courtesy Ron Maribett

U-picker fills his can with Maribett blueberries at the peak of the season.

acid mulch you can get your hands on. Pine needles and other foliage refuse, wood chips, bark mulch if it's a small planting. Remove all bloom in the first year of planting so as to allow all the energy to go into a healthy start-up for the plant.

The Care and Feeding

Blueberries require a well-drained slightly acid soil (low *pH*) with 3-20% organic matter, depending on the subsoil. Since organic farming bases its success on long-term soil viability, We like to continuously mulch with leaves, pine needles and wood chips in varying stages of decay and then add a mix of well composted horse manure every three years. This also inhibits mummy berry development, especially when applied in late spring.

If your plants are healthy and adequately supplied with nutrients, the leaves will maintain a rich green color, varying from lime green to a fuller, darker color, depending on the variety and the time of year. If you notice yellowing or early season redness, check your soil for nutrients and for *pH*. You may

need to add some more of a particular nutrient (all are available in organic forms). This may occur during fruit set or in the advanced stages of ripening. We have had good success with simply maintaining our steady mulching practices and have rarely needed to add nutrients during the growing season. If there is a piece of swampland nearby — even better with a few wild blueberry bushes on it — go and visit. Pick up a handful of that soil. Give it a sniff. That's the model we are always trying to simulate.

The Harvesting

We operate a primarily U-Pick operation, reserving picked and sorted berries for our farm stands and a few long-term customers who place their orders early in the year. Over the past few years, with the increase in awareness of the nutritional value of blueberries, and the established nature of our operations, we have had to do very little advertising of our crops. Often the local papers will do a little special on blueberries, with a picture or two of a child and a parent lingering under a juicy clump of

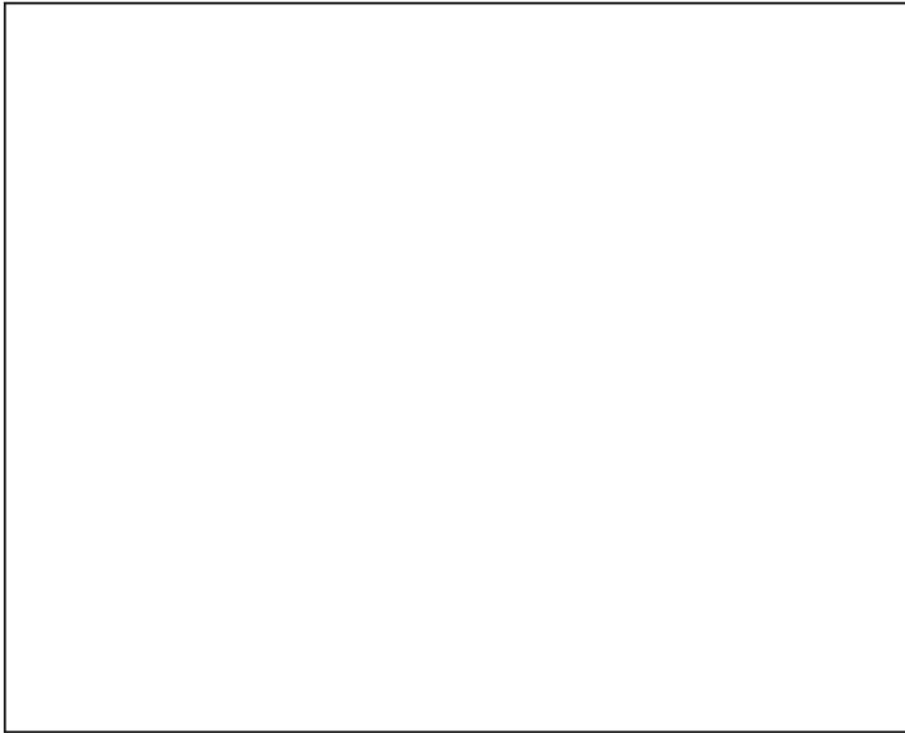


photo courtesy Ron Maribett

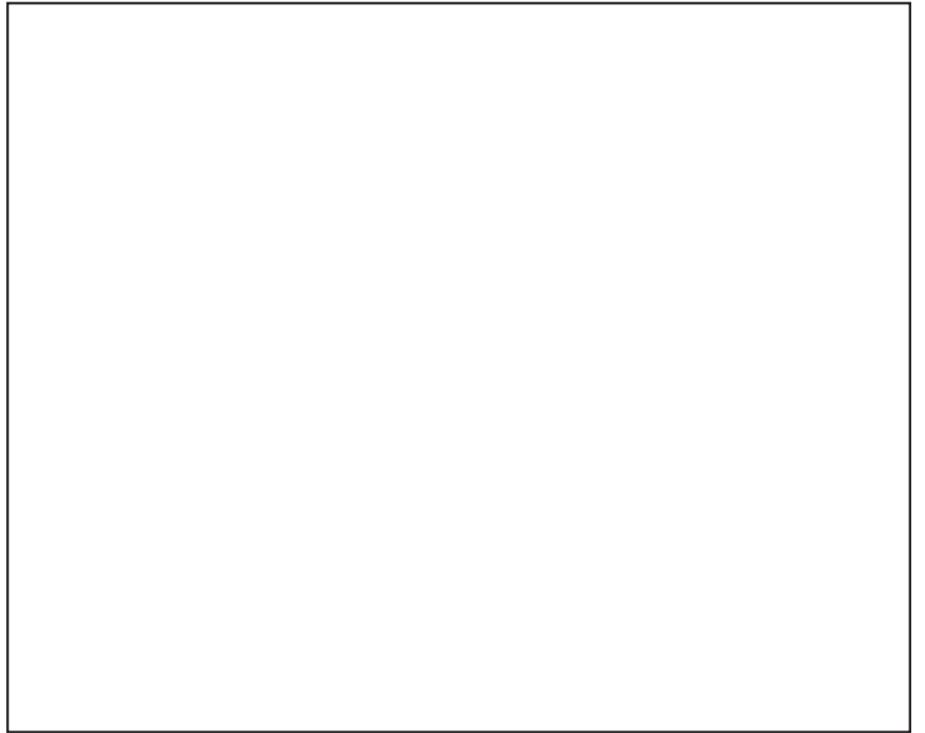


photo courtesy Ron Maribett

Ron approaches a new bush to prune order out of chaos each Spring.

berries. This is usually enough to have us over-run for a week or two. The most difficult task in today's labor market is finding folks to pick for your special orders. One program we have tried with some success is our equi-pick program, where we allow our u-pickers to divide and share their pickings with us rather than pay cash. But this has become increasingly rare as pickers have come to prefer their fruit over the savings.

The Pruning Time

A few weeks after the last mowing of the blueberry patch in late Autumn, when those crimson leaves number just a few on the late varieties, when you can smell the winter snap in the air and see the long shadows chase that butterscotch sun up the pine trees in the afternoon, it's time to think about next year and start pruning. Of course if you're working off farm or involved in a lot of other things you might not get out there but for a row or two before the holidays set in. That's all right though, because the pruning season is the longest season of all. My father-in-law, a blueberry man for many a decade now, says you can prune all year round. But it is most comfortable in the late fall, latter part of winter and early spring, while the plant is still dormant.

We could do a whole article about pruning so here are a few guidelines you might keep in mind. (Also, we offer pruning demonstrations on our farm and through NOFA during pruning season). The thing to remember about pruning is that you really cannot destroy the plant as long as you leave a cane (stem) or two. Properly planted and cared for otherwise, they are very hardy perennials. We have blueberry plants that were planted some 70 years ago that are still going strong. What you want to do is clear out

the middle of the plant, so sunlight can penetrate during the early season before the foliage fills out. This prevents moisture from building up, causing mildews and rot at the base of the plant. It also allows the soil around the roots to warm, stimulating early growth.

Also, any dead wood on the plant needs to be removed completely. All extraneous plants should be removed by their roots, if possible. This is the part where you get up close and personal with your blueberry bushes. I recall many a full day spent on my hands and knees, wearing welding gloves, pulling poison ivy, grape vines, small maples, swamp alders, skunk cabbage roots, brambles and more just to give my guys a fighting chance come springtime. It is best if you can mulch as you go along pruning, to inhibit weed growth during early emergence. Also, the mummy berry is a fungus that emerges from an infected berry dropped at the base of the plant that year. Anything you can do to damage that structure during its life cycle interrupts its progress. When I have the time, I go through the patch in late spring, just before the bloom and run a rake over the mulch to further prevent mummy berry development.

Finally, you should leave 12-18 canes on a mature blueberry bush, one more than 7 years old. I usually remove them after the 5th year. They make really good cooking wood. We prune in concentric circles, leaving about a 12 inch diameter opening at the center of the plant, and leaving a couple of five year old, 2 or 3 four year old, 2 or 3 three year old, and 3 to 5 two year old canes, letting new growth make up the rest on any given year. When pruning the individual canes, it is important to know that some of the buds are for leaves and some for berries.

Dutch intern Marjoleen Benschkop finishes early Spring pruning.

You need a good mix of both to provide the sugars for the ripening fruit, so balance your pruning along the branches of the canes to allow for this. You should be able to get detailed information with photographs and descriptions from a number of publications put out by your university Extension Service to assist you in identifying these buds.

So, if you love blueberries and enjoy the great outdoors; if you're a hard worker and you appreciate working with the land and in harmony with the natural world; there is an organic field of dreams out their waiting to be planted. And you know what they say, "If you plant it..."

*Ron and Connie Maribett
Maribett Farm Family
Kingston, Massachusetts
Ron is happy to answer any queries
via email at ron_maribett@hotmail.com*



photo courtesy Ron Maribett

Intern Jason Slot repairs bird netting over blueberry plants. Ron uses netting sparingly.

The Folks Who Invented the Apple are now Working with Strawberries

by Clifford Hatch

The strawberry cultivars that are grown today are generally thought to have been developed from the hybridization of *Fragaria chiloensis*, believed to be indigenous to Chile and Western North America, and *Fragaria virginiana* of Eastern North America. Strawberries have only been intensively cultivated since the 15th century. In this relatively short time the production systems of commercial growers have advanced through selective breeding of the planting stock and, most recently, the use of chemical herbicides, plastic films and irrigation tapes, such that few would recognize this crop as a descendant of a tender, spidery, woodland plant occasionally creeping into the edge of a meadow. The strawberry plasticulture system that is employed worldwide produces large fruit that are picked easily, quickly and can be shipped long distances. The fruit that was once revered by Native Americans as a gift of heaven is reviled by some as the "most pesticide laden" of man's crops.

The pivotal problem for strawberry growers is weed control. Whether you are a conventional or an organic grower, managing a planting to be as weed-free as possible is the biggest objective. Weedy plantings cannot be managed to produce fruit that is marketable and economically viable. It is little wonder that both organic and conventional growers have embraced plasticulture for their strawberry plantings. Besides the obvious drawbacks (landfill space/expense) of using plastic mulch, this system has features that growers must recognize.

The plasticulture system is highly touted by nurseries. Since the plastic eliminates the ability of the strawberry's stolon to root, the number of plants/plugs required per acre is high. An acre of berries in the conventional matted row system requires 6-12,000 plants, 28,000 plants/plugs is probably the minimum for a plasticulture acre. For many growers, particularly in southern areas this is an annual need since the plants are not maintained in a perennial system. Northern growers planting on plastic must deal with the difficulties of renovating on plastic.

The impetus for this system—preventing runners/weeds—is that a multi-crowned plant which is not surrounded by other plants will collect more sunlight and fertility and will produce larger single fruits. This system allows for picking efficiency since there is no crop canopy for pickers to search through, and with great exposure to sunlight the

crop ripens quickly. For growers who are marketing picked fruit it can be ideal.

In May of 2001 I had the opportunity to work with a group of very successful strawberry growers in Northern Azerbaijan in the region of Guba. The temperate climate is semi-arid, east of the central Caucasus Mountains and west of the Caspian Sea. Guba is a region much like the Northeast with glacial soils and long terminal moraines running from the mountains to the west to the Caspian in the east. When I first met these growers and assessed how they were growing berries, it was apparent that many of the assumptions which we take as fundamental to successful strawberry production are not necessarily correct. These growers were producing berries on the heaviest clay soils imaginable; they propagate all their planting stocks from their existing plantings since there are no plant nurseries; begin planting in late summer; furrow irrigation, use no mulches, herbicides, or commercial fertilizers, and almost zero insecticides. They were doing everything that the university extension service advises against.

The characteristics and methodology of their production system revolves around weed control, plant pruning/propagation and companion planting. All the growers in this region rely on one cultivar, which they share and trade with one another. Evidently it had been developed by the now defunct Soviet Agricultural ministry. They call it "Bulgarian." In its structure and fruit it is similar to our "Jewel" except that it is an early season bearer. It is well adapted to their conditions.

Most growers keep small plots planted between their fruit trees. The largest plot I saw was just under an acre. It is common throughout the Caucasus to have some other crop within orchards and vineyards as the understory. Arable land is scarce. Larger strawberry growers who were increasing their plots were tending to have fewer trees in their plots, smaller farmers (with less land) had more trees. Many growers rotate their strawberries with onion, leeks, and garlic. Composted manure and ashes are the primary fertilizers.

The planting system these Azeri's developed is best described as a "mulchless spaced-row" system. They plant newly rooted runners—pruned from plantings 1-2 years old—in August to October. Plants are set 8" within rows spaced a meter (30") apart. An acre requires about 30,000 plants. All plantings are turned under after the third season of fruit. The

harvesting of runners for new plantings keeps the older plantings well pruned so that each plant produces many large berries on well developed multi-bracted crowns. Rows are not allowed to become matted with plants but some runners are allowed to root in order to widen the rows. Picking aisles are extremely narrow. These growers attest that the first year of fruiting is the lightest. Second year fruiting is the best and by the third season there is diminishing production.

The delayed planting date necessitated by the time at which mature runners can be collected eliminates pressure of summer annuals. Growers are tending their plantings closely at the time that winter annuals like chickweed and shepherd's purse are germinating. There is a trade-off between the abundance of the crop in the first fruiting year and the weed control, pruning and propagating work of late summer and fall.

Although no mulch is applied by the grower, a mulch does fall from the fruit trees that provide the overstory. In spring the plots are raked clean of strawberry and tree leaves and burned. The fruit trees in these plantings range from stone fruit to apples, all on dwarfing root stocks. It is my opinion that the shade provided by the trees in summer prevents heat stress on the plants and the fall leaves help protect the crowns in winter. The canopy of these trees is not overly dense since they are kept pruned and much of the strawberry's vegetative growth occurs before the trees are in full leaf. A dense matted row of berries would probably get too much shade to produce large fruit under these conditions. It is a difficult system to mechanize in large scale production but for small to medium sized production it is an elegant system since the strawberry management is part of the orchard's weed control.

These growers have more customers than they can satisfy. They produce quality berries that at harvest time are offered for sale in every village and city market; hawked at the side of highways strung on threads by the dozen, as chiles are merchandised here. In the cities at harvest time, drivers stopped at intersections are solicited to buy berries. Since most Azeri households make their own preserves, berries are sold by the kilo in markets and there is strong demand for the entire crop, including the smaller fruit.

The problems for these growers are: 1) the reliance on one cultivar which could have an adverse season and always a short marketing period; and 2) furrow irrigation which can spread water-borne pathogens to which strawberries are very susceptible. Although the labor requirement of this production system is high, there is abundant labor.

I am not suggesting that commercial growers try to duplicate the Azeri system, but there is much in it to emulate. There is little waste or abuse of natural resources and there is no surplus production deflating the market for the crop. The impact of the crop's production does not take a toll on the environment and the village communities where the crop is grown prosper. Moreover, people can trust that the strawberries that they consume are wholesome and nourishing, a gift of nature.

Clifford Hatch is an organic strawberry grower in Gill, MA. He has completed two SARE Farmer-Grower grant projects for on farm research in organic strawberry production utilizing high-density and delayed-planting systems. Since 1996 he has completed four assignments as a berry production specialist for ACIDI-VOCA in the Trans-Caucasus Republics of Armenia, Azerbaijan and Georgia.



photo courtesy Clifford Hatch

Author with an Azeri farmer and his daughter in their strawberry patch.

Growing Raspberries

by Tom Johnson

The single most important thing that I have learned in the 20+ years that I have worked on our family raspberry farm is that raspberries can be very forgiving. What I mean is that one can make a lot of mistakes when growing raspberries. One can even really slip-up and provide almost no care at all. Nonetheless raspberries will remain faithful, favoring you with a return even when they have received only minimal attention.

Of course raspberries do have limits beyond which they can't survive, let alone flourish. Disease, for example, must be tended to quickly if the entire stand is not to be lost. Weeds will eventually need to be beaten back lest they overrun your fields. And appropriate amounts of sun, water and nutrition need to be assured over the long run.

Conversely, raspberries will not consistently give up their maximum yields without a true commitment to them - a strong long term horticultural plan carried out rigorously from year to year and tweaked endlessly to match the vagaries of a particular season. Therefore, on the one hand raspberries are an ideal crop for the casual grower or home gardener. On the other hand, if you are interested in growing raspberries commercially you should be prepared to pay attention to the excruciating detail, the complex trade-offs, and the significant uncertainties which are required just to gain a shot at being competitive.

Location, Location, Location

The first major decisions to be made in any long term plan relate to planting. Raspberry plants have a productive life expectancy of 10-14 years, depending on how fast pests and disease build up. I am told that some can even reach 20 years if they are kept healthy. By implication, you will have to live a long time with the decisions you make at the time of planting, so be careful. First off, consider the location for your raspberries and select a variety suitable to your climate. In general, red and yellow raspberries (which are actually the same species) are the hardiest type, surviving winter lows of -20 to -30 F, followed by purple raspberries which are a cross between black and red raspberries and are hardy to about -20F, then black raspberries (about -10F) and blackberries (0 to -5 F). Your climate should also play a large role in your decision to raise fall bearing (also known as everbearing) varieties or summer bearing varieties. Fall bearing come only in the red and yellow colors. They can be grown to produce one large fall crop or two smaller crops, one in the summer and one in the fall. But they don't make much sense if you have a short growing season as frost would imperil the usually larger fall crop. So, if you live to the north, which in my mind means zone four or lower, you are pretty much confined to select from the red/yellow summer bearing varieties.

The second point to consider when thinking about location are micro climates, especially if you're growing the fall bearing varieties as we do. We have two different fields which lie only about 50 yards apart, yet have experienced low temperature differences between the fields of 2-3 degrees on the same night. So an optimally chosen site can provide the couple of extra degrees needed to make it through an early frost. Slopes with airflows which help to keep frost from settling (and also inhibit mold from forming on ripe berries during humid and rainy periods) and upland areas are preferred over low lying areas where cool air tends to pool. Avoid excessively windy areas which can be damaging in winter (see below.) A ripe raspberry freezes at about 30.4F. Green berries still on the cane will survive a degree or two below that. Also consider that areas which see the snow melt first in the spring, usually the sunnier spots in a field, will also tend to promote earlier spring growth and thus, all else equal, an earlier fall crop and less loss to the fall frost. New

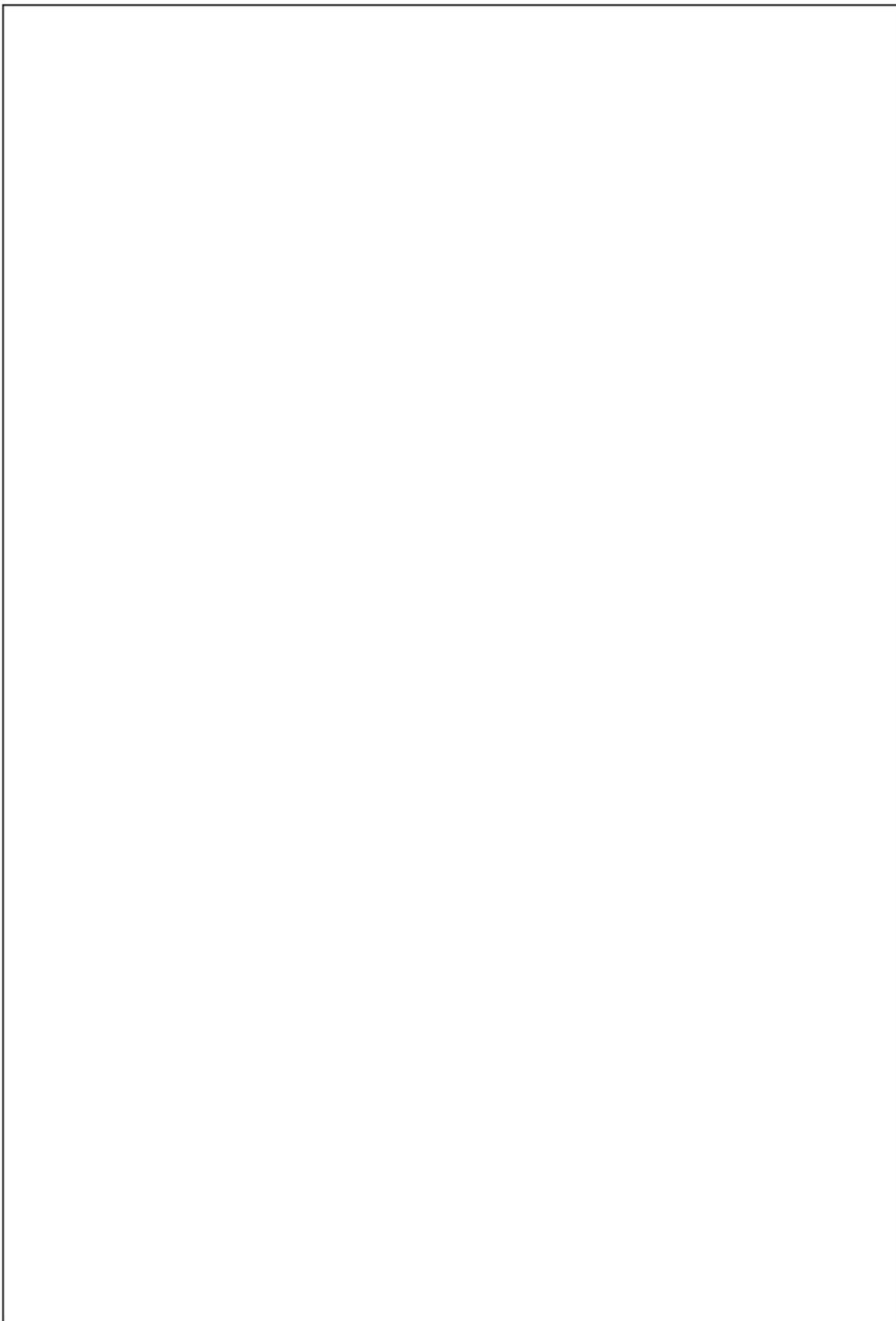


photo courtesy Tom Johnson

A portion of one day's harvest at Silberleaf Farm

raspberry shoots are fairly tolerant of a late spring frost. They will be damaged and growth thus slowed, but I have never seen significant consequences even where the tips were killed off.

If you are growing summer bearing varieties or intend to double crop the fall bearing varieties, then special note should be taken of what I said in the last paragraph. Canes readying to bear in the summer are susceptible to damage in the winter months, especially the portions which stand above the snow cover — or all of the plant if there is no snow cover — and in temperatures below -20F. (To crop a fall bearing variety just once you must cut all the canes down to the ground, thus winter injury is not really an issue.) Raspberries planted in unsheltered areas, either upland or on windy slopes, will be more at risk of winter injury and possibly a late spring frost. Summer bearing canes are a bit more sensitive to a late spring frost. Therefore, one needs to balance the trade off between raspberries' preference for good air circulation and an early start in the spring with the associated risks of winter exposure.

The final location-related issue concerns ideal growing conditions. Raspberries prefer well drained soil, sandy loam which is rich in organic matter (6%.) Raspberries will not tolerate wet soils, a condition encouraging root rot. I can not stress enough: No amount of tedious annual husbandry can make up for selecting a site with good soil conditions, that is to say a rich, deep, fertile layer of loam. Raspberries also like a lot of sun. While trees can provide protection from frost and cold in the winter, too much shade will also slow ripening, reduce yield and even affect the sweetness of berries which is directly proportional to the amount of sun received while on the cane. (Too much sun can also lead to sun burn, a condition where some of the drupelets on a berry turn white and form white blotches. Alternatively, white blotches on a berry can be a sign of infection by a pathogenic microorganism.) Avoid locations where other small fruits, potatoes, tomatoes, peppers, eggplant, or other common hosts for *Verticillium* (a root fungus which is deadly to raspberries) have been grown within the past five years. Keep new plantings away from (or simply remove) old plantings and wild brambles as these can be the source for viruses and detrimental insects.

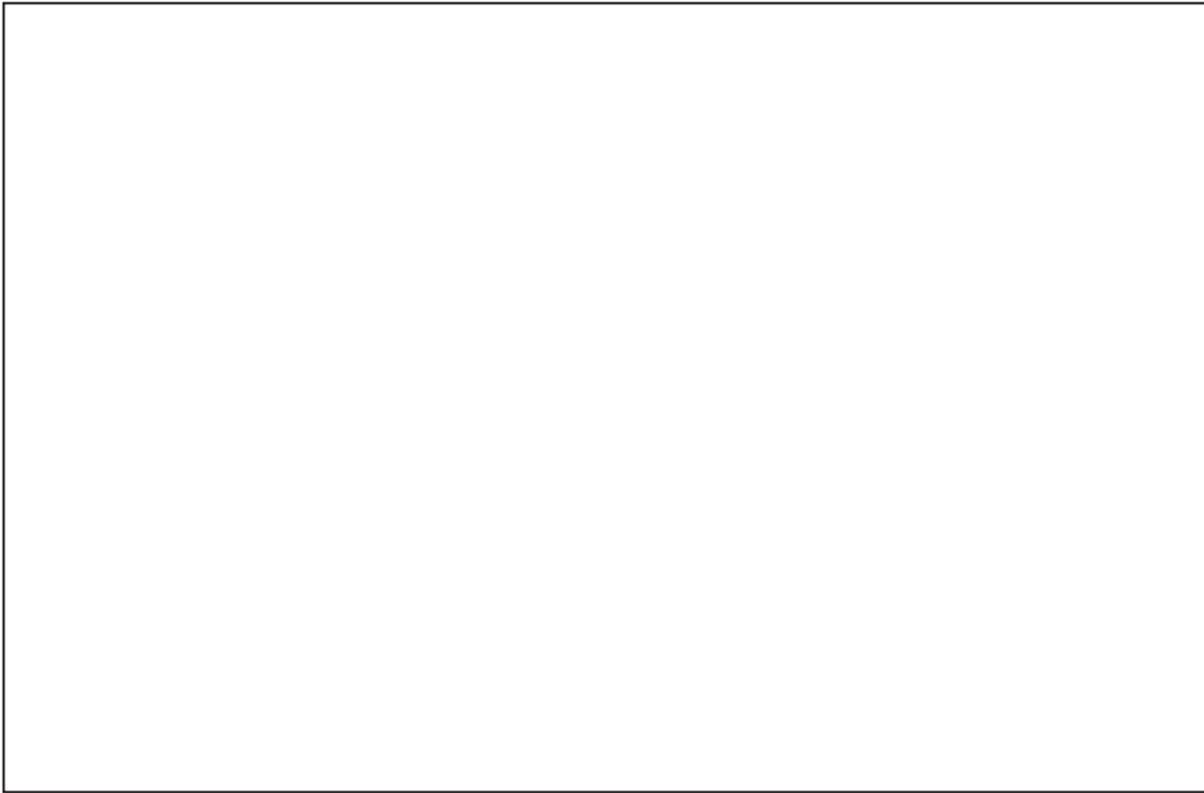


photo courtesy Tom Johnson

Fruiting in full swing among the raspberries.

Planting

Proper soil preparation will assure that a new planting gets off to a strong start. Get a soil test, noting the crop you intend to grow. You should receive in return not only an analysis of fertility levels but also recommendations as to amendments. In any case here are some general guidelines — but again be cautioned that they are not a substitute for proper soil analysis. Soil should be slightly acidic for raspberries, pH 5.6 up to 6.5 or even a bit higher. For the first two years of an initial planting fertilizer requirements tend to be lower than for established plantings as bushes do not produce a full crop until the third year. Also, nitrogen requirements will be higher if you intend to irrigate, use a heavy mulch, or if your soils are quite sandy, and lower if you have clay soils or high levels of organic matter.

Anyhow, in the most general terms apply about .57 lb., .43 lb., and .71 lb. respectively of actual nitrogen, phosphorus and potassium per 1,000 sq. ft. of planting for summer bearing red/yellow varieties during the first year. For black and purple berries decrease the nitrogen by about 10%-20% and for everbearing with no summer crop increase the nitrogen by about 10%-20%, keeping N-P-K ratio to 4-3-5 as above in either case. For the second year increase the nitrogen by about 2/3 for summer reds, by about 50% for summer black/purple and about double for fall only everbearing, again keep to the 4-3-5 ratio. Nutrition wise this should get you through the first two years; see below for annual maintenance.

Any standard well balanced fertilizer applied to meet the N requirement will achieve these measures

with reasonable satisfaction. We like to use chicken manure which comes close to the 4-3-5 ratio, with some additional lambeinite (sul-po-mag) or green sand for added K. The lambeinite also helps to compensate for the alkaline nature of the manure. Stay away from fertilizers with chlorides (such as potassium chloride) as it is toxic to raspberries. And, if you are going to worry about micro nutrients (and you should) then you really must get a soil test to make sure you are not doing any harm. Boron, for example, is essential for proper raspberry growth and high yields but is toxic when added even at very low concentrations, i.e. more than 1-2 lb. per acre.

When planting a new field always use certified virus-free stock (a.k.a. virus indexed.) It is cheap enough, and considering that it can take several years to learn that what seemed to be a healthy transplant from the guy next door is actually doomed to a short life and low yield due to hidden diseases, don't risk wasting the time and expense. Planting should take place in the early spring after the risk of a severe freeze has passed. Make sure plants do not dry out while planting. It may be best to plant on a cloudy or rainy day. Be sure to irrigate just after planting. Lack of water is the main reason why new plants die. If a plant dies you can either wait for its neighbors to fill in its spot with suckers or early the next season you can transplant a sucker to help things along.

Plants should be placed about two feet apart in rows which are 8-12 feet center to center. Plan on rows being 12 (summer bearing) -18 (fall bearing) inches wide. Alternatively raspberries can be grown in hills rather than hedgerows, with a single plant dominating each hill. Blackberries prefer this method. In this case you will want more distance between each planting, say 2.5 – 3 feet, 5 feet for blackberries, and each hill will be about 18 inches wide. Wider spacing between rows is recommended for better air circulation and full exposure to sunlight and for the taller blackberries. If you wish, you can prepare the entire field with fertilizer at the rates given above before planting. Or you can fertilize only the bands where the rows will actually be placed. I'd recommend the second option. Not only are you saving on fertilizer but it also works well if you have established a good bed of non-creeping grass or similar permanent weed suppressing crop over the entire field. In fact I would highly recommend establishing a good grassy cover crop a year or two before planting raspberries. The grass provides pickers with something to walk on, it retains heat better than tilled soil thereby helping to avoid early frosts in the fall, and it is a great weed suppressant which is especially useful if you are growing organically (as we do) and will thus have to rely heavily on hand weeding. When planting in a grassy field just till narrow strips a bit wider than your intended row and place the plants and fertilizer in the strips. You will have to mow the grass regularly to assure it does not compete for sun and air with the raspberries. You will also have to assure that it does not encroach on the raspberries and compete for nutrition and water. Raspberries, with the major portion of their roots near the surface are not good competitors, especially with a creeping, aggressive grass. We've lost many a row due to planting the wrong grass and not attending to its encroachment in a timely manner. Alternatively you can simply plan on tilling between the rows (no more than 2-4 inches to avoid damaging raspberry roots) to keep weeds down and to till in a green manure if you plant one. But we have found that tilling takes more time than mowing and is harder on the equipment.

When planting you should also consider installing drip irrigation. If you are going to irrigate, drip irrigation is preferred for raspberries to overhead sprinklers which are not only less efficient, but also promote weed growth between rows and dampen the canes and berries which tends to promote disease and mold. The drip system may be a bit more expensive up front but is worth it in the long run if you are serious about your yields.

With plants in place apply a light mulch, about 2 inches thick or just enough to keep weeds down but not to inhibit new raspberry suckers from coming up, and a bit wider than the rows. We usually use a coarse sawdust but chips, pine needles, composted leaves, straw, etc. can be used. In subsequent years

once the raspberries are more established apply a heavier mulch up to 4 or (for summer varieties) even 6 inches thick. While some mulches such as sawdust and pine needles provide the added benefit of acidifying the soil (useful for those of us who use animal — and especially poultry — manure, which tends to be 'sweet') be aware that there is a significant tradeoff when using mulch, especially if you are growing fall bearing varieties. The mulch will keep the ground cooler in the spring and thus delay emergence of new canes and delay ripening. This can mean more of your crop is lost to frost in the fall. With everbearing raspberries you will always lose some portion of your crop to frost unless you live far south. But given that some studies show you can consistently lose up to 80% of your fall crop here in the northeast, you need to be very considerate when adding any possible delays to ripening.

Use of row covers in the early spring should help to bring your fall crop in earlier and to counteract the delaying effects of mulch, but it is expensive to use. In terms of materials you need about 5000 linear feet for your average acre of raspberries, (more if your rows are spaced 8 feet or less center to center, less if spacing is 12 feet or more) plus equipment to apply it, storage space in the off season, and labor. Thus commercial growers need to make some careful calculations here. But for casual growers I'd recommend the use of row covers because they can be applied again over the bushes for frost protection in the fall and there is nothing like amazing your friends with fresh raspberries in October or even November, let alone after a frost!

You can expect a partial crop the year after planting, with a full crop in the third year. Normally you will have to replant raspberries every 10-12 years and you should consider leaving your plots fallow for 2-3 years. We have in the past allowed fallow areas to be thoroughly dried out during this time by means of tilling when there is little rainfall. This is primarily to combat virus-carrying nematodes which we have had problems with. We have also cover cropped with rape, which is supposed to be toxic to nematodes, but I think depriving them of their much-loved moist soil has been more effective. Unfortunately, it also tends to kill the good microorganisms.

Annual Care

For those who wish to get the most out of their raspberries, adequate food and water are the most important elements of periodic care. Given time and motivation you will also want to consider proper pruning and trellising for the variety you grow. If you are looking to make a livelihood out of growing raspberries the details of yield maximization are almost endless.

In the spring you should fertilize as early as possible once the ground has thawed. Periodic soil tests are essential, otherwise you may end up doing more harm than good over the long term. If you are a risk seeker and like to 'fly by night' or just have too small a plot to justify the cost of a soil test, then there are a couple of rules of thumb. If your bushes are dark, dark green, very leafy and suckering a lot, then you probably have been giving too much nitrogen. If they are stunted and yellowing they are nitrogen-deprived. (Stunting, assuming you have tried to remedy it with additional care and nutrition, can also be a sign of disease.) Nitrogen deficiency will arise more easily if you are using a mulch, which tends to bind nitrogen during the decay process, if you are irrigating frequently, or if you are allowing weeds or your grassy ground cover to encroach on the rows.

Raspberries also require higher levels of potassium, which is essential to cell formation of the cane and berry. It may not be surprising that we have found anecdotally that canes tend to develop better and berries tend to be less crumbly when adequate or additional K is present. Besides lambeinite and greensand we use kelp to provide K. As a rough guide, and assuming your soil has an adequate level of basic nutrition with elements present in the preferred proportions, I would suggest an annual supplement of about 1.4 - 1.05 - 1.75 lb. of actual N - P - K per 1000 sq. ft. of planting for summer bearing reds. For summer bearing blacks and purple

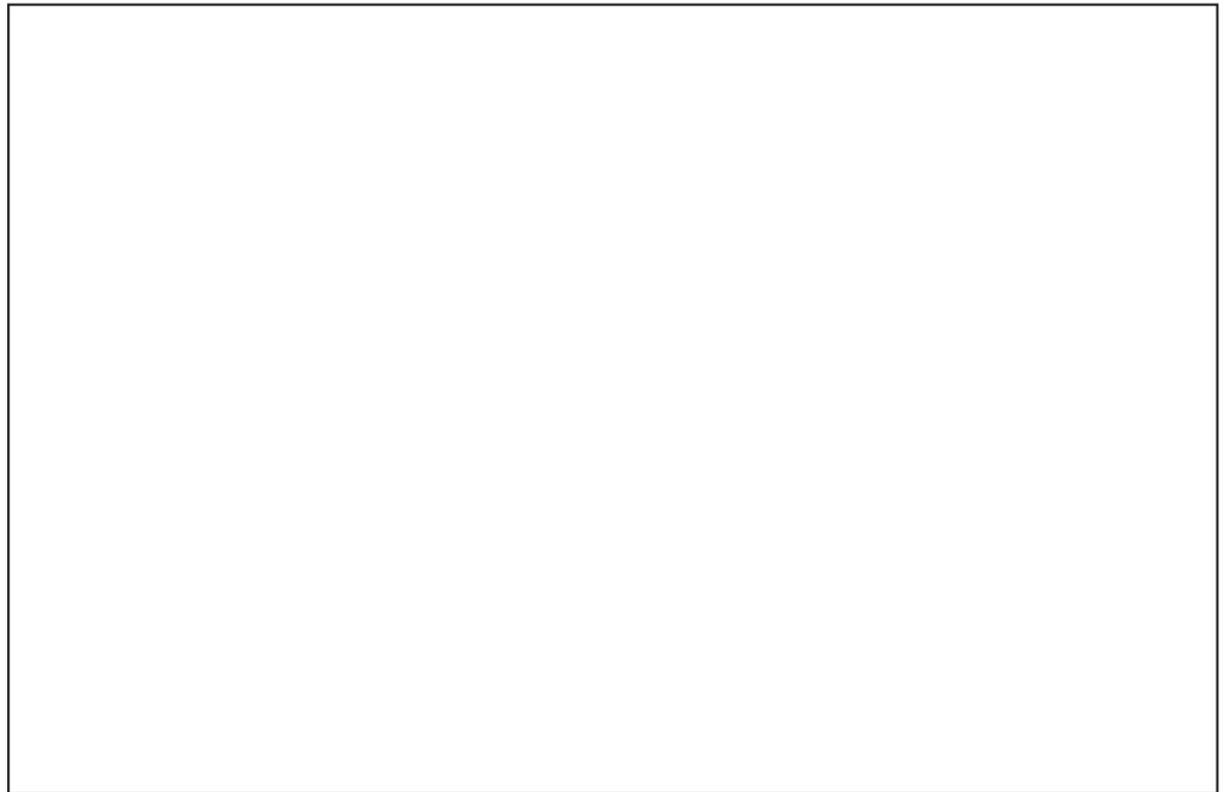


photo courtesy Tom Johnson

Frost Protection: Ice forms on berries and bushes to keep them warm.

reduce the N by about 10-20% and for fall only reds increase N by about 50%, and keep the 4-3-5 ratio. Again, nitrogen requirements can be a lot higher if you intend to irrigate (add 25%), use a heavy mulch, or if your soils are quite sandy (add 10-20%), lower if you have clay soils (subtract 10-20%) or high levels of organic matter. You should divide the application of your fertilizer into two unequal parts, apply about 2/3 as early in the spring as possible and 1/3 a few weeks before blossoms break. The second application also offers a chance to amend your fertilization program if your canes look as though they need it.

Early spring is also the time to mulch and prune. I've already said quite a bit about mulching so I need only mention here that you should keep your mulch about 4" thick, maybe even a bit more for summer bearing and a bit less for fall only crops — which have to push their way through the mulch without the help of canes which have overwintered above the mulch line. If you have wet or clay soils keep mulch on the thin side to avoid root rots which like such moist conditions.

Along with nutrition and water, proper pruning will increase your yields significantly. The different varieties of raspberries require different pruning regimes. However be sure to remove all cut canes from the field and destroy them. This is a lot of work but it will greatly reduce the spread of disease. Also be sure to keep your rows narrowed to the prescribed width. Raspberries sucker prolifically and if you do not keep them in their spot you will have ever larger rows over time. This will actually decrease yields as competition among the canes increases and inadequate air circulation and sunlight promote disease.

Fall crop only raspberries are perhaps the simplest of all to prune. This is why they are attractive to many commercial growers and why many people are willing to sacrifice losses to fall frosts. To prune fall only berries simply cut all canes as low as possible to the ground after they yield. This is usually done with a heavy rotary or sickle bar mower. You can do it in the fall once they are dormant or early in the spring before they break dormancy. Mechanical pruning seems brutal but it is a huge savings in labor over selective hand pruning. If you choose not to mechanically prune your everbearing raspberries you will get two (summer and fall) crops a year from them but you will have to hand prune by completely removing canes which fruited in the summer and also the spent tops of canes which fruited in the fall. Additionally hand prune any winter killed or weak canes in the spring. While two crops a year seems attractive and maybe worth the extra labor, just remember that you will get more raspberries overall but you will not double your yield. The trade off is between one larger fall crop or two smaller summer and fall crops.

Summer bearing reds must be hand pruned, there's no mechanical alternative. Each spring remove any

tips which have been winter killed and thin by removing the weaker canes, leaving 4-5 canes per linear foot of row (or in the hill system 10-12 canes per hill.) Immediately after the summer harvest cut all canes which have fruited down to the ground.

For black and purple raspberries, thin canes in the spring, cut side branches back to 8-12 buds (usually about 8-12 inches in length) and prune off the top four inches of new canes when they reach about three feet in height. Blackberries should be tipped when they reach four feet. This encourages these canes to form side branches, or laterals, which will bear fruit the following year. Remove all canes that fruited immediately following harvest in the summer.

As summer arrives in full swing growers who can irrigate should start paying attention to moisture levels in the soil. Raspberries will benefit from 1 to 1.5 inches of rain per week. For maximum yields and good berry size this is especially important from bloom right through fruiting. As a rough rule of thumb irrigation should be turned on when soil moisture content in the top 24 inches reaches about 50%. Squeeze a fist full of dirt taken from about 10" deep and if the dirt will not stick together in a ball, it's time to start irrigating. Optimally raspberries like moisture levels of around 80%, again especially when budding and fruiting. This is an additional reason to use a drip system if irrigating raspberries. If during harvest there is little rainfall it is best not to dampen the ripening berries with overhead sprinklers. This will promote mold. Indeed, provided you have drip irrigation it is best if it doesn't rain and the bushes and berries remain dry through harvest.

Weeding

I have no real secrets regarding weeding. Whatever is not suppressed by the inter-row grass or cover crop and the mulching of the rows themselves simply needs to be hand pulled. It is time consuming but, especially when it comes to grasses, if you do not pull the weeds they will not only compete with your bushes — they will eventually overwhelm them. Raspberries are not good competitors. Trellising is another important topic which should be considered by both casual and commercial growers. Trellising can be expensive but it will keep heavy berry laden canes from toppling onto the ground, it will also facilitate picking, and it encourages better air circulation and penetration of sunlight. The type of trellising I'd recommend depends on how you are growing your berries and what variety you're growing. If you are growing using the hill system then place a single pole in the middle of each hill at the time of planting and as canes need support they can be tied to the pole individually or with one large loop around the bunch.

I'd recommend trellising hedgerows of raspberries using a simple cross arm system. Place a sturdy post into the ground at either end of your row and at

intervals down the row as needed or about every 25 feet. For fall bearing attach a two foot cross arm perpendicular to each post at a height of about three feet. For summer bearing attach two cross arms, the higher arm should be about three feet long and placed about five feet off the ground and the lower cross arm about 18 inches wide and about 2 feet off the ground. Run wire along the side of the row, attaching them to the ends of the cross arms. Tension them either with turnbuckles or by simply pulling taught. If you are growing fall bearing and have a bit of luck you may not need trellising at all. Some fall varieties tend to be quite erect. In my experience the need for trellising fall berries varies from row to row and year to year. Also, if you mechanically prune fall berries you will have to remove at least in part the trellising system every year to allow access for your mowers. For this reason fall berries are often trellised with a simpler (one cross arm) system and twine rather than wire running from arm to arm.

Harvest

There is a simple rule for harvesting: pick everything and pick frequently. One of the biggest problems you are likely to have when harvesting, and one of the major and most common overall disease problems for growers, is moldy berries (*Botrytis fruit rot*.) Gray mold forms very quickly on ripening berries (and even sometimes on buds) when conditions are right. Rainy damp conditions which persist for more than a few hours can trigger a mold outbreak. Even a series of two or three cloudy humid days will promote substantial mold. And if slight dampness in the field does not cause molding of berries on the bush it will dramatically reduce the shelf life of picked berries. A slight shower followed by a slow, cloudy drying off in the morning can mean the berries picked that day will mold in the cooler overnight. Spraying against mold is expensive, usually prohibited during harvest, impractical while rain continually washes the spray away, and finally, prohibited if you are growing organically. So, to combat mold pickers should be instructed to pick all ripe or near ripe berries (green berries are rarely affected by mold.) Depending on amounts of sunshine, the field should be checked at least every other day for ripe berries. Moldy berries should also be picked and taken out of the field to reduce the spread of the mold. Some growers even pay their pickers more for the moldy berries they pick than for the good berries.

If the quality of your berries is high enough you may not need to double check harvested berries. High quality berries have ripened fully on the bush (the flavor of raspberries does not improve once they are picked,) they have ripened with plenty of sun which determines their sweetness, they are not over ripe which would severely limit shelf life, and they have ripened in dry airy conditions so mold is not a factor. In this case pickers can pick directly into retail containers held in a tray and tied to the waist or hung around the neck. If double checking is necessary, be as gentle as possible with the berries as they damage very easily, a problem which promotes mold growth in the container. Berries should be chilled immediately after picking. Keep them in a cooler as near as possible to freezing. About 31–32 degrees F is ideal as this inhibits mold growth.

It is very, very hard to know what a good total yield is. This will vary dramatically between varieties, especially between the blacks and reds, and seasonal conditions. In some studies yields during the same season, for the same variety, but for plots in different counties varied by over 300%! So how do you know if you are doing O.K.? Since acreage based yield figures are all over the place, depend on row spacing and other variables, the best rule of thumb I have for red raspberries is that for every linear foot of row you should get 1–1.5 pints per season. This is an average over the long term. Again some varieties may yield more some less.

If you are harvesting fall bearing raspberries you may wish to consider developing a frost protection program. Significant portions of your fall crop will be lost every year to frost if you live in the northeast. For anything but the smallest patches, row covers are impractical. They require a lot of effort to put them on fully grown bushes, they tend to blow

off at night with the slightest breeze, and need to be taken off each day to allow picking and avoid cooking ripe berries while still on the bush. We use overhead sprinklers to protect our crop, and have consistent success protecting down to about 28F.

Creating a frost protection program is a difficult decision to make as frost protection is very expensive and very difficult to do properly. The expense involves sufficient equipment and water resources: you'll need several good thermometers with alarms to monitor temperature in different parts of the fields, numerous overhead sprinklers sufficient to cover your fields (about 20-25 sprinklers per acre,) a pump sufficiently strong to deliver water to all sprinklers simultaneously (since many growers irrigate their fields in rotation or zone by zone, something that can't be done for frost protection, a second more powerful pump may be required just for frost protection,) sufficient piping to supply water, and finally a water resource which can supply between 30,000 and 65,000 gallons of water per acre per night. Frost protection is also labor intensive as someone has to monitor temperature trends at night, turn the system on and check to make sure sprinklers are functioning and the system may have to be erected and then removed every year so as to allow equipment into the field. And finally the effort may be in vain. If temperatures fall too low you're simply out of luck if you can't supply enough water. This is especially disheartening after three or four nights of successful protection are wasted when temperatures finally plunge.

The trick of successful frost protection is to know when to turn the system on. Turning the system on at the wrong time is not only wasteful of water, but frequent irrigation in these quantities will cause serious leaching of nutrients, will forestall hardening off of canes - making them more susceptible to winter injury, and each time you irrigate picking will have to be suspended for a day or two (which is a very long time in the late fall when each day means shorter days, less sunshine and colder nights) while canes de-thaw and dry off. Additionally under the wrong circumstances, when there is a breeze of more than about 4-5 mph, irrigation will cause more frost damage than if it had not been used. This is because frost protection results from water freezing as it is applied to the crop, with the heat from the water being released into the berry or just under a layer of ice which forms around the berry. Specifically, each gram of water will release 80 calories of heat as it freezes. But if there is a breeze then the water will also evaporate before it freezes. When a gram of water evaporates it will consume heat with a loss to the berry of 600 calories! Water therefore must freeze at many, many times the rate it is evaporating in order for there to be a net gain of heat in the field. The slightest breeze makes this almost impossible. And once you start irrigating against frost you can't stop — the supply of water, and thus heat, must be continuous. So if a breeze picks up for just a while on a night which otherwise was not too cold — the breeze might have kept the frost from settling anyhow - you'll have ruined your crop at the flick of a switch.

Now, if you still want to brave the odds, you'll need to apply about 39 gallons of water per minute continually and uniformly per acre to protect down to 28F, or 60 gpm/acre for protection down to 24F. Sprinkler heads have to rotate frequently to keep the supply of water as constant as possible. The system will normally run for 10-12 or even 14 hours at a time. It should be turned on no later than when the air temperature reaches 34F, and turned off no earlier than when temperatures rise and ice melts off berries. This means you'll have to get good at predicting whether or not temperatures are heading below 30.4F (the point at which ripe berries freeze) by the coldest early hours of the morning. Know your micro climates and be prepared to stay up long into the night staring at thermometers.

Problems

If you practice proper sanitation - the importance of removing and destroying all prunings and roguing all canes which appear diseased, infested or sickly — if your fertilization and (preferably drip) irrigation program is properly calibrated, if you promote good airflow and penetration of sunlight by thinning and trellising, and if you have a little luck, diseases and

pests should not be much of a problem. In fact, most everyone who complains to me about their failing raspberries has usually overlooked the simple things such as proper watering in a drought or proper nutrition. So firstly, if you suspect you have a problem check the obvious things. If this doesn't work or if there is an obvious problem — like bunches of healthy canes suddenly dying off - I would strongly advise anyone who has anything of significance invested in their raspberry patch to seek a professional diagnosis. Self-diagnosis will likely only make things worse as you lose vital time and waste resources trying to correct the wrong thing. If you are a small grower with little riding on your patch and with sufficient space, you may consider abandoning raspberries which are not doing well, destroy them, let the land go fallow, and start again in another location. This is often simpler than trying to resurrect a half dead patch and is a practice used by larger growers too.

Marketing

Growing raspberries well can be tricky, growing raspberries for profit is almost silly. There has been stiff competition, even for organic berries, from west coast growers for several years now, where growing conditions tend to be more favorable than here in the northeast and land more plentiful. More recently berries imported from Chile and South America (also organic) have driven many of the west coast growers to the wall. And even if you do everything right, the cost of picking berries alone is likely to make you uncompetitive. (Unless you have 25+ acres under cultivation mechanical pickers are uneconomical.)

This is why our major market has always been pick-your-own. We have always run a small wholesale operation, selling to nearby farm stands, restaurants, and for more than ten years Bread & Circus has been a loyal customer. But packaging and shipping costs, quality constraints which cause us to segregate 1/4 - 1/3 of harvested berries (berries which PYO pickers accept) to achieve a reasonable shelf life and the costs of pickers have always hindered the expansion of this part of the business. Nonetheless, we try, and in doing so we find that daily deliveries, with tasty field ripened berries which are no more than 12-18 hrs old and often only a few hours old when they hit the shelf, gives us a product which customers now ask for by name.

The PYO part of the business is also really only possible because our farm is near the city where we get enough people driving by on weekend outings to periodically pick the field clean. By and large for this crowd the raspberries are incidental to their adventure. They are really looking for a bit of peace and quiet and something to do in the sun and fresh air with the kids. The berries are, in a way, souvenirs. I do have to mention that we do have a number of long time loyal PYO customers who come to pick every week every season. Unfortunately these hard core types are just not common enough to keep things going. When we first started growing and selling berries in the early 1980's we had a lot of PYO customers who would pick large quantities for jellies, etc. But that seems to be a dying tradition with most customers taking only a bit home to eat fresh over the following few days.

Our Favorite Recipe

What do we do with all those raspberries which aren't salable? Many go to waste but we put up as much as we can for family use in the winter months. We have found that the easiest way to do this is to slightly cook the berries first. Place a 1" layer of berries into a frying pan and mash them into a sauce. Bring the sauce to a boil for about one minute. Cool and freeze the sauce without sugar. Cooking them first reduces their volume but more importantly it preserves the flavor of raspberries when freezing. You can add sugar to suit your purposes when de-thawed. If you wish to freeze them whole, place them individually on a cookie sheet and, once frozen, place them together in a bag. When they de-thaw they will hold their shape to a certain extent.

*Good luck and have fun. Feel free to contact me with any questions or comments at
Silferleaf@cs.com*

Currant and Gooseberry Production

by Steven A. MacKay

Introduction

Ribes is the genus name of currants, gooseberries, and crosses of the two. Currants and gooseberries were once grown extensively on a commercial basis in New York. At the beginning of the century, the largest collection of currants and gooseberries in the country was in Geneva, NY, and the state ranked number one in red currant production in the 1930's. There are over 150 species of gooseberries in the world, and hundreds of currants and selected and hybridized cultivars. One British nurseryman told me in 1999 that he refers to a variety publication from earlier this century that lists over 1,500 varieties of gooseberries alone, and some researchers report that about 4,000 have been reported over the years (possibly a number are duplicates). Many cultivars have been lost, or are very rare, and there is an international effort to save as many of these as possible.

Even though currants and gooseberries are in the same family, they appear quite different. The crosses may look like either parent, some like currants and others like gooseberries. The variety in shapes, colors, textures, and flavors make Ribes a good candidate for development in gourmet and specialty markets. Fresh fruit can decorate plates, salads, and desserts. Cooked or processed fruit makes delicious sauces, pastry, wine, vinegar, and preserves. The juices have great flavor and health benefits that make them appropriate for popularizing as common breakfast or snack drinks. A comprehensive cookbook is presently being compiled for Ribes, and recipes can be found in old cookbooks, cooking magazines, and a cookbook distributed by the International Ribes Association.

Description

Gooseberries grow on a bush approximately 3 to 6 feet tall and about 3 to 4 feet wide. Most gooseberries have spines or thorns at each of the leaf nodes. The spines may be single, double, or triple, and they may be large, (10 to 15 mm) to small (1 to 5 mm). The habit of the plant may vary from low spreading to upright and tall. Berry color may vary from green to yellow/green, to yellow; or white, to pink, to red, to dark red or purple. The size of the berries varies from about 1.5 grams to more than 12 grams. The average is about 3 to 6 grams. The berries are usually borne in ones, twos, or threes, and hang under the branches. The taste ranges from very tart to very sweet. Gooseberries ripen starting about mid-June and the latest are ripe about mid-August. The seasons may vary a week or more either way, depending on the weather and your location.

Gooseberries are generally classified as dessert berries — those that are used raw — and culinary, or 'cookers', that are used primarily for processing or cooking. There are some that fall into both categories depending on the stage of ripeness when picked. Generally the dessert berries are larger and used when completely ripe. The culinary berries are generally smaller, very tart and used before they are fully ripe. Some growers use some of the dessert type berries while still unripe as cookers and as a means of thinning and using the crop. The remaining berries become larger and are used as they ripen.

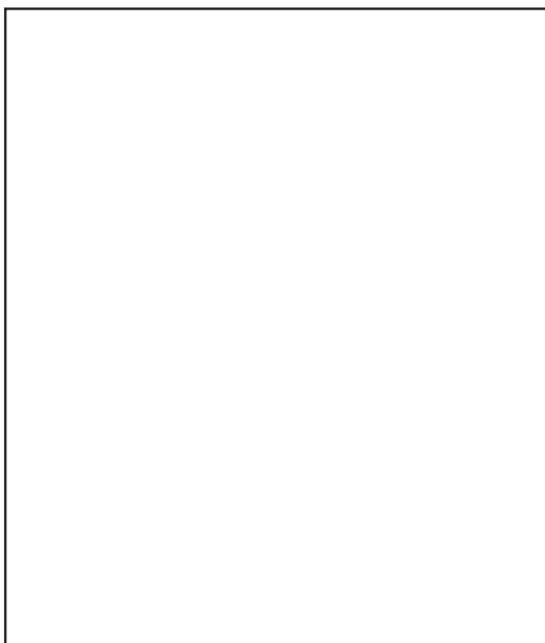


photo courtesy Steven MacKay

Figure 1: 'Speedwell' is a red, large fruited old English gooseberry that has excellent flavor. Germplasm is being imported for introduction to the US.

Some of the cultivars used as dessert berries in North America are: Achilles, Captivator, Early Sulphur, Hoening's Earliest, Invicta, May Duke, Hinnomaki Red, Hinnomaki Yellow, and Whinham's Industry.

Some of the culinary cultivars are: Careless (dual use), Oregon Champion, Pixwell, Poorman, and Red Jacket.

There are many other cultivars available in varying supplies that could be used in plantings for berries for sale at Farmer's Markets or Roadside Markets.

Currants grow on a bush that is generally larger than a gooseberry bush with thicker wood. There are no thorns or spines, and bushes can be spreading or upright. There are two major different types of currants, black currants (*R. nigrum*) and red currants (*R. rubrum*). The red currants also include the pink, white, and yellow currants, which are color phases of the red.

Almost all black currants are processed into juice or other products such as syrup, jam, jelly, tea, yogurt, pie fillings, candy, nutraceuticals, and wine. There has been an increase in consumption of black currant flavored beverages, and fresh consumption is growing, although demand remains relatively low because the berries have a strong pungent flavor. The flavor is great for those who are accustomed to it, either fresh, or for cooking.

Some available black currant cultivars that may be used:
Black Currants: Ben Sarek, Ben Lomond, Ben Alder, Ben Tirran, Titania, Consort.

Red currants are used both fresh and processed. They grow in bunches similar to grapes called strigs and may have from 10 to 35 berries. Fruits are often made into juice which can be consumed as a beverage, or used for preserves or other products. Currant jelly is an ingredient in many recipes to produce a tart flavor or to glaze. Red currants are used in sauces for meats, poultry or fish as well as a dessert topping on ice cream, cake, puddings, and creams.

Some currant cultivars that may be used:
Red Currants: Red Lake, Redstart, Rovada, and Jonker van Tets.
White Currants: Primus, Blanka, and Pink Champagne.

There are other hybrids and species of Ribes that don't fit into the above classifications. One of these is Crandall. It is often grouped with black currants, but is actually another species, *R. odoratum*, and looks like a black currant, but has a milder flavor and is often eaten as fresh, raw fruit. It is quite large, and late for a black currant. Josta berries, and selections called ORUS are actually hybrids of gooseberry and black currant.

Deciding Whether to Grow Ribes

Ribes crops definitely have a place in a grower's diversification formula. Local consumption by gourmet enthusiasts, small scale processors, and ethnic markets should be one's first target. Know what your market is before planting. Remember that larger scale production is more risky. One should be conscious of any regulations that restrict Ribes production in the local area. Consider proximity to white pines, and the information about white pine blister rust. Labor or proximity to a harvester is also a critical factor.

Considerations in Choosing a Variety

As with other crops, no ideal varieties of Ribes crops have been developed. Certain varieties are better suited to certain geographical locations, fruit quality on a given variety might be excellent, while lack of disease resistance or poor plant growth habit could be a flaw. When you consider varieties for commercial production, consider the following factors: availability of plant material, ease of propagation, plant patents, local laws, market audience final use of fruit, yield, ease of picking (length of strig), fruit color, size and quality, plant thorns, growth habit/size, disease resistance.

Culture

Spacing - Planting rates for gooseberries and currants that are being used in PYO operations should be about 3-4 feet in the row and in rows about 6-8 feet apart, depending on your training system and equipment. It is very important to know about the growth habit of your selected varieties and



photo courtesy Steven MacKay

Figure 2: 'Rovada' is common and available in the US. It has nice long, uniform, easy to pick strigs.



photo courtesy Steven MacKay

Figure 3: 'Farleigh' is a newer introduction of black currant that is being tested in Canada. It has large fruit and good fresh eating qualities.

the space requirements of equipment, especially if you plan to mechanically harvest. Field spacing can be planned according to the defined parameters. For example, the black currant Ben Lomond would be planted a little closer in row, while Titania could be spaced wider, due to size differences of plants. Mechanically harvested plants are spaced closer in the row, at about 18", with alleys spaced wider so that equipment can pass. One grower in England advocates planting at 12" in-row spacing, insisting that a tight hedgerow is critical for success in mechanical harvesting.

Mechanical harvesting is also possible for gooseberries (and red currants). Gooseberries that are planted for processing are planted closer in row, and are 'stripped' of berries while still fairly green (un-ripe) and hard. Gooseberries picked for fresh market are often planted about 3.5 feet in the row unless trained to vertical cordons. Fresh market berries are generally hand-picked.

Soil and Water - Ribes are best grown in good soil with at least 3-5% organic matter content and a pH of about 6.5, (however they can tolerate lower readings). High nitrogen should be avoided as this produces too much vegetative growth and may predispose plants to more mildew problems. A British rule of thumb is to add 50 kg per hectare each of N and K (actual) for crops producing 10 metric tons per hectare. (A 10 m t/h crop will extract the following kg of actual nutrient per hectare: N 20, P 5, K 44, Ca 8, Mg 3, S 4.) Ribes need about 0.6-1 inch of water per week during the fruiting season. Drip irrigation and mulching with straw, chips, or plastic is beneficial.

Pruning and Training - The best fruit is borne on 2 and 3 year old wood, and wood should be pruned out after 4 years. Many training systems have been developed over the years, and continue to be developed. One alternative for black currant is to prune plants to the ground every other year, and to harvest alternate years. The crop is essentially grown as a "field crop" with as little as 15 hours of labor per year per acre. The Dutch have developed a mechanical pruning system that removes 1/3 of the bush per year on rotation. Systems will vary by use of fruit, harvest method, and other factors.

Vertical cordons are used to produce red currants and gooseberries in Holland. The method has plants 18 inches apart and trained to stakes. The current year's fruiting wood is removed from the trunk after bearing, and current year's wood is left for next year's crop.

Pest Control - The lack of registered chemicals has been a problem from time to time for Ribes producers.

1. Mildew tends to be the major disease problem, but trials are showing that it might be controlled by stilet oil. Fruits are blemished and deformed by the disease. Shoot tips are deformed. The disease was once the limiting factor preventing success with European cultivars in North America.
2. Leaf spot has been a serious a problem on all Ribes crops. Leaf yellowing and premature defoliation weakens the plant and affects yield. Copper sprays and weed control help to control the disease. Where the disease is serious, it may be necessary to use Nova to eradicate the disease and start "clean".
3. White pine blister rust has been the cause of Ribes restrictions in the Northeast which are being reconsidered for modification. Immune cultivars are advisable especially near white pine stands. Gooseberry and red currant are resistant to the disease.

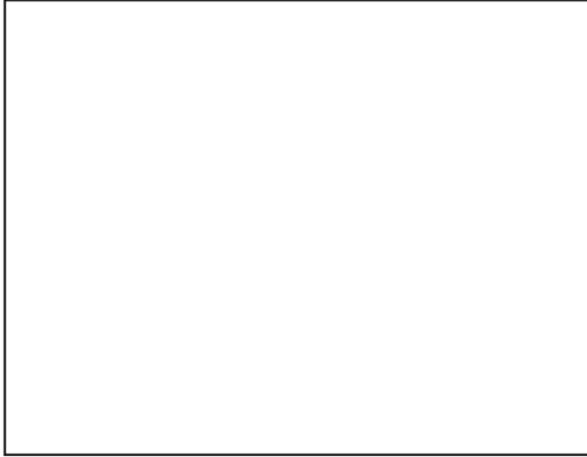


photo courtesy Steven MacKay

Reversion Virus of Black Currant

4. The British are controlling cane borers with pheromone mating disruption. They are sometimes a problem in the Northeast.
5. Aphids sometimes cause a red deformation on red currant leaves.
6. Reversion virus is common in black currant in Europe, but not found in the US. It can reduce the useful life of a black currant planting to as few as eight years. Quarantine has kept the disease out so far. The disease is spread by big bud mites. Recommendations for pest control can be found in the Cornell Small Fruit Crop Pest Management Recommendations or other local extension publications.

Harvest/Postharvest

As with all berries, harvest and post harvest care of fruit can extend the shelf life of fruit. Some varieties hang longer on the plant than others. Generally speaking, red and black currants will sweeten as they hang, and fresh eating quality improves. Most people have a tendency to pick these fruits on the green side. Gooseberries will ripen off the plant. They ripen slowly in cold storage. Gooseberries lose their distinct veination as they ripen and become overripe. They develop a stronger, mustier flavor, lose acid, and can become mealy.

Hand Harvesting - At harvest, one should avoid pricking gooseberries on thorns, and leave the blossom and stem end of the berry intact. Avoid bruising fruit. Red currants are left on strips, and should be picked carefully to avoid smashing berries closest to the plant. Cultivars with long strigs, not heavily clustered are easier to hand pick. Black currants would follow the same generalizations as the red currants. Often harvest of black currants is best started as the first ripe berries in the top of the plant are beginning to fall off. In all Ribes, free moisture should be avoided, and berries should be shaded in the field and chilled as rapidly as possible. Fruit of all three types can be held at 36-40 F for two to three weeks. I have held fruit at 33F for as long as six weeks.

Machine Harvest - Proper adjustment of shakers is critical so that a thorough job of harvesting is done and the bushes are not badly beaten. Some machines are gentle enough to harvest gooseberry and black currant fruit suitable for fresh market. Red currants are more desirable intact on strigs for fresh market, and this is not possible with machine.

Useful Resources

The International Ribes Association publishes a newsletter quarterly which includes articles about the culture, processing, and marketing of these fruits. Regional reports put you in touch with the industry around the world. A web site is being developed, and a list serve puts you in contact with all membership. Membership information is available by e-mail at nickless@pacific.net. or by writing TIRA, PO Box 428, Boonville, CA 95415.

To subscribe to the list serve, send an e-mail to listproc@cornell.edu with nothing but this message in the body: subscribe RIBES-TIRA-L first name last name

Web addresses (random order):

- Gooseberries <http://user.online.be/~tdn12074/inhoud.html>
- Ribes Products and Marketing <http://www.micostaent.com>
- Gooseberry Index <http://fruitsandnuts.ucdavis.edu/goose.html>

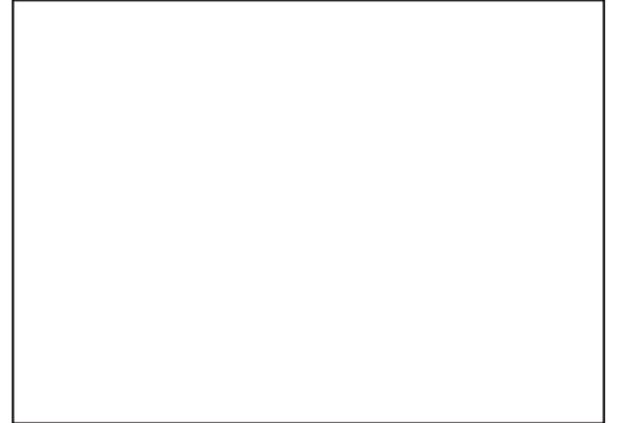


photo courtesy Steven MacKay

Leaf Spot of Black Currant

- Gooseberry info <http://www.hort.purdue.edu/newcrop/crops/Gooseberry.html>
- Jahn's Prairy Gooseberry <http://www.ars-grin.gov/ars>
- Gooseberry fruit facts: <http://www.crfg.org/pbs/ffigooseberry.html>
- Currants and gooseberries in Alberta <http://www.agric.gov.ab.ca/agdex/200/3602001.html>
- Currant and gooseberry <http://www.msue.msu.edu/msue/imp/mod03/01701527.html>
- Gooseberry and Currant Production <http://www.osu.orst.edu/dept/infonet/icurrant.html>
- General gooseberry information (NCRG) <http://www.ars-grin.gov/ars/PacWest/Corvallis/ncgr/cool/top.ribes.html>
- NCGR-Corvallis: Jahns Prairie Gooseberry <http://www.ars-grin.gov/ars/PacWest/Corvallis/ncgr/cool/rib.jahns.html>
- Bibliography of gooseberry <http://www.mssm.edu/molbio/genet/s3gsby.htm>
- Black Currant, Red Currant, Gooseberry - Nutrition & Recipes from MBC <http://www.berrycrops.net/pages/nutri.htm>
- McGinnis site (black currants) <http://www.berrycrops.net/>
- Suppliers in North America <http://www.gov.on.ca/OMAFRA/english/crops/resource/currant.htm>
- Gooseberry & Currant Diseases - Powdery Mildew <http://www.orst.edu/dept/infonet/handbook/dgpowmil.htm>
- Currant & Gooseberry Pests - Currant Fruit Fly <http://osu.orst.edu/dept/infonet/handbook/cgfrfly.htm>
- Hurst's Sweet Gooseberry Nutrition & Information Page <http://www.hursts-berry.com/sgpage.html>
- Tart Gooseberry Nutrition and Information <http://www.hursts-berry.com/tgnutri.html>
- Grossulariaceae — the gooseberry and currant family (25/350; cosmopolitan) http://bhort.bh.cornell.edu/hort243/rosidae_I/sld006.htm
- Gooseberry <http://botanical.com/botanical/mgmh/g/gooseb29.html>
- Gooseberry - Encarta Online Concise <http://encarta.msn.com/index/conciseindex/30/0301E000.htm>
- Gooseberry Family <http://district.gresham.k12.or.us/ghs/nature/basin/5petal/gooseber/currant.htm>
- Currant & Gooseberry Pests - Gooseberry Cambium Miner <http://osu.orst.edu/dept/infonet/handbook/cgminer.htm>
- Ribes hirtellum Michx.: Northern Gooseberry <http://www.bbg.org/nymf/encyclopedia/grs/rib0040.htm>
- Gooseberry & Currant Diseases - Blister Rust <http://www.orst.edu/dept/infonet/handbook/dgblrust.htm>
- Gooseberry & Currant Diseases - Armillaria Root Rot <http://www.orst.edu/dept/infonet/handbook/dgarmil.htm>
- NCGR-Corvallis: Ribes Cultivars <http://sun.ars-grin.gov/ars/PacWest/Corvallis/ncgr/ribes/ribcults.html>

Steven A. McKay, Extension Educator
Cornell Cooperative Extension of Columbia County
479 Route 66, Hudson, NY 12534
(518) 828-3346, sam44@cornell.edu

Manuals Projects Getting Started

The NOFA Interstate Council will create, over the next two-and-a-half years, a major series of manuals on organic agricultural practices. Funds for the \$52,000 project come from a \$33,000 SARE grant and from NOFA/Mass and the Interstate Council.

The concept is ready, proven, cutting-edge information for the serious, commercially-oriented grower in small, easy-to-handle books of 80 pages or more. Two new manuals will kick off the series, one on Whole-Farm Planning and the other on the Plant-Positive Approach to Crop Health (as distinguished from the pest- and disease-focused approach). They will join two already in print: Weed Management and Soil Fertility Management, both written by Steve Gilman and published by NOFA/Mass and currently being republished by Chelsea Green.

Thereafter, manuals will be produced every six months in pairs.

- Crop Rotation and Cover Crops as well as Composting, Vermicompost and Compost Tea, first draft written by August 2003
- Marketing and Community Relations as well as Poultry, first draft by February 2004
- Dairy Animals as well as Seed Production and Seed Saving, first draft by August 2004

National and international distribution of the manuals will be through Chelsea Green Publishing Company and Sustainable Agriculture Network (SAN) as well as NOFA.

This is a major undertaking of the Interstate Council that will involve the participation of all seven state chapter. Coordinator and editor of the project is Jonathan von Ranson, who is president of NOFA/Mass and editor of the NOFA/Mass newsletter.

Members of the project committee are Bill Duesing (CT), Steve Gilman (NY), Elizabeth Henderson (NY), Tom Johnson (MA), Elizabeth Obelenus (NH), Julie Rawson (MA), and Jonathan. Funds earned through the sale of the books will go to repay the investment of NOFA IC and NOFA/Mass. If successful, the project may be extended and cover other topics.

Please urge qualified people (including yourself, if applicable!) to apply for the writing and drawing jobs. See accompanying call.

Write for NOFA and Get Paid

Writer/farmers wanted to write on organic practices. Topics this first round: 1) whole-farm planning, 2) keeping crops healthy. Next topics 1) crop rotation & cover crops, 2) composting. Must have

- strong organic farming background
- writing experience and research skills
- success meeting deadlines

First draft of 80-page manuscript due late February of coming winter, final draft due mid-May. Next round first draft due late August. Pay vicinity of \$1,500 per manual.

Graphic artists also sought. Pay around \$300 per manual.

The deadline for applications is Sept. 15. We will hire by Oct. 1.

Send a resume, samples, an outline of your ideas, and references to:

Jonathan von Ranson, Coordinator
NOFA Manuals Project
6 Lockes Village Rd.
Wendell MA 01379
e-mail: commonfarm@crocker.com
telephone 978 544-3758

Wonderful Wild Blueberries

by Dave Gott

Living and farming at the Benson Place in Heath, MA, where we have tended 40 acres of unsprayed low bush wild blueberries since 1999, is both an exciting and painful experience for me.

At age 53 I have been involved in agricultural and food production for important parts of the past 40 years but have only been a co-proprietor of this full working farm since 1999. This new level of commitment brings to fruition many of the realities of farm ownership that I have until now experienced at some distance. I also work with farm families as a counselor, and now I see many of their rewards and hardship mirrored by my own.

My joys include the fascinating opportunity to work with a food crop that is delicious, beautiful, and widely appreciated here in Massachusetts where the wild blueberry is only grown commercially on a handful of farms.

The natural surroundings of our particular location are also a source of much inspiration. We live at 1700' elevation with great views of the Deerfield and Connecticut River Valleys to the south and Mt. Greylock to the west. Sunsets, soaring hawks, and huge snowdrifts can really lift my spirits. I have been sobered a bit about the gloriously high winds ever since a tree was blown over onto our roof.

The history of the Benson Place is much of why my partner Ted Watt and I chose to move here. Around 1813 my great-great-grandparents, Squire and Hannah Benson, brought their young children here to visit Squire's brother. They soon settled down as part of the land clearing and settling boom of that new century which opened up most of New England's woodland. After raising 13 children here they sold the place in 1857, but the story of this place and its people remained part of our family's oral tradition through enough generations that I heard about it from my mom during my Pennsylvania childhood. After moving to the area in the 1970's, I pursued an historical interest in the place.

Finally in 1992, Ted and I decided to approach the owners to inquire if they had land for sale. Surprisingly, they did! We first bought a 25 acre parcel that include the old family cellar hole, then in 1999 bought the farm house and operation plus 38 more acres. Other neighbors bought the remaining farm acreage and now lease them back to us for production. In total, we tend 40 acres of producing blueberry bushes.

Higher up the hill from us is a set of standing stones that are currently being researched as of likely Native American origin. Witnessing solstice alignments with visitors from far and near and feeling a connection to human activity from very long ago is



photo courtesy of Dave Gott

Dave delivers blueberries to the Commonwealth CSA in Greenfield, Massachusetts, another unique aspect of being here.

The people who have come here to walk, work, and live are becoming very special very quickly. The view and natural features, the history, our encouragement of retail sales, picking one's own fruit, and our commitment to unsprayed/organic production are all part of the Benson Place's growing appeal. So is the small but lovely hued perennial and woodland flower gardens that Ted has started.

Mark Benjamin has worked with us for four years to get in the crop, and he is growing his commitment to the farm. Many friends have given generously of their time and support, and our first summer intern, Steve Rao, has made a huge difference to us this season. People from our wider community of Franklin County whom we have seen bits and pieces of through the years are now becoming faithful visitors and acquaintanceships are moving towards friendships. Nieces and children of dear friends are working here, which enriches our lives.

The residents of Heath have welcomed Ted and me as a gay couple. Our neighboring wild blueberry farmers, the Cables and Tripps, have each been farming here for almost four decades, and have taught us essential farming strategies and have become friends, despite our differences relative to pesticide use, field burning fuels, and use of propane guns to deter wildlife. Teenagers from this somewhat remote community work with us as well, making an essential difference to us and providing some of them with their first work experience.

On August 2, we co-sponsored a Blueberry Jubilee with Green Fields Market, and it was attended by 80-100 friends. Two dramatic thunderstorms and serving incredible blueberry cobbler helped to make it meaningful and even a consecrating endeavor for me. Friends are holding a wedding here later this season.

But life here is very difficult for me as well. Ted and I have been together for almost 20 years and have worked successfully on many of our challenges, but farm life seems to have significantly exacerbated our differences. He has moved off the farm recently and is questioning if he has a future here. Balancing work versus free time and the financial stress of starting a farm business have been hard on us both. Plus, the inherent disturbance of nature that farming requires is not always easy to square with a reverence for all living things. We expect to remain a couple, but the contrast of this place's grand beauty with our own struggle is really hard at times. My personality tends towards taking on complex and interesting opportunities, and a farm certainly offers plenty of those. But such is not the life for everyone.

Long, long hours at certain times of year, an overall lack of free time for several years now, an uncertain cash flow, and the challenges of forging new working relationships and friendships here on the farm are among my other crosses to bear at this time.

For now, I am committed to carrying on the farm with the support of the aforementioned folks, and am exploring opening up the ownership and responsibility with other parties. I believe that the vast potential of this place and the caring people who are connected to it will eventually come to a sustainable state, but we have quite a ways to go. Inquiries and ideas are welcomed.

Wild low bush blueberry plants are indigenous to this land. We live on Burnt Hill, and that name appears to be quite old, indicating that natural and human induced fires have been pruning and renewing the crops here for centuries. About 40-50 years ago, farmers began focusing on commercial production and stepped up the effort to moderate sapling and weed growth. There is now a vast ground cover of 6-10" high *Vaccinium Angustifolia*, which grows as a monocrop in spots but elsewhere is interspersed with other plants, since we do not use an herbicide.

The berries are raked with hand held scoops, or in some cases by machine, and then brought to the barn where our winnowing machine removes most of the chaff. Our sorters or the families who pick here then sit at the conveyored pick over table to remove by hand any green, clumpy, or soft berries. Many mouths mysteriously turn blue at this time, if they weren't already dyed that color in the field.

photo courtesy Dave Gott

Dave burning the field to rejuvenate the berries. (He has since gotten a backpack flamer.)

Picking berries in this manner is a much more efficient process than the hand gathering many of us have done in the wild, and therefore many families are making wild blueberries one of their staple winter foods. They freeze well in the 10-20 pound boxes in which we package them, and are very convenient to scoop out throughout the winter.

Farmstands, groceries, and retail markets like carrying our berries, and wineries plus bakeries help us move larger quantities of berries when we have them. A sweet blueberry apple wine is made by West County Winery in Colrain, MA and Nashoba Valley Winery in Bolton, MA makes a dry blueberry wine. We are also accumulating processing fruit in freezers to make a blueberry spread.

The spring burning of the bearing fields is an intense experience! When a bit of snow remains in the woods but the fields are getting dry and warm, we don a back pack propane tank and blackline the perimeter of each berry lot that is to be burned. These small controlled fires create a safe boundary across which larger fires will not easily spread. Once blacklining is complete, we check the wind direction and then set fields on fire one at a time. This dramatic process prunes the bushes back to the ground but apparently does not damage the roots. It also releases nutrients via the ash, and the resultant first year growth shoots straight up, is lush and green, and makes many fruit buds towards the following year's crop. Our neighbors have taught us how to burn over 1/3 of our fields each year, which means that in any given time we have some acreage in peak production, some in modest production, and some in preparation. What is the long term impact of regular burning upon soil life and fertility? This and other questions make our farm ripe for research and consultation with the other organic wild blueberry farm operations that we have connected with in Maine.

We cut saplings back on a regular basis with a gas powered clearing saw rather than relying on Velpar, an herbicide and fertilizer specifically designed for wild blueberry farming. The blueberry maggot fly, for which conventional growers spray an insecticide, has yet to be a serious problem for us, but we sort with a careful eye.

Our mix of pick your own, farmstand pre-ordered boxes, store delivery, and wholesale processing sales has yet to produce much income for me personally, although our shift towards the first two sectors is part of our current plan to be a destination farm emphasizing retail sales. While grossing less per pound than pre packed delivered pint containers, we feel that we have the potential to get a reasonable return while sharing the special sense of place that we have been offered by being here.

Will we really succeed at making reasonable income from our efforts? Can we feel good about one another's efforts and help each other take time off? How will we balance multitudes with solitude? Is there room for quiet sanctuary under the vastness of our skies as well as the big bustle of traipsing people and sorting machines? Who will be here and how will we, or they, be living in the years ahead amongst these wonderful wild blueberries?

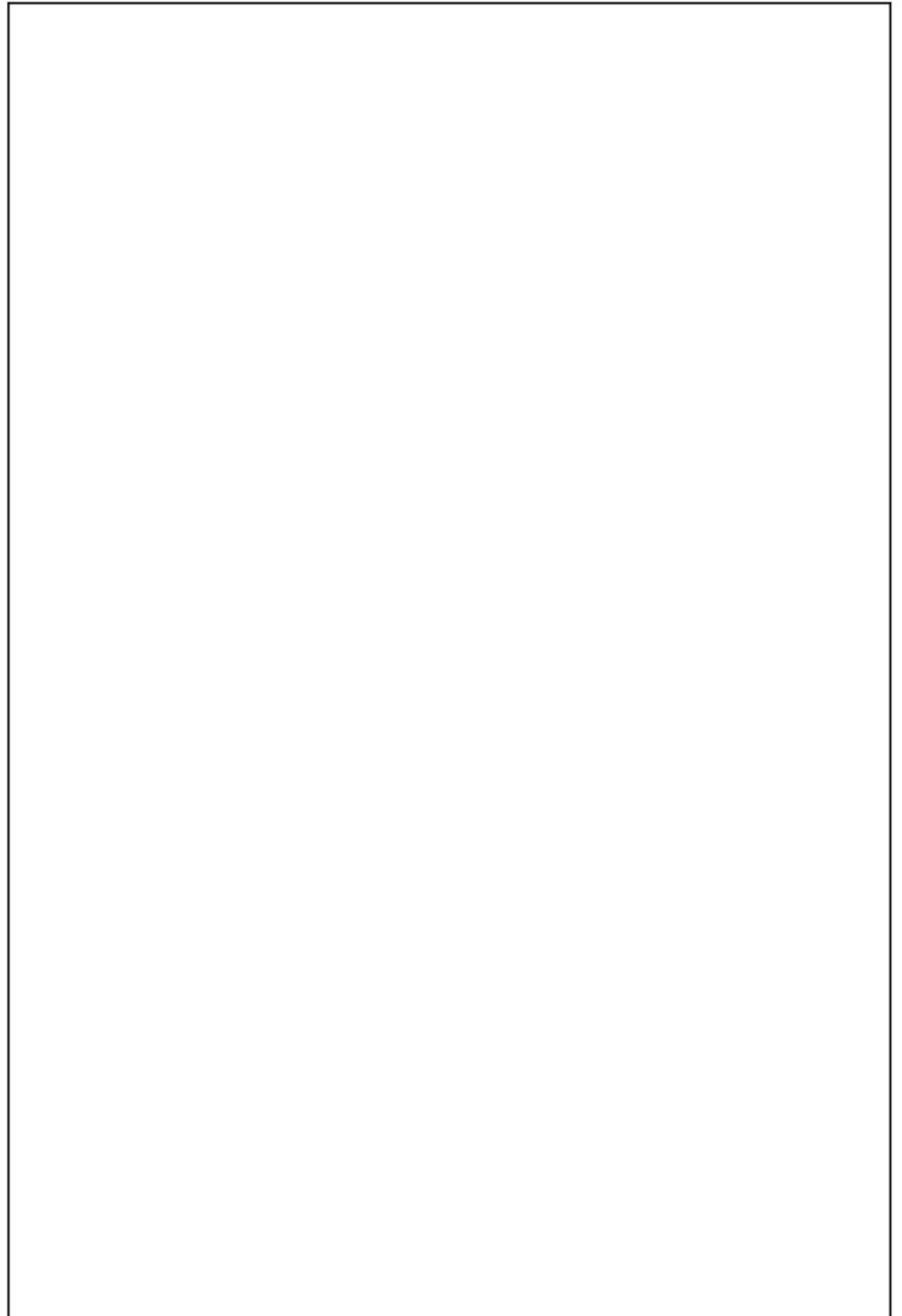


photo courtesy Dave Gott

Mark Benjamin and Dave rest a moment after harvesting low bush blueberries. Note harvesting rake or scoop resting on boxes.

Berries Through the Summer: The Makinajian Farm Store

by Jack Kittredge

Long Island, once a vast truck farm serving the urban markets of New York, has undergone the same development which the rest of America's urban areas experienced since World War II. The flat, fertile soils grew their final crop – houses – and passed out of agriculture altogether. But occasionally a piece has remained in farming due more to some owners personal choice than the logic of the marketplace. Such a piece is the six and a half acre Makinajian Farm in Huntington, run by Ed Makinajian and his son Mick and daughter Tina.

Ed's father bought the place in 1948, when it was a chicken farm. It was too hectic living in Queens, he said. But more likely he just loved farming, an interpretation suggested by his victory garden, beekeeping operation on the roof and chickens in the basement in Queens. He still traveled to his projectionist job in the city after moving to Huntington, but took ag classes through the mail from Cornell.

"In 1948," recalls Ed, "you had two or three cars go by here every 15 minutes. It was farms all over back then.

I went to a four room school."

Ed was ten when the family moved to Huntington. During the next few years, like most adolescent boys he had a lot of arguments with his father. "I didn't agree with the way he was operating," he remembers. "Of course European people are pretty stubborn. They think: 'I'm making the money and we'll do it my way.' But I looked at other farmers. There was one farmer down the road who was successful and every time we'd go over there I'd look at how his coops were set up. My father would never copy. He was a proud man. But I figure, if a man is successful, learn from him, copy him! And then make your adjustments from that. Otherwise it takes too long to get where you want."

One day Ed got his father to let him manage one coop. So Ed copied what the other farmer did. He moved the water to the middle of the coop instead of against a wall, making it a shorter distance for the birds to walk. He changed the lighting system. Using secondhand lumber he redesigned the roosts, working long hours on his own, and every night would catch the chickens and put them on it until they were trained. He got pullets in and kept records – how many eggs per bird. After one year of keeping records he showed them to father. Impressed, his father allowed Ed to do a second coop.

Ed says this process taught him the value of paying attention to details and working 7 days a week. While still in Queens, he saved money from selling newspapers and the silver foil from cigarette packs. Then when they moved to the farm he joined 4H and became a top poultry student. He would raise and sell the free chicks he won, and when he was 17 told his father to buy him a tractor. "He said: 'What?'" Ed recalls. "I said: 'I've got the money right here.'" So his father went out and got him a Farmall cultivating tractor. It was a good choice. They're still using it.

When his father passed away Ed was 19. His mother wanted to sell the farm, but Ed, who had an egg delivery route during high school decided to keep it. "After pop died," he says, "and left me no money, nothing, I sat right here at the edge of the field and focused. A voice in me said: 'I'm going to fix everything from here to the street – the house, the coops and barns.' That's what I did."

He built up a wholesale egg business selling to restaurants and stores from his flock of 10,000 hens. In 1964 he converted an old garage into a store where they sold eggs and also chickens killed to order.

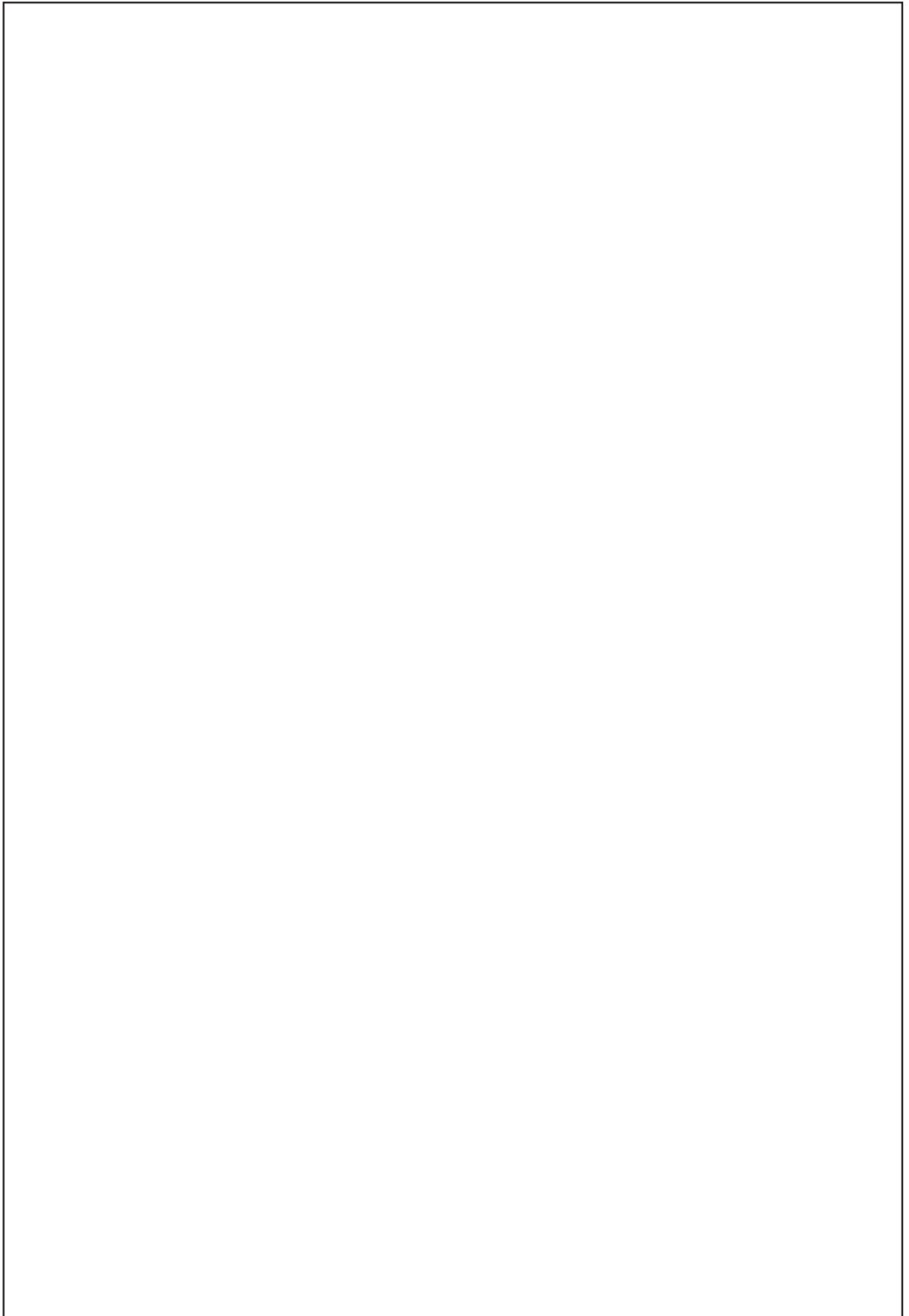


photo by Jack Kittredge

Picture of Ed on July 17 still eating a strawberry from his garden.

Even though he was building up a business from scratch, however, he tried to keep the goal of his work in perspective. "When I was young," he relates, "I had a vision. I saw all these farmers with their kids, but they didn't make their places nice. 'What's the kid going to hang around for?' I asked. But I made my place nice. People say: 'You were just lucky that your kids stayed on.' But what's luck? It's what you make. I tried to make beauty around us. I fixed up every room of the house — it was built in 1860! I plowed for the town for 10 winters so we could afford to get a swimming pool put in. All these barns were falling apart. I fixed them up.

"Then when everything was fixed up," Ed continues, "and the kids were in college and eating up all my savings: 'buy this, buy that, I need a new car' (I always had a cheap car) I came back here and turned the other way and looked at the field. The voice came back. It asked: 'What do you want to do?' I thought a little and said: 'You know, all these years I've only seen two corners of this property. Before I die I want to see four corners.' So I asked Mickey:

'Do you want to farm or not'. He said: 'What? There's not enough money for both of us.' I said: 'Give me three years and I'll show you.'"

At that point the back land was all hilly, with trees and brush on it. But Ed had dumped chicken manure there for years, and the soil was fertile. So he had it cut, the top soil pushed off, the rocks removed, the land leveled, sand spread over the leveled land, and the topsoil put back on.

Ed laughs: "When I told the guy with a bulldozer what to do he said: 'What? Do you know what that is going to cost?' I said: 'I don't give a damn. I'm better off having no money than the kids spending it! I'm going to do what I want to do!' It cost me \$8000 for that field."

His next problem was that he didn't have enough topsoil. So he talked to landscapers and asked them what they paid the town to take their leaves. Finding they paid \$80 a load he offered the back of his field for \$60 a load. Then he hired a guy with a payloader to mix the leaves up with his plentiful chicken



photo by Jack Kittredge

Tina, Ed and Mick stand against a backdrop of their raspberries.

manure. He says he got the \$8000 for the field from landscapers in no time!

Asked about deciding to come back to the farm, Mick says: "When I was growing up we mostly had just the chickens and the eggs, plus a small garden for ourselves. After school we had to work, before school we had to work. You don't really like it that much. But after I got older I got to appreciate working on our own place. In high school, during the summers, my father would have me go work for other people. He did that on purpose so I'd appreciate the value of money and know what it's like to work for other people. Then I went to college for business management. I'd come back during the summers and work. Then one day in college I figured out I'd rather be here, working in our business. So after I graduated I came back for good in 1993. Of course it wasn't this big ten years ago. We've expanded and grown more and more."

The Makinajians still sell eggs, but they have only about 5 or 6 hundred birds now. We sell them retail in the store for \$2 a dozen. The eggs are not certified organic because Mick says he hasn't been able to get the feed on Long Island for a reasonable trucking cost. But he hopes to have all his eggs certified soon. The barns can all have first floor pens outside.

With the diminished role for eggs in the farm operation, Ed has taken over as chief weeder and overall farm hand. "He's unbelievable," says Tina. "He does everything! He'll still pick strawberries for four hours a day. I can't bend over that long!" Mick, the vice president of the Long Island NOFA chapter, is the oldest of Ed's three children at 33. He's the primary grower. Tina is the youngest, at 29. She takes care of the store. Victoria, the middle child, isn't too involved with the farm right now. She has three small children, but sometimes makes cookies or bakery items to sell. Mick and Tina hope she will get more involved as her kids get older. They also employ two workers from El Salvador on the farm, and the wife of one of them in the store.

The road the farm store is on is not a main one, but is busy enough. The family keeps the store open year round and tries to grow on their 4 acres of cropland as much as possible of what they sell, but will buy items in when they don't have them. They start picking asparagus in April and pick right through with kale and collards through November. All of their produce is certified organic, as well as everything they buy in. If it's not certified organic, she says, Tina doesn't buy it. She thinks organic is already pretty important to their customers, and as time goes on more and more are seeking it.

The store is nicely landscaped, with flowers - cosmos, zinnias, sunflowers and calendulas growing in the front - attracting people in from the road. Eighteen ducks swim in a little pond by the parking lot, entertaining people along with a few geese,

rabbits and a broody hen and her chicks. For the last 3 or 4 years sales have gone up steeply. More and more people are asking for organic meat, says Mick, and the Makinajians are now looking for suppliers of that.

Organic berries provide a continual attraction for the Makinajian farm store. Always having fresh berries keeps people coming back, Tina feels. "There's just not that many people around who grow them," she asserts. "We have a good customer base and the berries bring people in. In June we put up our strawberry sign by the road, then we follow that up with the blueberries and raspberries. The blackberries are a little later yet. We sell all of our berries right here, and every year we put in more plants.

Despite the labor involved in picking, Mick agrees berries are a key to their success. "Everybody likes fresh berries," he emphasizes. "You pick them and sell them the same day. You can freeze what you don't sell so you're not throwing any out. We get all the picking done before noon."

Mick plants strawberries on a two producing-year basis. Strawberries planted last spring produced for the first time this year. After they are done he mows the rows down and lets the runners come up between the old rows. So berries will produce next year from these runners. Then he will take the whole bed out. Of course he puts in new plants every spring, so this cycle repeats over three full years in different areas. He's not fully happy with any varieties yet, and he is still testing them out. He has Early Glow but doesn't think he's getting enough yield. So he's going to try Annapolis as an early

variety next year. He has Honoeye, Cabot, Jewel, and Ideal (a late bearer) but is not not fully happy with any of them.

With raspberries he also tries to spread out the season. His Titan red variety comes early, as does his Royalty purples. As biennials, he cuts the canes down to 30 inches when still dormant, and they bear the next year. Once having borne fruit, the cane is eliminated. For late producers, Mick looks to his Heritage and Golden raspberries. These he mows down to the ground in the spring and then dumps compost on. They flower in July and produce a lot of berries in the fall.

The farm's blueberries are only 4 or 5 years old. But there seems to be a really high demand for them and Mick puts in more each year. Right now he has Patriot, Blue Ray, and Blue Crop. He gets his stock from Nourse, and tries to get early, mid-season and late bearers. The farm is in Zone 7, so can take some tender plants that might not survive elsewhere.

The pH on the Makinajian's Long Island soil is about 6. Mick used to put cottonseed meal down to reduce the pH, but doesn't do that any more. "I'm not a big believer in pH," he says. "I just put compost on and let them go. We wheelbarrow it down and put it on every spring. We have grass strips between the rows, and mow the grass. The farm uses netting for birds. Mick had planned to build an enclosure, but it seemed to work just as well to stretch the netting over the bushes and just flip it up for picking.

The farm also grows a few grapes — California varieties. "It was a mistake," admits Mick. "I should have gotten Concord." But the California varieties do well enough to suggest a market demand, and he plans to add more grapes to his farmstead mix.

Mick can't say enough for the importance of compost in their production. The mix of chicken manure, grass clippings and leaves works wonders with his crops, he believes. But he also uses a commercial trace mineral fertilizer — glacial gravel dust from Colorado — to make sure there are enough minerals in the soil to replace those taken up by his crops. He also uses Thorvin Kelp from Iceland. He prefers that because it's geothermally dried, not dried at high temperatures. He feels it has more trace elements than other kelps. Finally, he also uses paramagnetic stone every year to raise the paramagnetism of the soil.

Mick feels these inputs are effective at maintaining high crop health. He also feels they help reduce pest problems: "I see more and more insects disappearing. All I get now is some flea beetles on turnips and eggplant when the crops are small, and a few aphids in broccoli in the fall. I hit them once with rotenone and that's it. Dad pulls off the potato beetles. We're lucky, we're small and we can do that."

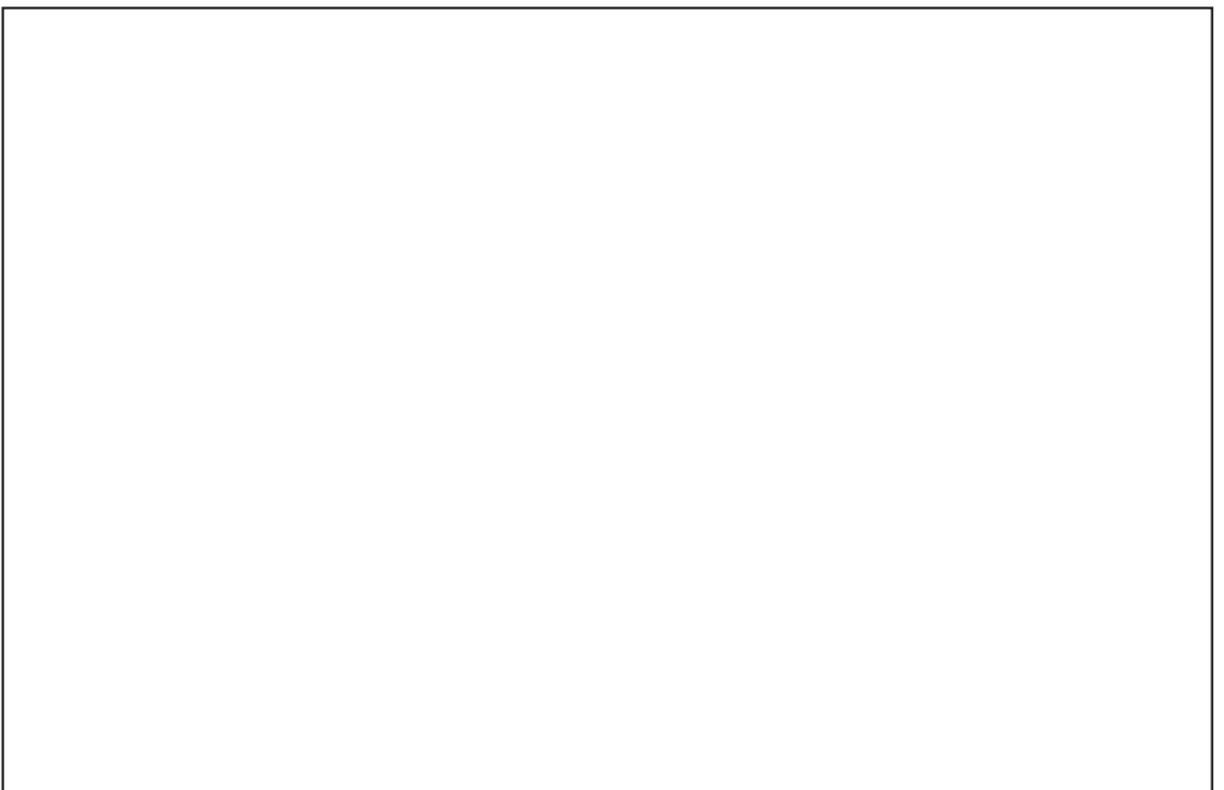


photo by Jack Kittredge

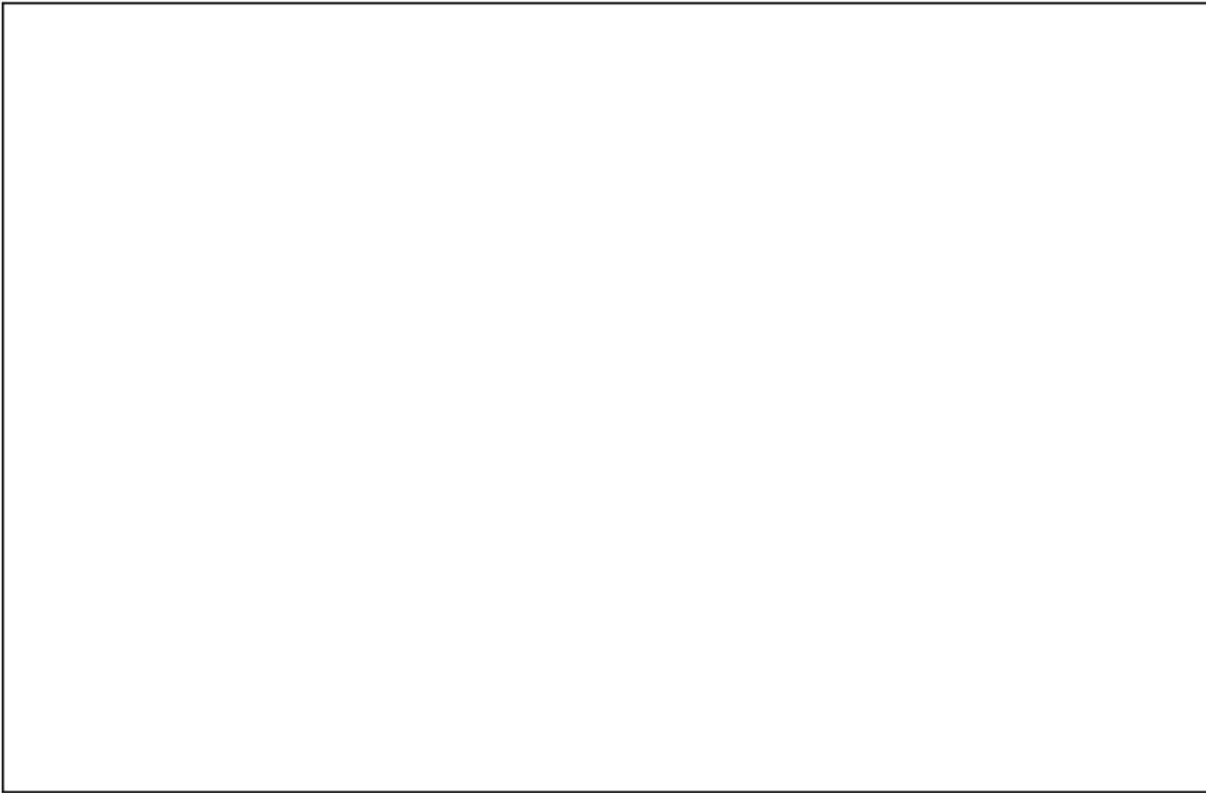


photo by Jack Kittredge

Ed checks for ripe strawberries in his well-spaced beds. Note the difference in elevation between the farm's excavated field and the higher natural terrain surrounding it.

Over the last ten years, says Mick, they have figured out just how much to plant every few weeks to meet customer demand. They don't have a greenhouse yet, so buy all their transplants from Silver Seed Greenhouse in Maryland. They try to grow everything they can in their location and are always experimenting with new crops. They have just added okra to the mix, and are growing tomatillos for the first time this year. Although their space is limited, they always reserve some for sweet corn because people love it so much. Also, Mick ties up the cornstalks in the fall and they sell quickly as decorations.

The farm was certified in 1993. Ed heard about NOFA, applied and got approved right away since they never had used chemicals in the first place. Mick likes the discipline certification imposes to

keep everything organized. He says you can always find a rainy day for doing the paperwork.

Weeding is the biggest problem the farm faces, but they seem on top of it. Says Mick: "Dad and one of the El Salvadoran workers weed all day. They both love it! We use the Farmall Cub to do between the rows, but they go in the rows and get everything."

Mick swears by working by the moon: "I do everything by the moon. Not harvesting, but planting and cultivating with a tractor. If you cultivate on days when it says you should cultivate, the weeds won't come back up. If you cultivate on days they say you shouldn't, even if you knock the weeds to the side, they'll come back up. We've tried it both ways. The [Llewellyn] moon sign book has all the dates in there so you don't have to figure it out yourself. You

have to work with the moon. It's the same as the tides. It goes by the quarters and the signs of the zodiac. It tells you when to trim to increase growth versus trimming to decrease growth, for instance. As soon as the cultivating dates come around I hop on the tractor and cultivate everything! Try out the moon system. Carrots, you'll see the biggest difference in germination. It really works out good. Cultivating by the moon saves us hours pulling weeds. The moon, compost, trace minerals – that's all you need and things will grow great for you!

Ed put in underground pipes for a full overhead irrigation system when the field was developed. Although they use town water they have never had a shortage or restriction on use imposed. The water bill is only \$500 or \$600 per year, which is quite acceptable. Mick plants the rows with enough spacing that there is good air drainage so there has never been a problem with fungal disease from the overhead watering.

Ever since the farm got certified organic, says Mick, they started attracting young parents, young mothers especially, who are interested in eating healthier. They have some customers who will drive a half hour to get there. Nobody else nearby is doing the same thing. There are a couple Wild by Nature stores in Huntington and Setauket which sell organic produce, but they don't grow anything. Mick believes that a lot of the people who come to their store seem to like going back to the way it used to be – a relationship between farmer and consumer.

It is hard to tell what the future holds, of course. Tina just got engaged and will probably get married next spring. Mick, hopes to get engaged this fall. As he puts it: "I've been pretty much married to this farm, up to now. I have a wonderful girlfriend, she's really nice. But it's hard to make people understand that I like to be here all the time. I like to work every day. They ask if I don't take time off for vacations. But I don't really want to. I took a weekend off early in the spring. I'm going to have to, though, with the girlfriend, if I get married!"

Mick would like to make some more changes and expand the operation, but he is being methodical about it: "Dad always said: 'Work on something, get it perfect, then move on to the next thing.' So right now that's what we're doing – getting the crops all perfect, how much to grow. When that's all set, I'd like to get more into extended season growing. We'd definitely like to get a greenhouse in and do our own transplants. But I don't know much about it so I'd need to learn first. Once that is built and we're doing it well, then maybe we'll put in some fruit trees."

Ed now spends 6 months in Florida. He says: "When I get ready to come north each year the other old timers say: 'What are you going up there for?' I say: 'It's heaven up there, waiting for me. I just love to get on the tractor.' My father talked about his dream of having a farm here. But then he died and I was all by myself. My mother wanted me to sell it, to be normal like everybody else. But I didn't want that kind of life – traffic back-ups, driving all the time. Now I can walk from my house to work in a minute. With the kids taking over, we're finally getting where my father wanted to be."

Book Reviews

Green Blood Red Tears

A documentary video by Joe Terrence Gray
Published by Cinestream, 11503 Main St.,
Middletown, KY 40243
502-244-9444, www.cinestream.info
VHS format, 87 minutes, \$55 postpaid to non-
profits and individuals,
\$250 (including public performance rights) to
libraries and schools

reviewed by Jack Kittredge

The death of his nephew, a 42-year old farmer in southern Kentucky, launched Joe Terrence Gray on a 5-year search to discover why he died. That search led Joe to create this unusual video, featuring such a disparate cast as Jim Hightower, John Kenneth Galbraith, the Scottish Countess of Mar, grieving farm widows and their husbands' best friends, neuroscientists, and agricultural economists.

Over a third of the video is devoted to personal memories of Joe's nephew, James Goodman. We see clippings of his youthful achievements in the Future Farmers of America and home movies of him playing with his young children or celebrating his 40th birthday. We see his funeral, listening to the testimonials of friends and neighbors. We see his photo album, full of typical candid shots. And we see his suicide note.

The remarkable openness of the Goodman family is a centerpiece of this video. Again and again we return to his friends and to his widow, Kathy, talking about how they miss James, trying to understand what went wrong, how they learned of his death, how they might have done something different to keep him with them. But the narrative soon reaches out beyond this one tragedy and looks at the issue of farmer suicides across America, in Europe and, though briefly, around the world.

The realities of conventional family-scale farming in America are made vividly clear here: the cultural equation of hard work, modesty, and success; the economics of get-big-or-get-out; the stress of mushrooming debt, the psychology of pride and its requirement to suffer in silence. Interviews with experts, footage of farmer demonstrations and farm auctions, and the recurring personal tragedies bring all this home in a way I had never experienced before.

The last third of the video looks at the biochemical roots of this phenomenon. First we examine depression, the brain chemistry involved, its genetic propensity and the pharmacology of relief. But we soon move to the issue of exposure to toxins, particularly organophosphates, such as those so common in pesticides. Here the scientists reign, explaining their findings that delicate chemical balances in the brain can be tipped by exposure to these compounds. But that damage to nerves, memory, mood can come suddenly, unexpectedly, permanently, weeks after exposure.

We begin to understand that farmer suicides are not so much a product of individual moral failure as of the success of social conventions, mythology, and agrichemicals. We go back to the Goodman and other tragedies with a newly attuned ear, this time hearing the role organophosphates played.

In one regard this video is exceptional. Joe Terrence Gray has a fundamental respect for the importance of farmers in history. He refers to the Hoplite infantry of ancient Greece, Jefferson's yeoman farmers, and the ancestors of the "run" which opened Oklahoma to the plow, as fundamental forces that have shaped, as indeed they have, our world. Common farmers don't usually get that much of a nod in recounting the big scheme of things.

The end of this video, however, is rather unsatisfactory to me. It is clear to anyone with sense that conventional (chemical) agriculture is hazardous to the farmer, as well as to the consumer and the community. But the possibility of organic agriculture as a serious paradigm shift is nowhere laid out. All we see, again and again, is big tractors and heavy implements, uncover-cropped soil eroding away in spring rains, and spray rigs driven by isolated technicians; animals forced through complex herding devices and made to swim through "dips" to kill off pests on their hides. Where is the organic grower, interested in lifestyle as well as income, community as well as professional pride?

We have something important to offer to the Joe Grays of the world, and we should not be ashamed of it in the least!

The Village Herbalist, Sharing Plant Medicines with Family and Community

Authors: Nancy & Michael Phillips
Chelsea Green Publishing Company P O Box 428
White River Junction, VT 05001
800-639-4099 www.chelseagreen.com
335 pages, Paperback, \$24.95

reviewed by Elaine M. Peterson

For those of you who are intrigued by herbalism, but haven't quite gotten around to finding out more about it, this book is a good place to begin.

I wanted to read this book because I have been "dabbling" in herbs and their uses for some time in a roundabout sort of way. I have planted medicinal plants, taken some herbal workshops at conferences and used an occasional herb for this or that. But I never fully delved into finding out the whole story or pardon the pun, getting to the root of the topic.

The Village Herbalist takes the reader through the entire extent of everything you ever wanted to know about herbalism. Chapter one, The Medicine of the People, begins by describing the traditional role of the herbalist in different cultures and countries through time as we know it. There is also discussion about how herbalism and modern medicine can coexist together in today's world.

More importantly, we need to take personal responsibility for our lives and health.

Not only our personal health, "Herbalism without such nutritional reckoning will ultimately fail the very people we want to help" but that of the planet's as well, "Organic agriculture restores sustenance to the staff of life."

Chapter two, The Gamut of Herbal Possibilities, covers the various roles an herbalist takes on such as practitioner, "Physicians examine patients through physiologic and pharmacologic testing of tissue. Each specific disease is seen as stemming from a biological reason that can be treated mechanically. The subsequent cure can be effected through manipulation of the physical body, whether by chemical or surgical means. Herbalists reject many of these methods as falling short of the whole. Holistic reality takes account of mind, body, and spirit in the healing process."

Grower, ecologist, medicine maker, teacher, neighborhood apothecary keeper and listener are other roles. Each aspect is examined and the reader is given a lot to consider.

Chapter three, Learning Your Path, takes you through the many sources available for learning more about herbs through books, apprenticing with a mentor, schools, and conferences.

Chapter four, Considering Your Niche, explores how you can find your space in your own community and how to place a value on your talents.

Chapter five, The Offering of Herbal Medicine, discusses an issue that can not be ignored, walking the fine line between practicing medicine and being an herbalist. Assessment skills, health profiles, body systems and choosing the right herb for a particular situation are just a few topics covered.

Chapter six, Growing and Drying Medicinal Herbs, speaks for itself and includes soil building management and the importance of it.

Chapter seven, Making Earth Medicines, looks at the different options of using your herbal remedies all year using mostly kitchen and some optional specialized equipment. Water based medicine, infusions, decoctions, syrups, tea powders, soups, spirit-based medicines, extracts, tinctures, liniments, essential oils, and others along with some recipes and sound advice about dosage, labeling and marketing are discussed.

Chapter eight, Spreading the Word, explores educating the community through workshops, garden tours, camps, activities, and apprenticeships.

The last chapter, Visions for the Village, examines our future as herbalists and keepers of the earth.

But I have not mentioned my favorite part of the book yet! Interspersed throughout are profiles of some of this country's and the world's expert herbalists. Each is unique and interesting and you see how others have discovered their niche in the herbal world.

There are also excellent appendices of herbal schools and apprenticeship programs, World Wide Web sites, and a source list for supplies, associations and publications. A hefty bibliography is included.

Nancy and Michael Phillips, our authors, live what they write. They live in New Hampshire on their farm and run Heartsong Farm Healing Herbs. They present an astute embodiment of herbalism while providing practical, sensible advice and promoting sustainable agriculture practices. I really enjoyed *The Village Herbalist* and I know that you will too. I have to go now, I want to go outside and see what's growing.

(continued from page 1)

joining in. The parade and the old-fangled dunk booth put together by Chris Rawlings and the teens in the teen conference were welcome additions. The

dunk tank lines were endless, for both would-be dunkers and would-be dunked. The tank was very popular and its simplicity seemed to fit with the goals of NOFA, Julie Rawson said.

“In the past we’ve rented a plastic tank from Taylor Rental,” she said. “It felt really good that Chris designed it and the teens built it. It seemed like we’re getting closer to doing what we talk about.”

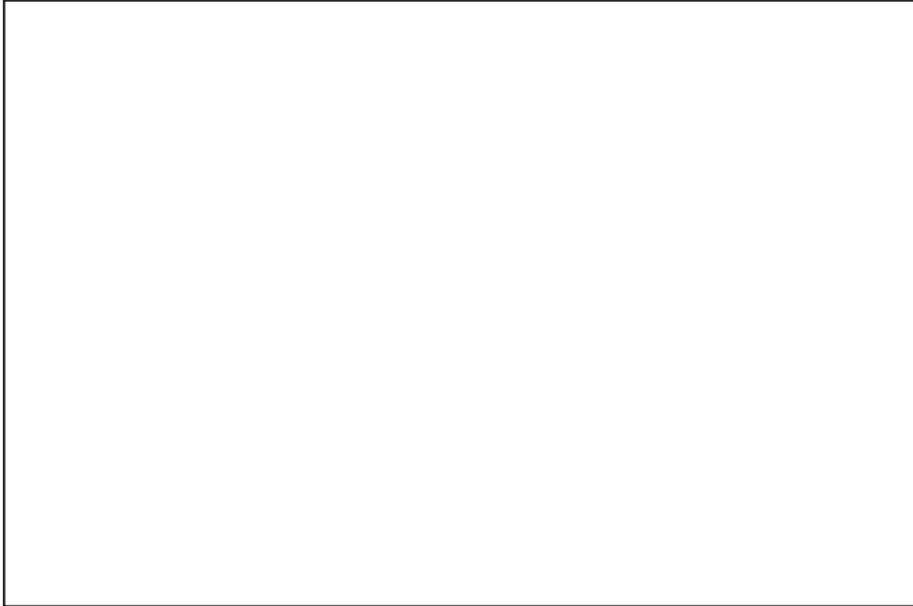


photo by Jack Kittredge

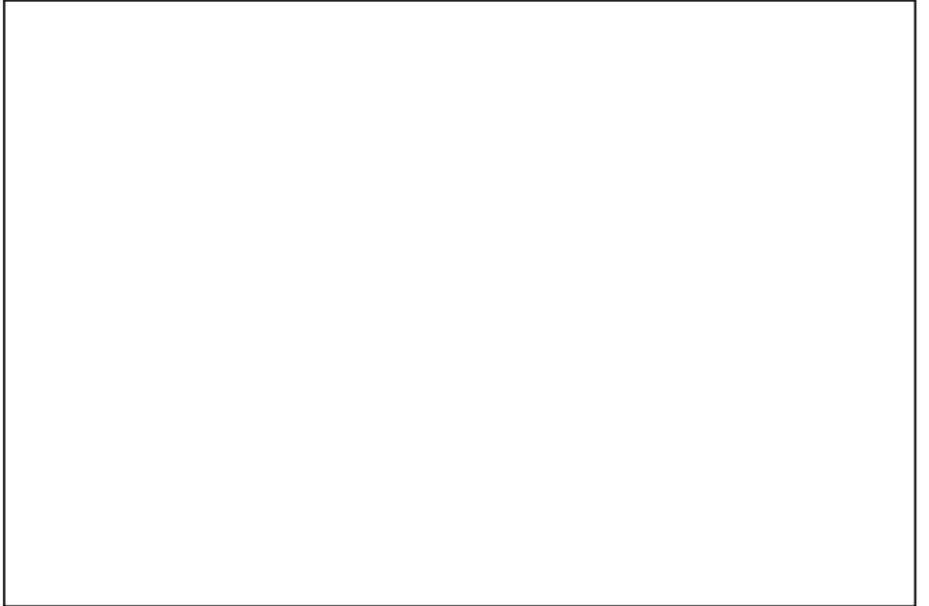


photo by Jack Kittredge

Joel Salatin gave enthusiastic how-to presentations.



photo by Jack Kittredge

There were workshops on using horses.



photo by Jack Kittredge

You could practice double digging in the hot sun.

Or you could sit in the shade and dream of tractors doing the work.

The preponderance of young people—and particularly babies—at the conference is heartening to Rawson also.

“Everywhere I went there were people nursing babies,” she said.

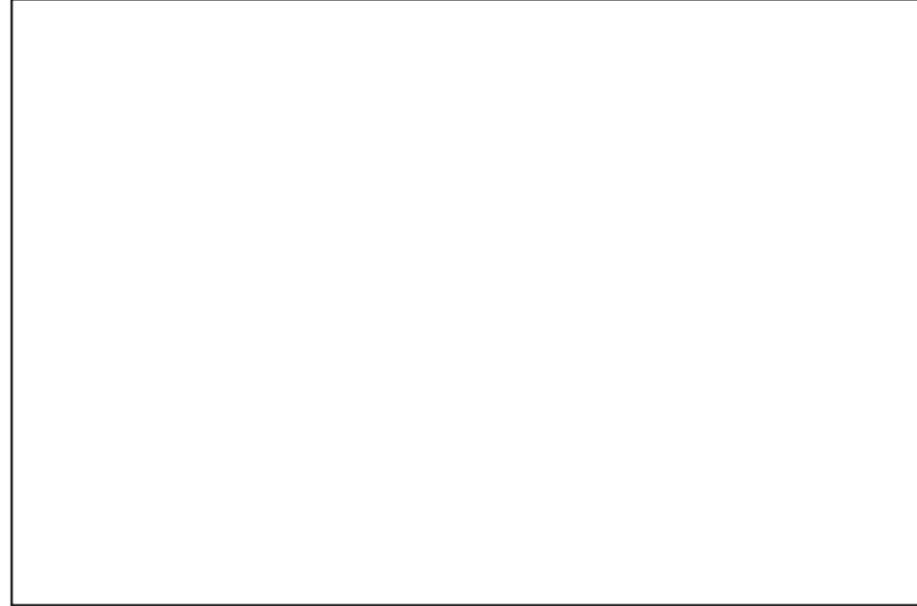


photo by Jack Kittredge

Rawson thinks this bodes well for NOFA and the organic movement in general. And I, despite what my character in the Summer Conference Committee skit said (it might be helpful to note that the lines we spoke were taken verbatim from actual evaluation forms) think so, too.

Did someone say this conference is about growing things, and maybe, slightly more narrowly, about food and feeding ourselves? For me, the two dinners I ate were a wonderful affirmation of that value. From my vantage point, and being able to talk to only so many people at a given meal, it was hard to tell what everyone thought. But heartfelt kudos go out to Dre Rawlings, for planning a great menu and coordinating a nourishing local meal. I hope you all got the chance to read her reflections on making the local meal happen. I also wanted to thank the whole Hampshire College dining room staff for preparing what my family and others found to be excellent food.

Speaking of food, judging by volume and sales, lots of folks were happy to see the return of NOFA Nibbles, which nicely complemented the presence of the three organic food vendors. The choices were there for folks not wanting to go to the dining hall or just hoping to get a snack.

When folks weren't eating (or learning, of course), many of them were dancing. From Farmer Dan Kaplan's band on Thursday night to the Contradance with Rhubarb Pie to the dance party with zydeco band Dirty Rice, people got down in their own unique way. The latter two dances were held outside, which seemed to add something, according to “boring, but necessary” Entertainment coordinator Richard Murphy. Not surprisingly, beer, wine, and ice cream sales were brisk.

Kids in the Children's Conference built fairy houses in the woods,

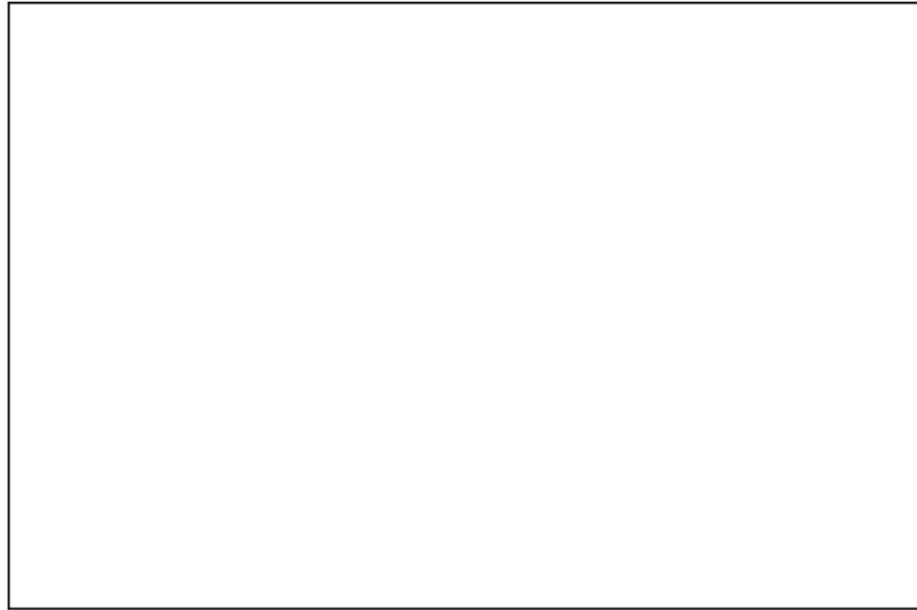


photo by Jack Kittredge

Made music on drums, rattles, flutes and whatever,

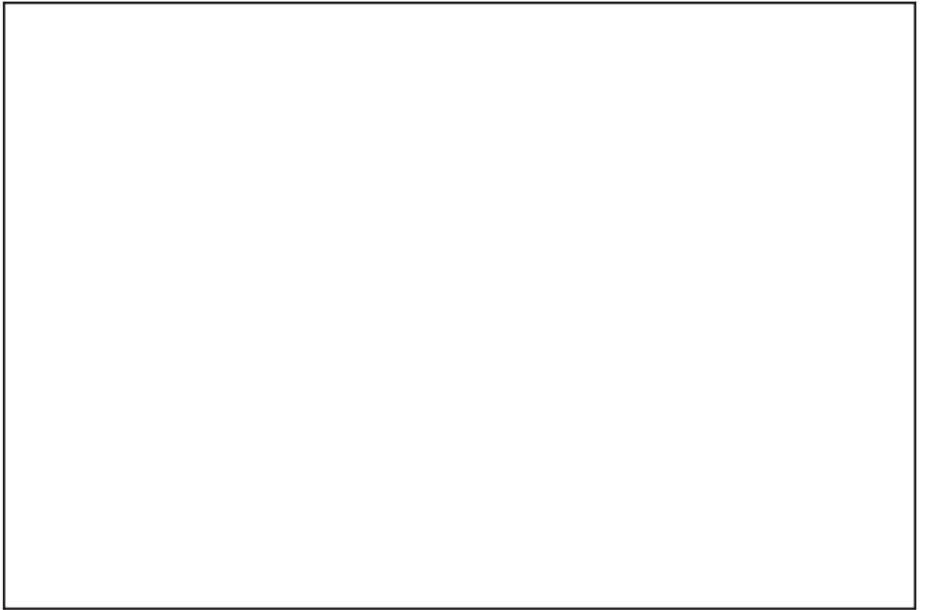


photo by Jack Kittredge

And tested out solar powered racing cars!

An outdoor performance of the awesome show "A Sense of Humus" at the Music & Dance patio by local acting/puppet collective The Liberty Cabbage Theater Revival was a hit with young and old. They'll still be on the road this fall, so if you missed them at the conference, do check them out.

Willie Lockeretz, master at diffusing mounting tension, moderated a spirited debate about the merits/drawbacks of television. In the true spirit of debating—an ancient art almost forgotten—Colby Peterson stepped from audience member to participant to fill in on the con side of the question "Should You Throw Out Your TV?" At this point we don't know if those people who said their opinions were swayed during the debate (one on each side) have altered their TV viewing habits accordingly.

From my perspective at the Children's Conference, I saw lots of young people renew friendships and make new ones. I also saw people gaining lots of new skills—oh, to be young again, and so absorbent!—and, never a surprise to me, getting along quite well without much or any adult intervention. My partner Justine and I plan to be there again next year.

Ah, next year. Can we possibly be thinking about next year already? Of course. Julie Rawson, who was much hobbled during the conference by a staph infection in her leg—and appreciated all the well-wishers coming up to her—is looking forward to receiving your evaluation forms. Please get those to her by the end of September. If you would like to be in on all the fun from the beginning, there is definitely room on the Summer Conference Committee for you.

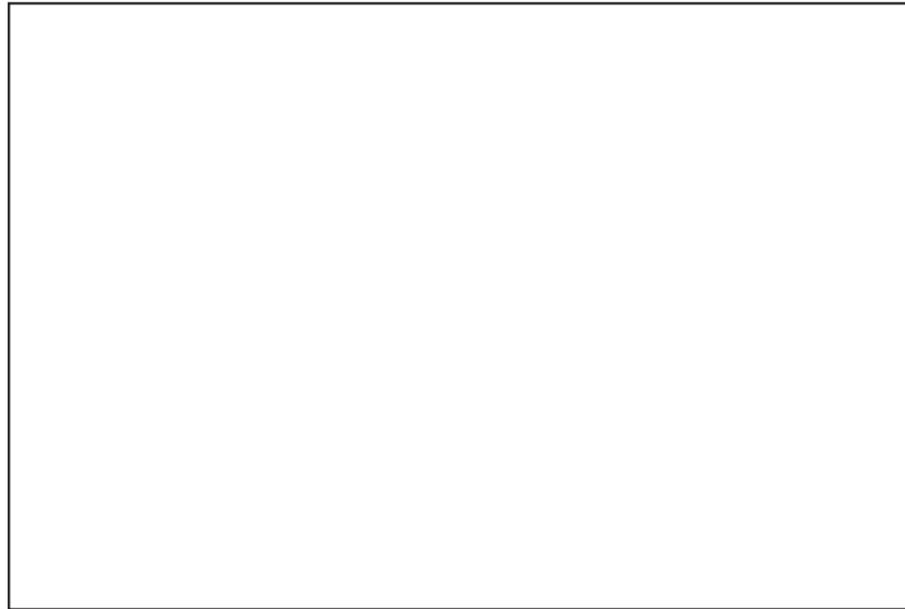


photo by Jack Kittredge

Fair highlights were the blueberry pie eating contests...

The first committee meeting for the 2003 affair will be October 20 in Easthampton. Call Julie at 978-355-2853 if you are interested in being on the committee.

Would you like to design next year's logo and theme and win an all expenses paid time at the conference, plus a T-shirt, or \$150? Submit your graphic and logo to Julie by October 15 to gain consideration.

As for next year's keynoter and possible pre-conference, we of course have ideas: Sally Fallon and Vandana Shiva are contenders, among others. As always, let us know your thoughts and ideas on ways we can improve the conference. We hope to see you and a friend next year!

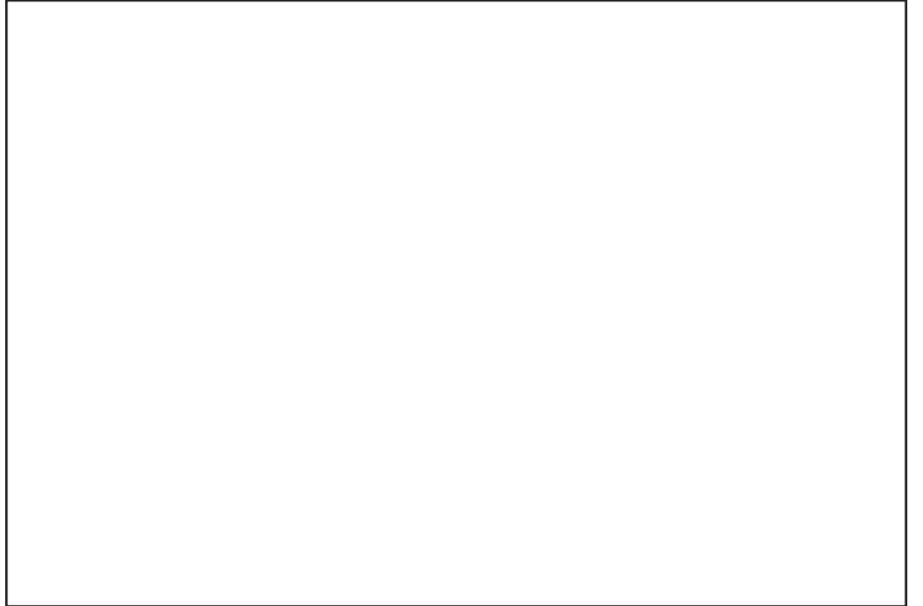


photo by Jack Kittredge

And homemade dunk tank with long lines for both dunker & dunkee!

NOFA Contact People

Connecticut

NOFA/CT Office: P O Box 386, Northford, CT 06472, phone (203) 484-2445, FAX (203) 484-7621, Email: NOFACT@Connix.com, website: <http://www.connix.com/~nofact/>
President: Peter Rothenberg, 53 Lanes Pond Rd., Northford, CT 06472-1125 (203) 484-9570 (home), Northford@aol.com
Vice President: Kimberly A. Stoner, 498 Oak Ave. #27, Cheshire, CT 06410-3021, (203) 271-1732 (home), Email: kastoner@juno.com
Treasurer/Membership: Judy Rothenberg, 53 Lanes Pond Rd., Northford, CT 06472-1125 (203) 484-9570, Email: JCR950@aol.com
Secretary: Erin Amezzane, 332 Front St., New Haven, CT 06513-3206, (203) 787-7417, Email: femmebeau@earthlink.net
Newsletter & Certification: Rob Durgy, P O Box 17, Chaplin, CT 06235-0017, (860) 455-0881, Email: rdurgy@canr1.cag.uconn.edu
Organic Education and Advocacy Coordinator: Bill Duesing, 153 Bowers Hill Road, Oxford, CT 06478-1756, (203) 888-9280, bdusing@cs.com

Massachusetts

President & Newsletter Editor: Jonathan von Ranson, 6 Lockes Village Rd., Wendell, MA 01379, (978) 544-3758, Email: Commonfm@crocker.com
Vice President: Karen Franczyk, 683 River St., Winchendon, MA 01475 (978) 297-3644, franczyk@ma.ultranet.com
Secretary: Rita Horsey, PO Box 246, 137 Hopkinton Rd., Upton, MA 01568 h: (508)529-6148, fax: (508)529-2801 email: ritahorsey@mindspring.com
Treasurer and Coordinator: Julie Rawson, 411 Sheldon Rd., Barre, MA 01005 (978) 355-2853, Fax: (978) 355-4046, Email: jackkitt@aol.com,
Administrative Assistant: Elaine Peterson, 92 New Westminster Rd., Hubbardston, MA 01452 (978) 928-4707, Email: hhollow@worldnet.att.net
Webmaster: Paul Kittredge, 1921 19th St. NW, Washington, DC 20009, (202) 588-7414, nofama@asarya.com
MICI Certification Administrator: Don Franczyk, 683 River St., Winchendon, MA 01475, (978) 297-4171, Email dfranczyk@starpower.net
 website: <http://massorganic.org>

New Hampshire

President: Dan Holmes, The Meeting School, 56 Thomas Rd., Rindge, NH 03461, (603) 899-2806, holmes@meetingschool.org
Vice President: Cindy Porter, RR3, Box 503, Claremont, NH 03743, (603) 543-0549, CPorterDVM@aol.com
Treasurer: Paul Mercier, Jr., 39 Cambridge Drive, Canterbury, NH 03224, (603) 783-0036, pjm@mercier-group.com
Secretary: Elizabeth Obelenus, 22 Keyser Road, Meredith, NH 03253, (603) 279-6146, obelenusea@yahoo.com
Office Manager: Elizabeth Obelenus, NOFA/NH Office, 4 Park St., Suite 208, Concord, NH 03301, (603) 224-5022, nofanh@innevi.com
Newsletter: Craig Federhen, 50 Little River Rd., Kingston, NH 03848, (603) 642-5497, federhen@nh.ultranet.com
Organic Certification: Vickie Smith, NHDA Bureau of Markets, Caller Box 2042, Concord, NH 03301 (603) 271-3685

New Jersey

President: Stephanie Harris, 163 Hopewell-Wertsville Rd., Hopewell, NJ 08525, (609) 466-0194
Treasurer: William D. Bridgers, c/o Zon Partners, 5 Vaughn Dr., Suite 104, Princeton, NJ 08540, (609) 452-1653
Secretary: Ted Stephens, 467 Rt. 284, Sussex, NJ 07461, (973) 875-2849
Newsletter Editor: Lisa Kelly, KDA Associates, 15 Millbrook-Stillwater Road, Hardwick, NJ 07825 (908) 362-1181, kda@garden.net
Executive Director: Karen Anderson, 60 So. Main St., PO Box 886, Pennington, NJ 08534-0886, (609) 737-6848, fax: (609) 737-2366, Email: nofanj@aol.com
Erich V. Bremer, 60 So. Main St., PO Box 886, Pennington, NJ 08534-0886, (609) 737-6848, nofanjcert@aol.com
 website: www.nofanj.com

New York

President: Richard de Graff, Grindstone Farm, 780 County Route 28, Pulaski, NY 13142 (315) 298-4139, fax: (315) 298-2119, gsforganic@aol.com
Vice President: Scott Chaskey, Quail Hill Community Farm, PO Box 1268, Amagansett, NY 11930-1268, (631)267-8942, schaskey@peconiclandtrust.org
Secretary: Mary Racinowski, 58 Marion St, Rochester, NY 14610, (716)482-8697, flydisc@frontiernet.net
Treasurer: Alton Earnhart, 1408 Clove Valley Rd., Hopewell Junction, NY 12533, (845) 677-9507 altone@attglobal.net
Newsletter Editor: Stu McCarty, PO Box 70, 632 Tunnel Rd., Tunnel, NY 13848 (607) 693-1572, fax: (607) 693-4415, newsletter@nofany.org
Executive Director: Sarah Johnston, 661 Lansing Rd. #A, Fultonville, NY 12072-2630, (518) 922-7937, fax: (518) 922-7646, sarahjohnston@nofany.org
Office Manager: Mayra Richter, PO Box 880, Cobleskill, NY 12043-0880, (518)734-5495, fax: (518)734-4641, office@nofany.org
NOFA-NY Certified Organic, LLC, 840 Front Street, Binghamton, NY 13905, (607) 724-9851, fax: (607)724-9853, certifiedorganic@nofany.org
Farm Education Coordinator: Brian Caldwell, Hemlock Grove Farm, 180 Walding Ln, Spencer, NY 14883, (607)564-1060, education@nofany.org
 website: <http://www.nofany.org>

Rhode Island

President: Jeanne Chapman, 25 Yates Ave., Coventry, RI 02816 (401) 828-3229, alfalfac@mindspring.com
Vice-President: Dave Peterson, 405 New Meadow Rd., Barrington, RI 02806 (401) 245-4068
Secretary: Kurt Van Dexter, 1740 Stony Lane, No. Kingstown, RI 02852 (401) 294-7994
NOFA/RI : 109 Somerset St., Providence 02907 (401) 274-4547, fax: (401) 273-5712, website: <http://users.ids.net/~nofari/>

Vermont

NOFA-VT Office, P. O. Box 697, Bridge St., Richmond, VT 05477 (802) 434-4122, Fax: 434-4154, website: www.nofavt.org, info@nofavt.org
Executive Director: Enid Wonnacott, 478 Salvas Rd., Huntington, VT 05462 (802) 434-4435 elila@sover.net
NOFA Financial Manager: Kirsten Novak Bower, 65 Wortheim Ln., Richmond, VT 05477 (802) 434-5420, kbower@juno.com
Newsletter Editor: Heidi Racht, 4501 Main Road, Huntington Center, VT 05462 (802) 434-2690, heidiracht@aol.com
VOF Administrator: John Cleary, 407 Rt. 15, Underhill, VT 05489, (802) 899-3808, Jlcleary@together.net
Dairy Tech Coordinator: Lisa McCrory, 848 North Randolph Rd., Randolph Ctr, VT 05061, (802) 728-4416, lmccrory@together.net
Office Manager: Stephanie Meyers, 213 North Winooski Ave, #4, Burlington, VT 05401 802-860-4942, info@nofavt.org
Ag Education Coordinator: Abbie Nelson, 137 Lost Nation Rd, Essex Jct., VT 05452, 802-878-4087, abbielson@aol.com
FEED Local Purchasing Coordinator: Elizabeth Ziper, 29 Metcalf View, Underhill, VT 05489, 802-899-3586, zipern@earthlink.net

NOFA Interstate Council

*** indicates voting representative**

* **Bill Duesing**, Staff, 153 Bowers Hill Road, Oxford, CT 06478, (203) 888-9280, 71042.2023@compuserve.com

* **Peter Rothenberg**, 53 Lanes Pond Rd., Northford, CT 06472-1125 (203) 484-9570 (home), Northford@aol.com

Erin Amezzane, 64 Sheldon Ter., 3rd floor, New Haven, CT 06511, (203) 787-7417, Email: femmedeau@earthlink.net

Marion Griswold, 29 Hollow Rd., Woodbury, CT 06798 (203) 263-3681, mbgriswold@yahoo.com

* **Tom Johnson**, Whole Foods Liaison, 87 Wells Rd., Lincoln, MA 01773 (781) 259-0070, silferleaf@cs.com

* **Michael O'Bannon**, 45 Birch St., Greenfield, MA 01301 (413) 773-1794, mobannon@larp.umass.edu

* **Enid Wonnacott**, 478 Salvas Rd., Huntington, VT 05462 (802) 434-4435 elila@together.net

* **Camilla Roberts**, 1215 VT Rte 12, Woodstock, VT 05091 (802) 457-2404, camil@sover.net

Kirsten Novak Bower, 65 Wortheim Ln., Richmond, VT 05477 (802) 434-5420, kbower@juno.com

John Cleary, 407 Rt. 15, Underhill, VT 05489, (802) 899-3808. Vof@nofavt.org

* **Dan Holmes**, The Meeting School, 56 Thomas Rd., Rindge, NH 03461, (603) 899-2806, holmes@tms.nv.com

* **Polly MacNicol**, 282 Bible Hill Rd., Frankestown, NH 03043 (603) 547-6201,

jbyington@theophanyholding.mv.com

Elizabeth Obelenus, 22 Keyser Road, Meredith, NH 03253, (603) 279-6146, nofanh@innevi.com

* **Karen Anderson**, PO Box 886, Pennington, NJ 08534, (609) 737-6848, nofanj@aol.com

* **Stephanie Harris**, 163 Hopewell-Wertsville Rd., Hopewell, NJ 08525, (609) 466-0194, r.harris58@verizon.net

* **Steve Gilman**, 130 Ruckytucks Road, Stillwater, NY 12170 (518) 583-4613,

sgilman@netheaven.com

Richard de Graff, Grindstone Farm, 780 County Route 28, Pulaski, NY 13142 (315) 298-4139, fax: (315) 298-2119, gsfororganic@aol.com

Sarah Johnston, 661 Lansing Rd. #A, Fultonville, NY 12072-2630, (518) 922-7937, fax: (518) 922-7646, sarahjohnston@nofany.org

Elizabeth Henderson, 2218 Welcher Rd., Newark, NY 14513 (315) 331-9029

ehendrsn@redsuspenders.com

* **Jeanne Chapman**, 17 Station St., Apt. #4, Coventry, RI 02816 (401) 828-3229, alfalfac@mindspring.com

Kay Magilavy, Virtual Rep, 212 18th St., Union City, NJ 07087, (201) 863-1741

Jonathan von Ranson, Manuals Project, 6 Locks Village Rd., Wendell, MA 01379, (978) 544-3758, Email: Commonfm@crocker.com

Paul Kittredge, Webmaster, 1921 19th St. NW, Washington, DC 20009, (202) 588-7414, nofaic@asarya.com

Jack Kittredge and Julie Rawson, The Natural Farmer, NOFA Summer Conference, 411 Sheldon Rd., Barre, MA 01005 (978) 355-2853,

jackkitt@aol.com

Interstate Certification Contacts

John Cleary, 407 Rt. 15, Underhill, VT 05489, (802) 899-3808 vof@nofavt.org

Sarah Johnston, 661 Lansing Rd. #A, Fultonville, NY 12072-2630, (518) 922-7937, fax: (518) 922-7646, sarahjohnston@nofany.org

Calendar

note: This calendar is continuously updated at our website www.nofaic.org. So check there for current listings.

Saturday, Sept. 21 & Sunday, Sept. 22: Conference of the American Livestock Breeds Conservancy and the Fifth Annual Heritage Breeds Livestock Show and Sale, Hancock, MA *for more info: P.O. Box 225, Hardwick, MA 01037*

Friday, Oct. 4 & Saturday, Oct. 5:

"Ecofeminist Ethics & Activism: Re-Envisioning the Future," co-sponsored by CT NOFA, New Haven, CT *for more info: 203-392-6133*

Friday, Oct. 25 & Saturday, Oct. 26: New England Environmental Law & Policy Conference, Boston College, Newton, MA *for more info: 617-552-0927*

Thursday, Nov. 7 to Saturday, Nov. 9: Conference on Ecolabels and the Greening of the Food Market, Tufts, University, Medford, MA *for more info: willie.lockeretz@tufts.edu*

NOFA Membership

You may join NOFA by joining one of the seven state chapters. Contact the person listed below for your state. Dues, which help pay for the important work of the organization, vary from chapter to chapter. Unless noted, membership includes a subscription to The Natural Farmer.

Give a NOFA Membership! Send dues for a friend or relative to his or her state chapter and give a membership in one of the most active grassroots organizations in the state.

Connecticut: Individual or Household: \$35, Business/Institution: \$50, Supporting: \$100, Student (full time, supply name of institution) \$20

Judy Rothenberg, 53 Lanes Pond Rd., Northford, CT 06472-1125 (203) 484-9570, Email: JCR950@aol.com

Massachusetts: Individual: \$30, Family: \$40, Low income: \$20, Supporting: \$100

Elaine Peterson, 411 Sheldon Road, Barre, MA 01005, (978) 355-2853, jackkitt@aol.com

New Hampshire: Individual: \$25, Student: \$18, Family: \$35, Supporting: \$100 **Elizabeth Obelenus**, 4 Park St., Suite 208, Concord, NH 03301, (603) 224-5022, nofanh@innevi.com

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60 So. Main St., PO Box 886, Pennington, NJ 08534-0886, (609) 737-6848

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Mayra Richter, NOFA-NY, P O Box 880, Cobleskill, NY 12043, voice: (518) 734-5495, fax: (518) 734-4641 office@nofany.org

Rhode Island: Student/Senior: \$20, Individual: \$25, Family: \$35, Business: \$50
109 Somerset St., Providence, RI 02907-1031, (401) 828-3229

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Kirsten Novak Bower, NOFA-VT, PO Box 697, Richmond, VT 05477, (802) 434-4122, info@nofavt.org

Fall, 2002

The Natural Farmer

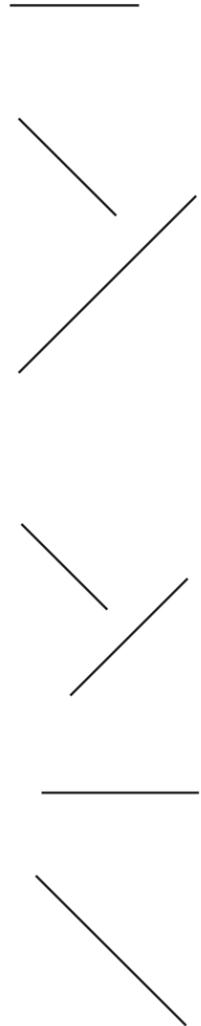
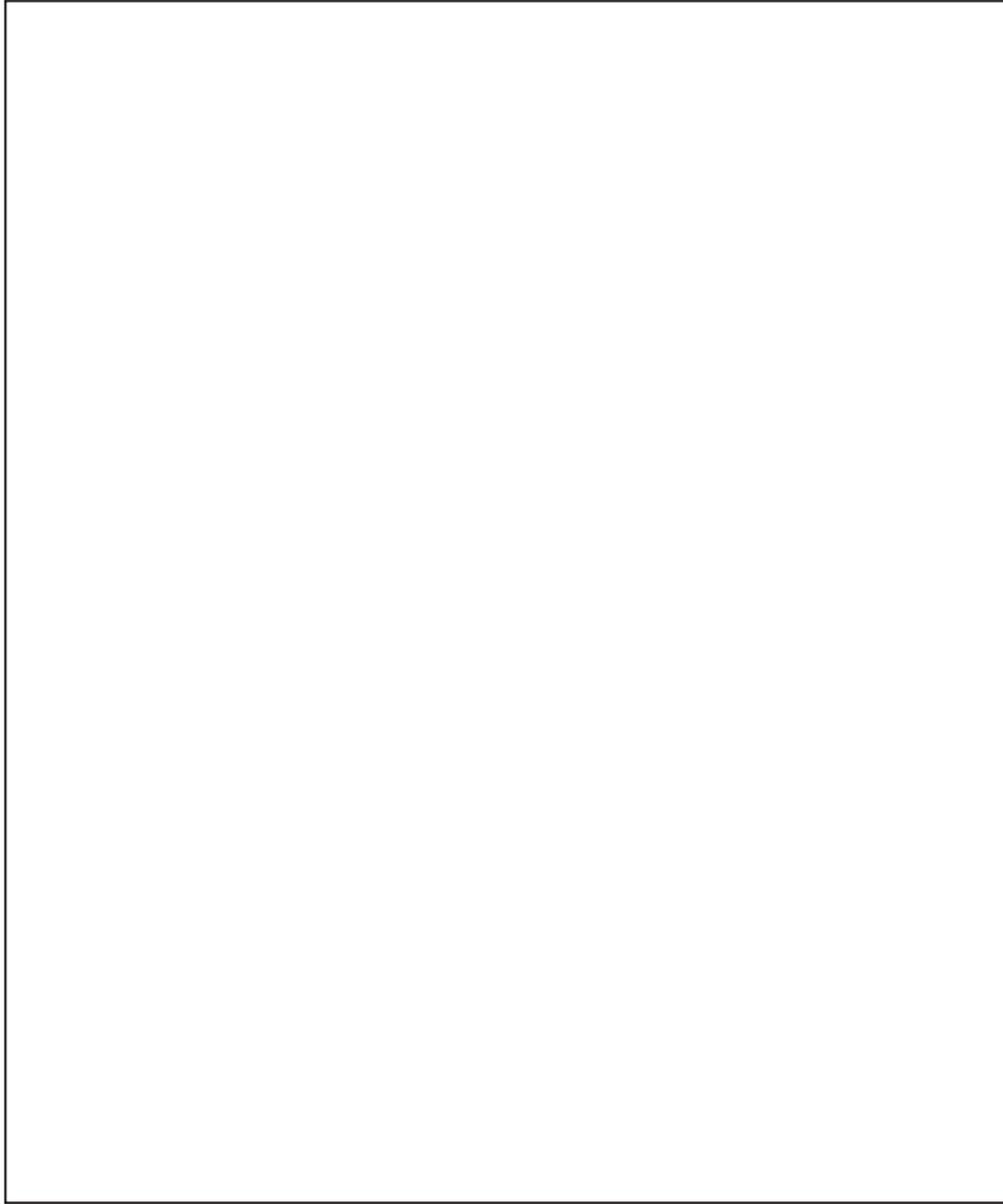


photo by Ellen Hanson

Bob and Kristine Keese with a box of their just-harvested organic cranberries. News, features, & articles about organic growing in the Northeast, plus a Special Supplement on

Organic Berries

