



New York Berry News

CORNELL UNIVERSITY

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what to do to keep this strawberry fruit disease to a minimum in your plantings.

Lastly, find the first of a series of 3 review articles on small fruit marketing, harvesting, postharvest handling and storage by yours truly.

Find all of this and much more in this month's issue of New York Berry News.

CURRENT EVENTS

May 4-6 Growing Home Markets: Planning for Your Local Food Trading System. NYSAWG in partnership with the Risk Management Agency of USDA is sponsoring a free workshop series for new and limited resource farmers. We are looking for small scale family farmers who are interested in building local food networks that serve neighborhoods and communities with fresh, healthy and affordable food. Join us at Sprout Creek Farm in Poughkeepsie, NY for a gathering of experienced farmers from around the country who will lead workshops and hands-on demonstrations on these important topics: Local Food Marketing; Post Harvest Handling; Project Planning; Vermiculture/Composting; Logistics and Transport; And other topics... Overnight accommodations available at Sprout Creek Farm for a small charge of \$35 per person/per night. Space for overnight guests is limited so please reserve early. Each workshop is limited to thirty participants. Please register as soon as possible to make sure you can attend! To register, call (585) 271-0490.

August 14-15, 2007. NASGA Summer Tour, Niagara Falls Canada and Niagara region of New York. Mark your calendars now.



Here we go again! Last week at this time it was in the low 30's and snowing in Geneva. Today temperatures are supposed to top out in the upper 70's to low 80's. Talk about a roller coaster ride. Hopefully things will get back to a more even keel shortly. Meanwhile, this warm weather will really push things along, including the weeds. Be sure to get your weed control done as soon as possible to prevent them from getting a jump start on the season. Read the article by Thomas Björkman to see how to reduce weed load before planting with a buckwheat cover crop.

Don't be fooled by these warm days, keep an weather eye on the thermometer especially in terms of strawberry frost protection. See the article by Kathy Demchak for more on this important topic.

Warmer weather may also set the stage for anthracnose development in strawberries. Kerik Cox has the latest on New York Berry News, Vol. 6, No. 4

FROZEN EASTER SPOILS FRUIT CROPS ACROSS EASTERN U.S.

April 11, 2007 - A wave of Arctic cold swept over the eastern United States a few days before Easter, doing extensive damage to fruit over a wide area.

"Now you know why they call it the Corn Belt and not the Fruit Belt," said Mitch Lynd, an apple grower from southern Ohio.

The day before Easter, temperatures there fell to 19° F and stayed there for four hours, catching apples in tight- to open-cluster.

"It's a wipeout; there's nothing left," he said on Monday. The last time his farm had a crop failure was 1977. He talked to other growers in Ohio, Tennessee, Illinois, Indiana and Arkansas, where reports were similar. Damage extended up to the Great Lakes and east until the maritime influence there provided some protection.

Jerry Frecon, fruit Extension specialist in New Jersey, said temperatures had gotten to 28° F and were hovering near freezing, but said there was no significant damage to peaches or blueberries. There was damage in states further south – South Carolina, Virginia, Georgia.

John Strang, the Extension fruit specialist in Kentucky, said, "It pretty well froze out the tree fruits. Most blueberries are gone. For strawberries, it depends. Primary and some secondary flowers are gone."

Surveying the damage the day after Easter, he began telling growers to prepare for a minimal disease control program for tree fruits, based on a less expensive material such as mancozeb, and not worry much about insects other than the foliage-feeding Japanese beetle. Not much need for fruit protection.

In Arkansas, horticulturist John Clark returned from the experiment station at Clarksville to say, "I have firsthand knowledge, and it's a mess – and a great big one. I can't believe how severe the damage is.

"This is the worst I've seen in 28 years in Arkansas. There are no bright spots for fruit crops – even blueberries. With highbush blueberries, we always get a crop. But I couldn't find anything live."

Blackberries were devastated, he said, as were most grapes, other than muscadines.

"Hard to believe. There'll be no peaches to eat in Arkansas."

In Michigan, Mark Longstroth, the Extension fruit specialist in Van Buren County, said damage was widespread inland from Lake Michigan, but 5 to 7 miles from the lake, fruit was OK.

"I expect 75 percent of our tart cherries are gone," he said. "There's some damage in apples. Red Delicious and other early blooming varieties were hurt more than Golden Delicious or Rome, which bloom later.

"There were some losses to grapes, but quite variable, depending on distance from the lake."

Blueberries were just starting to open, he said, and should be OK.

"A week ago, we were setting record highs in the mid 70s and apricots were in full bloom. Frigid weather arrived on Wednesday, with snow and highs near freezing for the next four days. We had low temps in the lower 20s with a wind for six, eight and 12 hours on successive days. Lows near 20 occurred on Friday and Saturday mornings. Low temperatures were a few degrees higher close to Lake Michigan, and the extreme cold did not last as long so they fared better, but away from the lake we got hit hard.

"We are not wiped out, but many fruit crops were damaged by the freeze. It seems obvious to me that the entire eastern half of the nation has been hit hard and that fruit crops here in the east will be scarce, and a lot of growers will be looking to supplement their income.

"Does anyone south of Michigan have any fruit left?" he asked, and the next day put that question on the Virtual Orchard Web site.

Apple disease specialist David Rosenberger from New York reported: "In the Hudson Valley, we have also had a number of nights of temperatures of 20 to 23 degrees here in our research orchards, and we tend to have a warmer location than

many growers. However, apples are still mostly at silver tip, although a bit of green is showing on early varieties and early locations. I'm assuming that apples here will come through even though there may be some damage.

“Stone fruits are certainly more questionable. Our apricots were not yet at pink, but the buds were pretty swollen and I'm certain they will take a hit. Peaches and sweet cherries, who knows? Since cold weather is predicted to continue for another seven to 10 days, I figure there is no rush to make any assessments because the cold is not over yet in this area.”

“The news from Illinois is probably worse,” said Mosbah Kushad, University of Illinois fruit specialist. “Apples and peaches were about a week earlier than normal due to the warm weather we had two weeks back.

“The peach crop in the southern part of the state is pretty much gone. Peaches were in full bloom when temperature dipped to 18 last weekend. The apple crop also suffered severe damage. In the central part of the state, king flowers in apples were in pink. We had 19, 20 and 22 degrees and wind of 22 miles per hour.

“The lucky ones will probably have some fruits, but many will not. In the northern part, apples are in either half-inch green or tight cluster. Some growers reported damage on early varieties. This morning, the temperature was 29 degrees in Champaign and the weather wizard predicts more freezing temperatures next week. Berry crops also suffered severe damage, especially those that were not protected with row covers or sprinklers.”

Marvin Owings, an apple specialist with North Carolina Extension in Hendersonville, said it would be week's end before he has an official loss estimate. But he projected a 90 percent loss for the county's apples. This freeze-out could equal the other historic benchmark disaster year, 1955, he said.

Chris Eckert, president of Eckert's Country Store and Farms near St. Louis, Mo., considered flying helicopters above his apples and peaches, but realized it was futile. The freeze brought high winds and no reservoir of warm air to pull into the orchard.

Eckert said it was too early to predict how much of his 175 acres of apples and 220 acres of peaches will be lost, but about 50 percent of the Red Delicious buds he checked Saturday were dead.

“Anything open was pretty much lost,” he said. He hoped later blooming varieties would fare better.

He predicted half a crop of strawberries, after double-tarping them for five days. Open blossoms were lost.

The big disaster for Eckert's was in peaches, a crop that pulls customers to the store. He said only 5 percent to 10 percent of the peaches were left alive. Temperatures fell to 23° F the Friday before Easter and stayed below freezing for 18 hours, he said. Cold winds blew at 20 to 30 miles per hour.

The setup for disaster came from warm temperatures earlier in March. Eckert said having apples in full bloom on April 5 was “unprecedented.”

Like many other successful farm markets, Eckert's was built on sales of its own production and added produce as a supplement. This year, the market will stay open but with less of its own product to sell.

“People come a long way to buy peaches from us,” Chris said.

(Reprinted from: Fruit Growers News, found at: <http://fruitgrowersnews.com/>)

“STRAWBERRIES: ORGANIC PRODUCTION” UPDATED FOR 2007



This ATTRA publication updated in 2007 provides an overview of organic strawberry production methods. It also covers integrated pest management and weed control techniques that can reduce pesticide use in strawberry production.

Included are discussions of weeds, pests, diseases, greenhouse production, plasticulture, fertility, economics, and marketing. Lists are provided of further resources, both electronic and in print. Look for this publication at: http://attra.ncat.org/calendar/new_pubs.php/2007/01/24/strawberries_organic_production.

ATTRA also has available organic production summaries for both blueberries and brambles. "Blueberries: Organic Production" and "Organic Culture of Bramble Fruits" may be accessed as html or printable PDF files at: <http://www.attra.org/horticultural.html#Fruits>.

SUPPORT YOUR LOCAL BERRY GROWER ORGANIZATION!

Strawberries, raspberries, blueberries, and other berries are indeed the fruit for the new millennium. More and more berries are being recognized for both their nutritional and health value. Berries are not only beautiful to behold, but tasty and enjoyed by people of all ages. Demand for berries continues to increase, and they receive favorable reviews in public media.



The New York berry industry may seem small compared to vegetables and other agricultural crops, but is an important part of New York State agriculture. It is healthy, but like all of agriculture it faces challenges, in production, marketing, and other issues such as labor, regulations, and taxes. Berry growers need to continue their education plus be recognized by researchers and others as having an industry voice.

The New York State Berry Growers Association (NYSBGA) was begun in 1988 and incorporated in 1994 in its present form, a 501 (6) (c) not for profit educational association. The association's primary role is to provide information and education to its grower members, and represent berry industry research needs to university and extension people. While not a direct lobbying association, berry industry issues can be represented in public hearings and agency forums.

NYSBGA has a board of directors that meets 3 to 4 times per year, and has the services of an executive secretary.

NYSBGA offers several benefits for its members, as part of the \$45 annual dues, including:

1. An annual day long winter educational and business meeting, usually in conjunction with the New York State Fruit and Vegetable Expo, held in Syracuse, N.Y. Berry Production, marketing, and business topics are presented by growers, researchers and extension specialists from Cornell and other universities.
2. One main newsletter is published per year, sent out prior to the growing season - a compendium of new topics on berry production and other items of interest. NYSBGA members receive a complimentary copy 4 times per year of the New York Fruit Quarterly, which provides in each issue a topic specific to berry production.
3. NYSBGA offers members convenient shipments of row covers and sand bags directly from the manufacturer.
4. Timely mailings are sent to members when special information needs to be communicated, such as new crop protection registrations, labels, or marketing tools available to members. NYSBGA members also receive discounts of berry production guides from Cornell University.
5. Participation in regulatory open public hearings where berry issues need to be addressed, plus representation in other statewide program committees, and national berry initiatives.
6. During the berry harvest season, NYSBGA distributes press releases throughout the state informing the media on the status of the berry harvest, and where they can find more information. The NYSBGA website has a list of growers searchable by county for media and consumers to search for local farms in their areas.

In addition to the \$45 annual dues, many of NYSBGA's members contribute voluntarily to a separate designated research fund. In most years, about \$3,500 has been granted for specific projects including disease and insect control, post-harvest storage, spray technology, variety research, and wildlife management control.

Renewing membership or becoming a member can only help you strengthen the voice of the berry industry in New York, plus support education and research specific to berry production and marketing.

To join, please fill out the membership form below and don't forget to visit their website at: <http://www.hort.cornell.edu/grower/nybga/index.html>.



New York Berry Growers Association (NYSBGA)
Membership Application/Renewal

Name _____ (Renewal _____ New _____)

Farm or Business Name _____

Address _____

City _____ State _____ Zip _____

Phone _____ Fax _____

E-Mail Address _____ County _____

Crops: Blueberries _____ Raspberries _____ Strawberries _____

Ribes _____ Vegetables _____ Fruit _____

Membership Fee – 1 Year, 2006 \$45 _____

Research Fund Donation _____
(Suggested \$50, but any level appreciated)

TOTAL ENCLOSED _____

***Please make check payable to New York State Berry Growers Association
Or NYSBGA and send to:***

Jim Altemus, Executive Secretary, 14 State St., Bloomfield, NY 14469

Cancelled check will serve as your receipt, unless otherwise requested

COMMISSIONER ENCOURAGES NY'ERS TO SUPPORT CSA FARMS

'Community Supported Agriculture' Offers Fresh Products, Greater Understanding

Jessica A. Chittenden, Public Information Officer, New York State Department of Agriculture and Markets

April 5, 2007. New York State Agriculture Commissioner Patrick Hooker today encouraged consumers to support New York farmers by becoming a member of a local Community Supported Agriculture (CSA) program. CSAs or "subscription farms" are farms where consumers are members and pay in advance for farm fresh products.

"Membership has its privileges at CSAs," the Commissioner said. "New York has more than 100 CSA programs that provide their members with direct access to a variety of healthy foods that are harvested at the peak of freshness, flavor and ripeness. I encourage New Yorkers to develop a personal connection with their local farmers by joining a local CSA. Your membership and support will not only give you a greater appreciation for the abundant bounty our great State provides, but some of the freshest farm products found anywhere."

CSAs have become extremely popular in recent years for both farmers and consumer members. While farmers seek more stable markets for their products, CSAs also reduce their financial risks because operating costs are covered in advance by their members. By selling directly to members, CSAs often receive better prices for their crops, gain financial security, and spend less on marketing.

Consumers enrolled in a CSA not only receive fresh produce, they also gain satisfaction from being more directly connected to their food source, knowing more about how it was produced. As members, they share in the risks of farming, including reduced harvests due to unfavorable weather or pests, but also reap the bounty during a good growing season.

The Pride of New York Program supports CSAs and the fresh products they produce. Pride of New York is the State's marketing and promotion program that generates interest and demand for New York food and agricultural products.

Most CSAs harvest daily to ensure the freshest produce. CSAs typically deliver a week's share to a set distribution site or members can pick up their share at the farm, a weekly farmers' market or another pre-determined location. The Farm Share Ltd. CSA of Larchmont (Westchester County) delivers its harvest directly to homes by traditional milkmen. Peacework Organic Farm in Newark (Wayne County) and the Genesee Valley Organic CSA in Rochester (Monroe County) encourage their members to actively participate in the harvest and distribution process during the season.

New York State CSAs are not limited to fruits and vegetables. Some CSAs provide a full array of farm products including eggs, meat, milk, baked goods, honey, and maple syrup. Eight Mile Creek Farm in Westerlo (Albany County) offers its members cage-free eggs, grass-fed beef and goose, in addition to a large variety of organic produce. The W. Rogowski Farm, LLC in Pine Island (Orange County) is known for growing many heirloom varieties of produce that are not readily available in grocery stores.

These CSAs, along with numerous others, are members of the Pride of New York Program, which helps CSA farms market their products using the Program's emblem. Pride of New York's statewide membership includes nearly 2,000 growers and food processors, restaurants and retail outlets, wineries, wholesalers and distributors, agritourism initiatives and trade associations that support New York agriculture. For more information on the Pride of New York, please visit www.prideofny.com or call 1-800-554-4501.

For a list of CSAs in New York State, you can search on the Department's website at <http://www.agmkt.state.ny.us/AP/FFGSearch.asp> and select "Subscription/Sales CSA."

BILL TO REFORM H-2A (TEMPORARY AGRICULTURAL WORKER PROGRAM) INTRODUCED IN CONGRESS

March 30, 2007 – Rep. Bob Goodlatte, R-Va., introduced a bill in Congress yesterday to reform the H-2A temporary agricultural worker program.

H.R. 1792, the Temporary Agricultural Labor Reform Act of 2007, would reform “the impractical aspects” of the H-2A program that have kept farmers from using it to employ a fully legal workforce.

Goodlatte serves on the House Judiciary Subcommittee on Immigration, Citizenship, Refugees, Border Security and International Law and is the ranking Republican on the House Agriculture Committee, which he chaired from 2003 until this year.

He introduced a different version of the bill in the last Congress.

“This year's bill is different in that Mr. Goodlatte proposes to expand the class of eligible H-2A jobs to include, among other things, meat processing jobs, nursery work, and fruit and vegetable packing,” said Stephanie Myers, Republican deputy chief counsel to the House Committee on Agriculture.

“This will be achieved, in part, by language that will eliminate the requirement that H-2A jobs be ‘seasonal’ in nature. Another significant change he is making in this year's bill will be the addition of language that would eliminate the housing requirement from current law under H-2A. Finally, no cap on the number of H-2A visas is contemplated.”

This is Myers' summary of the bill:

- It reforms the impractical aspects of the H-2A program in response to the predicament of farmers who, in order to employ a fully legal workforce, have undertaken the substantial burdens and bureaucratic red tape associated with the H-2A program.
- It will help deal with the problem of illegal immigration by encouraging farm workers who are in the United States illegally to return to their home countries and re-enter the United States through the H-2A program.
- It modernizes and streamlines the H-2A program and permits employers to attest to their need for workers when mandated efforts to recruit U.S. workers each season do not yield the help they need.
- H.R. 1792 eliminates –
 1. The artificially high Adverse Effect Wage Rate and replaces it with a prevailing wage standard;
 2. The “50 percent rule,” which requires H-2A employers to hire any person who wishes to work before 50 percent of the contract period is completed;
 3. The rule in some states (known as the “Arriaga” rule) that requires employers to pay their employees’ transportation costs before they have completed their first week of work; and
 4. The requirement that H-2A employers provide free housing to their employees.
- The bill expands the scope of the H-2A program by permitting employers of year-round agriculture workers – such as those in landscaping, horticulture or meat processing – to apply for H-2A workers when sufficient U.S. workers can’t be recruited.
- It levels the legal playing field by instituting fair rules for H-2A-related lawsuits, which will –
 1. Require parties to attempt to resolve issues through mediation before going to court; and
 2. Require Legal Services attorneys to have prearranged appointments with clients before entering a farm.

(Reprinted from: *Fruit Growers News*, found at: <http://fruitgrowersnews.com/>)

FARM TO SCHOOL RESOURCE NOW AVAILABLE

A new ATTRA publication "Going Local: Paths to Success for Farm to School Programs" is now available at <http://departments.oxy.edu/uepi/cfj/publications/goinglocal.pdf> (PDF/5.65 MB).

This resource features case studies from eight states - California, Florida, Illinois, Massachusetts, Michigan, New Hampshire, North Carolina, and Oregon and provides a snapshot of the diverse ways in which farm to school is making a difference nationwide. This publication was developed by the National Farm to School Program, Center for Food & Justice, Occidental College and the Community Food Security Coalition.



To view another ATTRA related publication "Bringing Local Food to Local Institutions", go to: <http://attra.ncat.org/attra-pub/farmentoschool.html>.

WHY DO YOU JOIN AN ASSOCIATION?

- You don't buy a newspaper, you buy news.
- You don't buy life insurance, you buy security.
- You don't buy glasses, you buy vision.
- You don't buy awnings, you buy shade.
- You don't buy membership in an association... You buy the cooperation of people in your profession with whom you can join hands to do the things you can't do alone.

Joining any organization involves a certain commitment especially where dues are required for membership. This is exactly what the North American Strawberry Growers Association (NASGA) represents ... those growers, nurserymen, researchers, extension specialists, and suppliers who want to get the most out of growing strawberries. This commitment to doing one's best doesn't guarantee overnight success, but it does mean that you will be exposed to resources of people and information to put you on the right path toward personal and financial achievement.

North American Strawberry Growers Association
2007 Membership Application
NASGA's annual membership year is from January 1 to December 31.

Business Membership
Farm, Nurseries, or Suppliers in the Industry
— Grower/Farm
— Nursery business selling to growers
— Other suppliers to the strawberry industry
Membership includes: Newsletter subscription, Advances in Strawberry Research, reduced registration fees for the annual conference and summer field website listing & Membership Resource Directory and voting privileges.
New Member: \$65 for USA, Canada & Mexico (US dollars)
 \$95 for other countries (US dollars)
If you are applying and were a member in 2006/2007, the regular dues of: \$75 for USA, Canada & Mexico (US dollars)
 \$100 for other countries (US dollars)

Individual Membership
Industry Related Professionals or Students
— Professional (public employee, researcher, extension specialist, county agent, etc. who is not affiliated with a commercial strawberry operation, nursery or supplier)
— Student (college or high school). Application must have doctor's signature.
Membership includes: Newsletter subscription, Advances in Strawberry Research, reduced registration fees for the annual conference and summer field website listing, and a Membership Resource Directory. Does not include voting privileges.
 \$55 for USA, Canada & Mexico (US dollars)
 \$65 for other countries (US dollars)

Information for NASGA's Membership Records
NOTICE: The NASGA Board of Directors has found that extensive communication is the most effective and constructive means of maintaining membership information about the organization. By submitting your email and fax information, you are agreeing to accept electronic notices and news as part of your membership. In fact, mailed notices or reports your address are not as useful or correct due from electronic communication by this parties.
Primary Contact Name _____
Farm/Business Affiliation _____
Mailing Address _____
City _____ State/Prov _____ Postal Code _____ Country _____
Daytime Phone _____ Daytime Fax _____
Email _____ Website _____
NASGA was/is recommended by: _____
Confidential for office records only - Please indicate the number of acres being raised for the coming year: _____
Information for NASGA's Directory and Website (www.nasga.org)
NASGA website has a search feature where the public can "find a grower" or a grower can locate a supplier or locally report. The information you have supplied for the NASGA Database will also be used on the website and in the NASGA Membership Resource Directory. Email us an electronic copy of your company logo and we will also include it on the website. Contact the business office to provide different information for the directory or website. If you prefer NOT to be listed on the website check here: _____
For questions or requests for changes email: ksong@nasgafruit.net or call: 615-258-8128

Enclosed is Total Payment in the Amount of \$ _____ (US dollars) (Our Payment ID # N 31-0294302)
* To Make payment, send completed form with check or money order payable to NASGA (US Dollars only) to:
NASGA Business Office, 38 Harmony Way, Marietta, GA, Canada R05 1.0 Phone: 615-258-4587/Email: ksong@nasgafruit.net
* or FAX membership form with credit card payment noted below to: Fax - 615-258-8128
Credit card information: Visa MasterCard Amex Number: _____ Exp. Date: _____
Name on card prints _____ Signature _____ (print name)

Here's what you can expect to gain from the North American Strawberry Growers Association:

- Access to the top strawberry researchers and horticulturists in the United States and Canada. At our three-day annual meeting held in the winter, there is ample time to speak directly with scientists and professionals who are vitally interested in your concerns.
- Timely publications that give you the latest information on production methods and new marketing techniques; the newly redesigned and enlarged quarterly newsletter and "Advances in Strawberry Research". These publications are for members only to keep you up-to-date and save you time and effort searching through university libraries or a multitude of magazines for what is new and valuable for strawberry growers.
- New ideas developed by other growers. A true sign of a successful grower is a willingness to share knowledge gained from personal successes and failures. Such sharing is a major component of our annual meeting. In addition, our membership directory gives you a chance to contact other members for their advice or support.
- NASGA works for you as a lobby for berry growers on the national level. Our success depends upon your participation and support. This is a critical time during which we see university research and extension programs under very close scrutiny that often results in cutback of financial support. You can show support as constituents of the strawberry industry by joining together in NASGA. University, USDA, and Provincial administrators clearly see our commitment as we contribute over \$50,000 toward research projects this year and publish our own research journal. "Advances in Strawberry Research".

- NASGA supports your marketing efforts through special publications offered by NASGA to assist you and promote strawberries to your customers. Each Annual Conference has several sessions dedicated to marketing related topics.

If you grow and market strawberries and other small fruits, educate or consult, or are exploring the myriad dimensions of small fruit growing as a career, then it is time to recognize that the North American Strawberry Growers Association is a valuable key to your success! We invite you to join NASGA and take advantage of new experiences and friendships while strengthening the solid foundation of information needed to be a successful grower.



The North American Strawberry Growers Association (NASGA) was organized in 1977 and incorporated as a non-profit corporation by progressive strawberry growers and leading small fruit researchers. Their purpose was to support USDA and state/provincial research programs, develop educational seminars and publications, promote development of equipment, varieties and cultural methods to improve efficiency for the strawberry industry - including grower applied research, and promote beneficial legislation.

Today NASGA represents more than 500 members in 40 states, 10 provinces of Canada and 15 countries. NASGA continues to be a grower-based association strongly rooted in the original philosophy that ongoing research will provide knowledge to strengthen and improve strawberry production and marketing. Publications include a research journal, proceedings, and newsletter.

To accomplish this mission NASGA:

- commits 25% of dues to research (NASGA has granted over \$350,000 in research dollars)
- publishes the journal *Advances for Strawberry Research* (which is purchased by libraries world-wide)
- formed a foundation to generate increased funds for research (NASGA has increased funding to more than \$50,000 per year)
- sponsors an educational winter conference and publishes a newsletter for members
- supports issues critical to the well-being of strawberry growers through an active legislative committee.

To join NASGA, simply fill out and return the form on the following page. Don't forget to visit their website at: <http://www.nasga.org/>.

Questions or Comments about the New York Berry News?

Send inquiries to:
 Ms. Cathy Heidenreich
 New York Berry News, Interim Editor
 Department of Plant Pathology
 New York State Agricultural Experiment Station
 690 W. North Street
 Geneva, NY 14456
 OR Email: mcm4@cornell.edu

Editor's Note: We are happy to have you reprint from the NYBN. Please cite the source when reprinting. In addition, we request you send a courtesy [e-mail](#) indicating NYBN volume, issue, and title, and reference citation for the reprint. Thank you.

Check out the NYSAES Tree Fruit and Berry Pathology web site at:
www.nysaes.cornell.edu/pp/extension/tfabp



2007 Membership Application

NASGA's annual membership year is from January 1 to December 31.

Farms, Nurseries, or Suppliers to the Industry

Industry Related Professionals or Students

Business Membership

Grower/Farm Nursery business selling to growers Other suppliers to the strawberry industry
Membership Includes: Newsletter subscription, Advances in Strawberry Research, reduced registration fees for the annual conference and summer tour, website listing, a Membership Resource Directory and voting privileges.

New Member:

\$85 for USA, Canada & Mexico (US dollars) \$95 for other countries (US dollars)

If you are rejoining and were a member in 2004-2006, pay regular dues of:

\$175 for USA, Canada & Mexico (US dollars) \$190 for other countries (US dollars)

Individual Membership

Professional (public employee, researcher, extension specialist, county agent, etc. who is not affiliated with a commercial strawberry operation, nursery or supplier)

Student (college or high school) Application must have advisor's signature. _____

Membership includes: Newsletter subscription, Advances in Strawberry Research, reduced registration fees for the annual conference and summer tour, website listing, and a Membership Resource Directory. Does not include voting privileges.

\$55 for USA, Canada & Mexico (US dollars) \$65 for other countries (US dollars)

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Primary Contact Name			
Farm/Business/Affiliation			
Mailing Address			
City	State/Prov.	Postal Code	Country
Daytime Phone	Daytime Fax		
Email	Website		

NASGA was to me recommended by: _____

Confidential for office records only --Please indicate the number of acres being fruited for the coming year _____

Information for NASGA's Directory and Website (www.nasga.org)

NASGA's website has a search feature where the public can "Find a Grower" or a grower can locate a supplier or industry expert. The information you have supplied for the NASGA database will also be used on the website and in the NASGA Membership Resource Directory. Email us an electronic copy of your company logo and we will also include it on the website. Contact the business office to provide different information for the directory or website. **If you prefer NOT to be listed on the website check here** _____.

For questions or requests for changes email: kconsult@allstream.net or call: 613-258-4587

Enclosed is Total Payment In the Amount of

\$ _____

(US dollars) (Our Federal ID # is 31-0994392) To **MAIL** payment, send completed form with check or money order payable to NASGA (in US funds only) to: **NASGA Business Office, 30 Harmony Way, Kemptville, ON Canada K0G 1J0**

or FAX membership form with credit card payment noted below to: 613-258-9129

Credit Card Information: Visa _____ MasterCard _____ Acct. Number _____ Exp. Date _____

Name on card (print)

_____ Signature _____

STRAWBERRY WEED MANAGEMENT WITH BUCKWHEAT COVER CROPS.

Thomas Björkman, Department of Horticultural Sciences, Cornell University, Geneva NY.

Buckwheat is a traditional tool for weed control, but knowledge of how to use it effectively is being lost as the practitioners leave farming. The published guidance has been too general, missing important details needed to make it consistently effective for strawberry growers. An ongoing SARE project has involved learning from those farmers who use it effectively now, and doing some research-farm trials. We have developed specific information on the procedures for success. We would now like to have strawberry growers try the method to see that methods are sound and well-described.

If you are new to buckwheat cover cropping, and would consider trying it in 2007, before 2008 strawberry plantings, please get in touch. Contact Dr. Thomas Björkman by telephone (315-787-2218) or email (tnb1@cornell.edu).

We can supply enough seed for participants to do up to half an acre. You'll be asked to answer three questions at the end:

1. What do you wish you had known that wasn't in the instructions?
2. What did you learn that you think others would want to know?
3. What weeds were not controlled?

For strawberries, weed control is difficult for several reasons. The cost of weeds is very high compared to other crops, particularly in you-pick operations. Perennial weeds are often the reason strawberry beds have to be abandoned. The available herbicides are few and timing is crucial for them to be effective. Sometimes the weather spoils that timing. Furthermore, the cost of hand hoeing is very high. The purpose of using a buckwheat cover crop is to reduce perennial weeds and minimize the seedbank for summer annuals. That should extend the time until perennials become serious, reduce the amount of hoeing and reduce the consequences of not being able to apply a herbicide at the right moment.

While buckwheat can be beneficial as a single cover crop or a late season grain crop, we have found that not to be enough for strawberries. What's needed is the more-aggressive double crop. There are two scenarios available. One for land that was in another crop and is open in the spring. The second is for those who need to replant old strawberry beds to strawberries. Please don't count on buckwheat to help much with the root disease that may arise in the second scenario.

Procedure

Full season

1. Prepare ground in mid-spring when conditions are best.
2. Plant in late May or early June. Drill 50 lb/ac, 1 inch deep or less. Alternatively, broadcast at 70 lb/ac to avoid gaps. Spread as evenly as possible and use shallow incorporation, such as with a drag or chain, to give the buckwheat a faster start than the weeds.
3. Mow after 45 - 50 days, after immature seed have begun to form.
4. Allow second crop to grow from volunteers, or reseed.
5. Mow second crop after within a week of flowering. Plant a winter cover crop (annual ryegrass, oats) in late August or early September.
6. Till in spring and plant next strawberry crop

Replanting

1. Harvest strawberries and apply herbicide to control perennial weeds. After the herbicide has been translocated, till in and allow 10 days to decompose. Cultivate just before seeding to kill weed seedlings and prepare seedbed.
2. Plant buckwheat in July. Drill 50 lb/ac, 1 inch deep or less. Alternatively, broadcast at 70 lb/ac to avoid gaps. Spread as evenly as possible and use shallow incorporation, such as with a drag or chain, to give the buckwheat a faster start than the weeds.
3. Mow after 35-40 days to avoid volunteers.
4. Plant a second buckwheat crop immediately (mid-late August).
5. Mow or incorporate second crop after 35 days. Plant winter cover crop such as wheat in late September
6. Till in spring and plant next strawberry crop

Alternative winter cover. In wet years, medium red clover can be broadcast with the second buckwheat planting. It will grow after the buckwheat is mowed in the fall and provide both winter cover and nitrogen. If it was too dry for the clover to take, plant a conventional grain winter cover crop.

Controlling volunteers. The program described here should not produce volunteer buckwheat in the strawberries. However, delays in controlling the buckwheat may result in viable seed that mostly germinates in mid-May. If you do get volunteers, they can be easily killed with early cultivation. Many growers who cultivate the seedlings say that control is very easy. Those who wait disagree. Buckwheat volunteers may succumb to your regular herbicide program. Unfortunately, they are relatively tolerant of deyrinol and dachthal.

Seed sources. In New York, cover crop buckwheat seed is available from AgriCulver, Birkett Mills, Seedway, Ernst Conservation Seed and Lakeview Organic Grain. Both Birkett Mills and Lakeview have organic seed.

ANTHRACNOSE: A POTENTIAL PROBLEM FOR NEW YORK STRAWBERRIES

Kerik Cox, Assistant Professor, Department of Plant Pathology, Cornell University's New York State Agricultural Experiment Station, Geneva, NY

Strawberry anthracnose can be one of the most devastating diseases of strawberry, particularly in more southerly states where warm temperatures and high humidity frequently occur. However, this doesn't mean that New York (NY) strawberries can't be 'hammered' by anthracnose, particularly if warm rainy weather occurs at harvest. To prepare us for 'Hammer of Anthracnose' this year, I have provided a quick overview of the basic features of the disease most relevant to mitigating the problem.

What should you look for? Anthracnose may manifest in several forms including crown rots, fruit rots, and leaf spots, all depending on the species of *Colletotrichum* attacking the crop. Of the species that attack strawberry, only *C. acutatum* is known to be prevalent in the Northeast, which is thankfully not a species that causes crown rots. In NY, *C. acutatum* only blights leaves, petioles, runners, flowers, and, most importantly, rots the fruit, which is still enough to wipe out production. Lesions on petioles, stems, and runners start as small dark spots that elongate, coalesce, become sunken, and finally girdle the tissue. If runners become girdled, daughter plants may also completely wilt and die. Leaf infection for *C. acutatum* typically begins at leaf margins, and then develops into large sunken brown black spots. As early as bud emergence, flower infection can occur. Infected flowers quickly turn brown and become dry due to the low moisture content of the tissues. Unfortunately, it is easy to confuse this damage with chemical injury. On fruit, green or red (**A,B**), the lesions will start as slightly depressed water-soaked spots that become sunken, larger (>3mm), brown, and finally black. Like most fungi, *C. acutatum* loves water, and will suck the water right out of the fruit, which may eventually become hard and shriveled. One calling card (sign) of this pathogen is the salmon to orange colored ooze (spore masses) (**B**) that typically form in fruit lesions, but can potentially appear on any plant lesion. **Lit: (4)**



Why is the disease so devastating? Anthracnose becomes most devastating when: 1) inoculum is present, 2) temperatures are warm, 3) heavy rains occur, and 4) developing fruit are present. This is usually a bigger problem with the day-neutral compared to the earlier season varieties. Billions of spores comprise the salmon-colored ooze on infected tissues. These spores can infect and rot fruit quickly, especially when warm (>80°F), well hydrated (wet), and presented with readily available sugars in ripening fruit. Spores are dispersed by wind-blown rain, which acts as a low wind speed airblast sprayer in terms of plant coverage. To make matters worse, infection by a single spore can give rise to a new lesion

filled with numerous spore masses. This whole process happens more quickly with warm, rainy, windy weather, which is how a single planting can be decimated in less than a week.

Where does it all come from? It is common belief that anthracnose is introduced by planting infected stock. *C. acutatum* can cause quiescent infections, which manifest with full symptoms soon after newly obtained plants are planted and growing. These quiescent infections are difficult for the nursery to detect and most likely serve as the source of primary (initial) inoculum. Once in the field, *C. acutatum* can survive from year to year on infected plant debris (dead leaves, mummified fruit, dead shoot, and dead runners), and unfortunately, *C. acutatum* is reported to survive outside of debris in fallow soils for several weeks. Research has shown that survival of *C. acutatum* in plant debris may decrease if winter conditions persist longer than 3 months, with a further decline in survival if infected debris is buried. However, whether or not these declines in survival merit cultivation practices in strawberries has yet to be determined. Somewhat more frightening is the fact that *C. acutatum* can have both endophytic and epiphytic lifestyles on non-strawberry weed hosts, which could also serve as additional sources of inoculum and means of survival. **Lit: (3, 5, 6)**

What do I do about it? The battle against Anthracnose is best won on by fighting on several fronts. Consider each of the following topics before planning your strategy for Anthracnose.

1. *Avoidance:* Fact sheets and similar publications will simply recommend planting disease-free plant materials. This is a great practice in theory, but I'm not aware of any nurseries offering a sufficiently robust fungal disease certification service. When new plants arrive, have a close look at them for Anthracnose symptoms. Don't forget that infections may also be quiescent and therefore undetectable.
2. *Resistance:* Resistance to *C. acutatum* does it exist, and in two different forms. High levels of resistance are thought to be due to the presence of a single dominant gene, while intermediate low levels of resistance are due to the presence many genes working in concert. Since we aren't going to wholly accept genetically modified strawberries in the near future, we'll have to use what we have on hand. Below I've compiled list of common NY cultivars for which a level of susceptibility has been documented. The susceptibility for other cultivars is still unknown, but to be safe, assume that they are susceptible. **Lit: (1, 2)**

Season	Cultivar	Susceptibility
Early Season	Honeoye	Extremely Susceptible
Early Season	Earliglow	Moderately Susceptible
Middle Season	<i>Kent</i>	Extremely Susceptible
Late Season	<i>Allstar</i>	Extremely Susceptible
Day Neutral	<i>Tribute</i>	Extremely Susceptible
Day Neutral	<i>Seascape</i>	Resistant

3. *Slowing the spread:* Unfortunately, the impact of planting density on spread of anthracnose is too complex for sweeping generalizations, but it is fair to say that scientists have reported reduced disease incidence with increasing strawberry plant density. This may sound counter intuitive and is not a universal truth, but if you want to have a high density planting at least there's no cause for alarm. **Lit: (8)**

This disease is rain-dispersed, so if you want to slow disease spread make sure to avoid the trampoline-like plastic mulch and use straw mulch. Also avoid overhead irrigation (which mimics rain infection events) and use drip irrigation instead.

4. *Sanitation:* It's extremely important to remove all infected and dead plant material, as they are great sources of inoculum both before and during the season. Unfortunately, the absence of a large economically sustainable agricultural workforce may render this process impractical.
5. *WHAT DO I SPRAY:* Once the disease is well established in a plantings, particularly at high levels, even the most effective fungicide regime won't completely eliminate the problem. Also, many of the recommended fungicides such as Captan 80 WDG, Captevate WDG, and Cabrio EG are either protectants or only have moderate post-infection activity. To be on the safe side, apply all fungicides before rain events. Give fungicides at least 3-6 hours to dry on the plant fruit and foliage before rain is predicted to occur. In the table below are several fungicide program recommendations (based on data from Plant Disease Management Reports) listed in order from highest level of potential control and application cost to lowest control potential and cost. Begin all programs at 10% bloom with an application of Captan 80 WDG (3.75lbs/A). For the highest level of control, but highest cost make subsequent applications on a fixed interval or "calendar-based" program through harvest. Otherwise, time applications prior to rain events. **Lit: (7, 9)**

Cost/ Efficacy ^a	Program ^b
1	Pristine ^c WG (23oz./A) alternated with Switch 62.5WG (11oz/A)
2	Pristine ^c WG (23oz./A) alternated with Captevate WDG (11oz/A)
3	Pristine ^c WG (23oz./A) alternated with Captan 80 WDG (3.75lbs/A)
4	Captan 80 WDG (3.75lbs/A) alternated with Captevate WDG (11oz/A)
5	Captan 80 WDG (3.75lbs/A) alternated with Switch 62.5WG (11oz/A)
6	Captan 80 WDG (3.75lbs/A) full season

^a Level of potential efficacy and cost in order from most potentially effective and most expensive (1) to the least (6)

^b Begin the programs after a first application of Captan 80 WDG (3.75lbs/A) at 10% bloom.

^c One may substitute Abound 2.08F (6.2fl. oz./A) or Cabrio EG (14oz./A) for Pristine WG, but one must not expect an identical level of efficacy.

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FROST PROTECTION: TIPS AND TECHNIQUES

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Damage from freezes and frost is of concern from bud break in the spring through flowering and fruit set. The blossoms are tender and are the plant part most commonly damaged by low temperatures. Since loss of the blossoms means a loss of fruit for the year, frost protection is of great concern.

Critical Temperatures for Frost Damage

Damage occurs when water in the plants' cells freezes, thus causing the cells or cell parts to rupture. The temperature at which this occurs depends on the water content and concentration of water vs. solutes in the plant tissue. Therefore, the temperature at which damage occurs varies with the crop and growth stage. Table 1 lists commonly-accepted critical temperatures for strawberry and blueberry blossoms at different stages of bud development. These values are not absolute, and within reason, it is better to err on the side of safety when protecting crops from frost damage.

Table 1. Critical temperatures (degrees F) for cold damage of flower buds based on stage of development. Note with blueberries, there is considerable variability in temperatures at which damage was reported for these growth stages.

Strawberries	Critical temp.	Blueberries	Critical temp.
Bud emergence	10	Bud swell	15-20
Tight bud	22	Tight cluster	18-23
"Popcorn"	26	Separate flowers visible	22-25
Open blossom	30	Late closed blossom	25-26
Green fruit	28	Open blossom	27
		Petal fall	28

Sources: Strawberry Critical Temperatures - K. Perry and B.C. Poling, North Carolina State Univ.; and Richard Funt, Ohio State Univ.; Blueberry Critical Temperatures - Fruit Crop Advisory Team Alert, Vol. 18, No. 3. "Protecting Blueberries from Frost", E. Hanson and M. Longstroth, Michigan State Univ.

Types of Frosts and Freezes

Radiant frosts and freezes occur on calm, clear nights with no cloud cover. Heat is lost from the soil and plants, and radiates back to the sky. *Advectional frozes*, sometimes called windborne frozes, are caused when a cold air mass moves into the region accompanied by with a lot of wind. It is difficult to protect against this type of freeze.

Environmental Factors Affecting Frost Occurrence and Protection

Air temperature is the measurement used for initiating or stopping frost control practices, and can be taken with either a dry-bulb or wet-bulb thermometer. *Dry-bulb temperatures* are the type commonly referenced in literature and in weather forecasts. *Wet-bulb temperatures* are obtained from a thermometer that is covered with a wet wick. Air is moved over the bulb causing evaporative cooling to occur. The wet-bulb temperature is useful because it essentially is what the plant temperature will be once the irrigation is started and evaporative cooling has taken place.

Wind speeds of more than a few miles per hour can make frost protection difficult, especially in an advective freeze. Light breezes, however, tend to mix the air and can increase temperatures at ground level in the case of radiational frosts. Temperatures tend to be more uniform even across a distance of miles when windy conditions exist.

The *dew point* is the temperature at which the relative humidity reaches 100% as the air cools. At this point, water vapor in the air condenses into fog or dew, which gives off heat, slowing the temperature drop. The risk of having a frost becomes greater as the dew point becomes lower. If the dew point is below freezing, so that condensation and heat release does not take place until below freezing, temperatures can drop to damaging levels extremely rapidly. In this case, the white crystals typically seen in a frost or freeze may not form, a condition sometimes referred to as a "black frost".

Relative humidity is the amount of moisture contained in the air relative to the maximum amount that could be held. It changes with temperature and can change quickly with the air mass.

Site-Specific Effects on Frosts/Freeze Occurrence

Site selection is the most important step for frost or freeze protection of a small fruit crop. The best site is one downwind from or closely surrounded by a large body of water. Topography also affects frost occurrence. Cold air is heavier than warm air, and therefore flows downhill. Temperatures are often higher at the tops of slopes, while cold air which collects in the lower areas (frost pockets) is often 4° to 5°F lower. Southern slopes are generally warmer than those facing north, but plants on Southern slopes will also come out of dormancy earlier, possibly negating this benefit in many instances.

Soil moisture has an effect. Moist soil holds more heat and radiates heat back to the environment for a longer time than dry soil. If the soil is dry, plantings should be irrigated a day or two ahead of an expected cold snap to allow time for heat to be captured.

Soil texture and compaction are also factors, as heavier soils with more clay retain heat better than sandy soils. Sandy soils are also often lighter in color and hence tend to reflect more sunlight, rather than absorbing it in the form of heat.

Ground cover affects the amount of heat absorbed by and released from the soil. A bare, undisturbed moist soil with no ground cover can release enough heat to raise the temperature 2 to 3 degrees in the plant canopy as compared to a sod-, grass-, or straw mulch-covered soil.

Methods for Protecting Plants from Frosts and Freezes

Floating row covers are useful especially for small acreages of low-growing crops or when water for overhead irrigation is not available. The amount of frost protection obtained varies with the weight and fiber arrangement of the row cover. Usually the amount of protection increases with the weight, though differences in texture make this correlation less than perfect. Row covers weighing 0.6 ounces per square yard typically can give 2° or 3°F protection during a radiational frost, while nursery foam covers or a double layer of row covers can give more than 10°F of protection. Weather conditions prior to the frost affect the amount of protection obtained from row covers, since little or no heat may accumulate under the row cover on cloudy windy days. When row covers are used for frost protection, they should be pulled over the crop during mid-afternoon to allow heating to take place. Row covers can also be used in conjunction with sprinkler irrigation on top of the row cover. Row covers used in this way typically cut the amount of overhead irrigation needed for frost protection by about 50% on average.

Heating or burning is an old method of frost protection, but is not practical for low-growing small fruit crops like strawberries, and is infrequently used. However, if fires or heaters are used, several small ones are better than one large one.

Wind machines work if a temperature inversion occurs (warm air present above a cold layer) and if there is no wind as with radiant-type frozes. They mix the air by pulling down the warm air from above to replace the colder air trapped near

the soil surface. They only provide a few degrees of protection, and therefore are sufficient protection primarily for crops that bloom relatively late when frosts are usually less severe.

Sprinkler irrigation works well on all small fruit crops, but needs to be used carefully. Because sprinkler irrigation use can result in the application of large volumes of water to the crop, use should be delayed until greater than 10% of the blossoms are in danger of being damaged. This does not necessarily mean that 10% of the blossoms are open. Sprinkler irrigation for frost protection works because water gives off heat when it changes from a liquid to a solid (i.e., freezes). Frost protection using irrigation works only if the system is fully functional prior to the frost event, so test it to ensure it works.

A common recommendation is to start the system when the temperature at plant level falls to 4°F above the critical temperature (for example, 34°F for open strawberry blossoms). If the dew point is below freezing, irrigation must be started at a higher temperature. Under conditions with wind or low humidity, damage can occur when the air temperature is several degrees above the freezing point because of evaporative cooling. Because of this, the wet bulb temperature is often a better indication of when the irrigation system should be used rather than dry bulb (standard) temperature. Irrigation should be operating by the time the wet bulb temperature equals the critical temperature.

Most overhead sprinkler systems are designed to deliver 0.1 to 0.2 acre-inches of water per hour and are useful for radiant freeze or frost protection when wind speeds are light and temperatures are not below the mid-twenties. Microsprinklers provide more uniform distribution than those having larger droplets and/or those covering a larger area. However, the rate at which water freezes depends on several environmental factors, including air temperature, humidity, and wind speed. When breezy conditions (5 mph) are forecast overnight, water supply lines should be moved closer together. At 5-10 mph, protection will be spotty. When wind speeds exceed 10 mph, the risks for crop damage from evaporative cooling may outweigh the potential benefits.

Overhead irrigation pipes and sprinklers can be set up on row covers, and irrigation started after the temperature under the row covers drops near the critical temperature. This is the safest way to protect crops in the case of advective freezes, and greatly reduces the amount of water used regardless of the type of frost event. Because of the necessity of and time required for removing and re-applying the row covers (they can just be gathered into the row middles in which the irrigation pipes are located), this method is best suited for small acreage plantings. Be sure to uncover the plants as early in the day as possible so that drying of the foliage and pollination can take place.

Taking Temperature Measurements: Accurately Depicting Crop Conditions

Temperature sensors must be calibrated to be sure the temperature you are reading is correct. Calibrate them by immersing the sensor in a water and crushed ice slurry, gently stirred, which will be at 32°F. Note that with liquid-in-glass min-max thermometers, the top of the thermometer needs to be immersed. Adjust subsequent readings accordingly.

With low-growing plants such as strawberries, the coldest temperature in a field is often near the surface where the strawberry plants grow. Readings should be made at the plant canopy level. In blueberry plantings, several measurements should be taken at different places in the field at the various heights of the plant canopy.

Liquid-in-glass thermometers, usually relatively inexpensive in price, can vary in their readings. However, they usually vary less than dial thermometers, and are a good value. *Thermocouple thermometers* are generally capable of measuring a wide range of temperatures, and have a very good percentage accuracy, such as being within plus or minus 0.05% of the temperatures in their ranges. Because the range can be huge, the accuracy may still only be one or two degrees. The thermocouple probes themselves are quite cheap, but the device to which they connect that produces the readable output can be pricey. *Thermistor thermometers* are probably the best option for accuracy, as they are designed to read a relatively narrow temperature range, and have a good percentage accuracy. There are models that will be accurate to within plus or minus 0.5 degrees F with prices in the moderate range. Calibration is still recommended.

Digital readouts give the impression that, because the reading can be noted to the closest tenth or hundredth of a degree, the device must be accurate. This is not necessarily the case. The reading may be very exact, but also very wrong. Accuracy is how correct the device is. For example, a certain digital thermometer may be advertised as having a resolution of 0.1 degrees, but an accuracy of + or - 2 degrees. Accuracy is the important figure. Sometimes you'll see a notation that a thermometer is accurate to a certain percentage within its range. As an example, if the device is listed as being accurate to within 0.5% in its range, and its range is -60° to 140°F, it would be accurate to within 0.5% of this 200 degree range, or, to within plus or minus 1 degree of any temperature read between -60° and 140°F. This does not mean that it is accurate to within 0.5% of any given temperature.

Electronic devices and plug-in probes offer some useful advantages over standard thermometers. For example, if a probe is positioned under a row cover with connecting wires outside of the row cover, the temperature under the row cover can be measured easily. Also, even once irrigation is turned on, the temperature in the field can be monitored. Note that with

some electronic devices, the number display is not meant to withstand temperatures below freezing, so the display could "black out" when you need it the most! So, use the display portion in the field only when obtaining the reading.

Frost alarms and alerts are especially valuable if your field is further than walking distance away from where you live. Once the temperature drops to a certain point, the alarm either sounds a buzzer, calls you on the phone, or flashes a light, depending on the model. If you get a model that calls you, it will likely need to be located where there is access to a phone line. A recent addition to frost protection gadgetry is a device that flashes a light that is color-coded to the temperature. This means that it is possible to track the temperature in your field from indoors, or monitor fields in several locations at one time.

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MARKETING SMALL FRUIT . . . POINTS TO PONDER

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This is the first in a series of small fruit articles on marketing, harvesting, postharvest handling and storage of small fruit. Whether you wholesale, retail, or U-pick, it is important to do your homework before the berry harvest. Although harvest here in New York is still some months away, its not too soon to begin getting ready. Below are some points to ponder on small fruit marketing whether you are a first time small fruit grower or a veteran producer.



DON'T PICK A SINGLE BERRY UNTIL YOU HAVE A MARKET FOR THEM.

Seriously, the very perishable nature of small fruits requires immediate sale and use of fruit for maximum quality and customer satisfaction. Price and reputation depend largely on quality. Once damaged, a reputation is hard to repair! So, think quality in every aspect of your operation!

No matter how you choose to market your small fruit, customer contacts should begin well in advance of the harvest season.. Take time to inform and educate potential customers about your product, when and how much of it will be available and its quality. This type of investment can yield great returns and seldom results in mad scrambles to sell fruit before it rots or dropping prices below the profit margin to get fruit to move!

Fresh Market or Processing?

The first marketing decision to be made is what purpose your crop will be sold for – fresh market or processing. Table 1 below compares production and marketing variables relative to fresh and processing fruit. There are advantages and disadvantages to both. It is advisable to evaluate your farm resources, location, and personality before deciding to produce fresh market or processing small fruit.

Table 1. Production and marketing variables: fresh market vs. processing fruit.

	Fresh Market	Processing
Fruit quality requirements	Very high standards	Less stringent standards
Harvest	Hand harvested	Machine harvested
Profit margins	Usually higher	Usually lower
Middlemen and commissions	None	Often must be paid
Customer liability	Yes*	No*
Location	Near significant population centers.	Anywhere with readily available transportation

* refers to liability in terms of on farm-related injuries and accidents; does not include potential food safety problems; in those instances, both grower and/or processor may be held liable.

Wholesale or Direct Market?

The next decision involves whether you will market the fruit yourself (direct market) or through others (wholesale/retail).

Wholesale/Retail

Wholesale markets typically include retailers, such as a supermarket chains, food manufacturers, or institutions (colleges, hospitals, prisons, schools, businesses etc.). Traditional areas for large wholesale small fruit markets in the northeast include New York City, Boston, and Philadelphia. These markets need relatively large quantities of small fruit for their businesses; most of this fruit comes from larger producers or grower/marketing cooperatives.

Many small fruit wholesale growers participate in marketing cooperatives. Pooled production allows them to meet the needs of large buyers and makes most efficient use of promotion and advertising dollars. Cooperatives may be large or small in terms of grower cooperators. Is there a small fruit cooperative operating in your area or region? Are they taking new members? What do they require of participants? If not, investigate the possibility of beginning a cooperative with other interested small fruit growers near by.



Direct Market

These small fruit markets include PYO (Pick Your Own), roadside or on-farm sales and farmers markets. While these marketing venues may bring larger returns than wholesale or processing markets, it also may require longer hours, particularly on week-ends.



PYO-Location, Location, Location!

One of the key points for success in a PYO operation is location. Your operation should be located on an improved road or heavily traveled route near a population center. In general, one acre PYO berries requires population of 1,000 within 30 mile radius. In general, customers will not travel more than 25-30 miles to make a PYO farm visit unless similar operations in the area are few or agritourism experiences are also available on farm.

Successful PYOs provide a pleasant experience, high quality berries, and prices competitive with local stores. PYO operators should be good with people, friendly, open, honest, courteous, and well-informed about their products. PYO farms need to be easy to find, neat and well

kept, with parking is adequate to handle even the largest crowd. Most of all, a PYO operation needs to have the consistent crops needed to build reliable customer base.

Take time also to educate consumers about postharvest handling of your product to maintain it's quality after purchase. Be sure to include information/instructions in good agricultural practices and provide washing stations for fruit to be consumed on the way home.

Roadside Stand – A Trip to the Farm

National averages for travel to roadside stands are reported to be between 40 and 60 miles. People want to visit the farm; travel distance is no longer as critical a component in farm stand success as in the past. However, the further the stand is located off a well-traveled road, the more important it becomes to offer a wider variety of products, and the greater effort needs to be made to create interest and attract repeat business.

Another key aspect is layout, especially as it concerns traffic flow. For example, a single lane exit/entrance road may create major traffic jams and delays during peak sales periods. Make it as easy as possible for the customer to get in and out of the operation. Be sure to provide adequate parking as well. Don't forget to make the operation handicap accessible.



In terms of display, packaging, or pricing, make it as easy as possible for the customer to buy. Arrange displays so all goods are easily accessible and prices are visible and legible. Offer products in small, medium, and larger quantities. Provide shopping baskets, bags or other packaging as needed. Consider using small pull handle wagons or carts to help customers transport bulky or heavy purchases to the checkout. Avoid the department store checkout line! Maintain that on-the-farm feeling by offering several separate sales areas, in the stand itself, outside counters, in the bakery, etc. Create a relaxed, authentic atmosphere, and be sure to allow lots of space for customer browsing and movement.

Set a price for the year so farm stand or PYO customers may be notified by mail. Prices may be lowered for specials, if desired. Pricing and packaging by count, box, or container saves time for both you and the consumer.

Keep the experience fresh by shaking up the routine periodically to keep interest high, repeat customers coming back for more, and new customers coming in. Create colorful, eye-catching displays, being sure to include related products in the display. Set up recipe displays with ingredients and pictures of the finished product. Offer samples whenever possible. Employ friendly, approachable sales people to stand by to assist with purchases, answer questions and suggest uses for a particular product.

Studies indicate approximately 20% of roadside stand customers are lost annually due to various types of attrition; they move away, are deceased, select another stand, etc. An annual farm festival of some type serves as a venue for replacing that lost 20%. If your operation is too small to hold a festival of its own, join with other farms in your area. Have a festival theme, basing promotional items, displays, and advertising around the theme.

For more information, see “Roadside Stand Marketing of Fruits and Vegetables” (reference at the end of the article), an excellent 40 page resource for more information on this topic.

Farmers’ Markets- A Social Affair

Farmer’s markets have been around for centuries, and served as a medium for farmers to sell their produce directly to consumers. They provided a colorful and festive occasion for local residents to meet and interact on a regular basis. As our country became more industrialized, farmers’ markets were replaced by produce brokers and supermarkets. A resurgence of farmers’ markets has occurred over the past 2 decades and they have regained their popularity in recent years.

Often there are local and regional markets to choose from. What are some questions to ask when considering a particular farmers’ market?

- 🍎 Membership fees and responsibilities
- 🍎 Hours, days, months of operation
- 🍎 Rules for sales
 - Producers-only
 - Non-farm produce
 - Value-added products, arts and crafts
 - Containers, weights and measures
 - Pricing
 - Penalties for infractions
- 🍎 Space assignments

A farmers’ market is only as successful as its vendors. Successful vendors have displays that are well-organized, neat, and eye-catching. Displays should offer only the highest quality small fruit for sale at fair market prices. Offering samples and providing recipes or information on preparation is often a good selling point. Encourage purchases by providing friendly, courteous, respectful service.

Advertising

Word-of-mouth continues to be the most effective advertising, in both a positive and *negative* sense! Satisfied customers are more likely to recommend you to family and friends, and make repeat visits. Unsatisfied customers, however, may actually hurt your business, as people are more likely to complain than compliment. Product quality, exceptional service and enjoyable experience are critical to having satisfied customers. This is summed up in a simple formula: 20% of customers account for 80% of business; it is important to have a loyal repeat customer base.

There is no “silver bullet” when it comes to advertising. Be creative and utilize all local venues for direct and indirect marketing: publicity in the form of newspaper articles/features; direct advertising through newspaper ads, on radio or TV; direct mailing pieces or e-mail notices; websites; road or billboard signage etc.

A Word about Pricing

Fair pricing is essential to successful marketing and to a profitable business. Product pricing should be fair to both the consumer (getting good value), and the producer (returning a positive revenue). Know how much it costs to produce your fruit, then set your price high enough to realize a good profit without cheating the customer or being too far above the competition.

Reducing prices to undercut the competition may cause more harm than good. Often any increase in customers or sales volume generated by such a strategy does not compensate for lowered prices. If competitors lower their prices in response, it may result in selling at break even prices or lower in order to compete for business.

Pricing above the competition sends the message your products are superior to theirs. Superior products can command higher prices and still leave the customer feeling they in effect got a bargain. A word of caution- be sure what consumers are paying for is what they are getting!

Evaluating the Success of Your Marketing Strategy

Were you able to sell all of your berries at a price that yielded good return? Are you getting repeat business? Is your business growing? Marketing strategies are just that, strategies. What may work for the person in the next county may or may not work for you. Don't be afraid to add, subtract, or modify marketing ideas as needed to get the best returns for your operation.

Talk to and listen to your customers. Ask where they heard about your product or operation. Were you recommended to them by someone they know? Did they see your ad in the local paper? Did they hear your 30 second spot on the local radio station? See your sign from the road? Google your web site or find you listed in the directory of your state or regional group or organization (i.e. the New York Berry Grower's Association county by county listing of berry farms)?

Keep records of what did or did not work in terms of marketing. Note at season or annual trends. Record things like variety/product preferences, timings of best sales, marketing ideas and strategies, associated costs, amount of effort required, volume of sales generated, and so on.

To Sum It Up

-  To produce a quality product, think quality in every aspect of your operation.
-  Don't pick a single berry until all the fruit is sold.
-  Take time to educate consumers.
-  Price fairly.
-  Evaluate your success.

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Specialty Crop Farm Bill Alliance

Working to Make American Agriculture Stronger

POSITION PAPER ON AGRICULTURAL RESEARCH POLICY PROPOSALS, APRIL 2, 2007

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Overview

Federal support for agricultural research and extension has not kept pace with the needs of Specialty Crops, despite its critical importance to help producers and processors maintain competitiveness amid the unprecedented challenges of the global marketplace. Specialty Crops are labor intensive, require highly specialized management, and are produced and processed in thousands of distinct locations throughout the U.S. Research designed to have a direct impact on producers and processors of Specialty Crops has never been more necessary, yet, USDA support is drastically lacking.

Specialty Crop research has been historically under funded for a variety of reasons. From a technical perspective, Specialty Crops are exceedingly diverse, with complex, site-specific growth characteristics. Many are perennial, require considerable capital expense to establish, and do not produce a crop until several years after planting.

Specialty Crops producers and processors must meet exacting and highly differentiated quality requirements for their products, adding another level of complexity to research. Thus, researchers and funding agencies have a substantial disincentive to focus on Specialty Crops for both basic and applied studies, since they must invest significantly more time and resources compared to annual program crops or so-called model species to obtain scientifically valid, publishable results. Furthermore, applied research and extension must include work on the whole plant level, in commercially relevant cropping systems, another strong disincentive to researchers and funding agencies. In summary, Specialty Crops are highly "research intensive."

Politically, Specialty Crops lack the geographically concentrated power of program crops, since they are produced and processed in a dispersed manner throughout the country. In addition, producers and their organizations have often operated in a fragmented way.

Specialty Crops in aggregate account for roughly the same economic value as program crops, yet face much more competition from exporting countries with low labor costs and less stringent regulatory pressures, and remain historically under funded by USDA research agencies.

This background paper will address four key proposals: (1) the merger of ARS and CSREES; (2) the USDA's Specialty Crop Research Initiative; (3) the National Institute for Food and Agriculture; and, (4) CREATE-21. All these proposals bring welcome attention to the precarious situation of our country's agricultural research and extension activities and as such, we applaud their intent. To effectively address the needs of the nation's Specialty Crop industries, however, agricultural research must receive new money. Our group wholeheartedly embraces the following fundamental position:

- Agricultural research and extension should be an investment priority for the United States. We support the National-CFAR proposal of doubling Federal funding for agricultural research over the next five years.

We also share a number of serious concerns regarding the current research situation and proposed actions:

- inadequate total funding
- ongoing reductions in extension funding and personnel
- lack of coordination between researchers and stakeholders
- insufficient producer and processor input in strategic planning of research
- inadequate assessment of research impact
- increasing imbalance between fundamental and applied research
- inadequate support for long term funding of certain research

Merging ARS and CSREES

The Agricultural Research Service plays a key role in Specialty Crop research that must not be diminished or compromised by the various proposed merger plans. Often research within ARS is the only viable means of ensuring a focused, long-term commitment in critical areas, such as: genetics and breeding, sustainable cropping systems, conservation and utilization of pathogen-free plant germplasm, biosecurity, phytosanitary issues, food safety, and integrated pest management. Effective, customer-oriented research in these areas cannot be addressed through typical competitive processes based on “scientific merit.”

The working group is also quite concerned that the ARS mission could be degraded as part of a merged agency with potentially excessive pressures to fund extramural research.

Position:

- ❖ ARS has a unique, invaluable research mission of critical importance to the Specialty Crop industries. Its role must be preserved with clearly defined management authority and its function enhanced with adequate funding
- ❖ A merged agency must emphasize responsiveness to producer and processor interests and concerns
- ❖ Any consolidation effort must retain a strong technical and scientific base to address phytosanitary, food safety, and pest management issues
- ❖ Before proceeding with a merger, clear benefits must be articulated, as well as assurances that resultant potential chaos will not diminish the functions of either ARS or CSREES
- ❖ Any consolidation or reorganization must enhance the level of cooperation among intramural and extramural research, extension and education functions of USDA and universities and other partners
- ❖ It is important to preserve institutional memory in any consolidation so that lessons learned from past successes and mistakes are retained for future benefit

USDA Proposal for a Specialty Crop Research Initiative

The Farm Bill Specialty Crop Coalition welcomes and applauds the USDA proposal for a competitive Specialty Crop Research Initiative. USDA has done a good job of outlining the kinds of research which would be helpful for specialty crops and the need for a separate funding stream directed solely towards specialty crops.

- ❖ The coalition calls for \$200 million per year funding vs. \$100 million in the USDA proposal. Considering the wide variety of specialty crops, their diverse production situations, and the research intensive nature of their research needs, \$200 million is the minimum amount required for an effective program
- ❖ The initiative should support both intramural and extramural funding
- ❖ Explicit mechanisms for industry involvement should be built into the legislation establishing the initiative

National Institute of Food and Agriculture and Create-21

Both the NIFA and Create-21 Proposals seek a doubling of funds to a merged agency and a re-structuring of research to emphasize funding through peer-reviewed competitive processes. While we unequivocally support enhanced overall funding, any restructuring must retain significant emphasis on crop- and region-specific research and extension essential for Specialty Crops. The NIH and NSF models advanced in the NIFA and Create-21 proposals inherently encourage an emphasis on fundamental investigations of academic scientific interest and discourage applied research for implementation by producers and processors. Such an approach will not develop or deliver the benefits of science and technology to Specialty Crop industries and leave us at an increasingly disadvantage in the competitive global marketplace. If either proposal moves forward, the coalition requests that:

- ❖ It is funded with new money
- ❖ Fundamental research is balanced with applied research contributing directly to Specialty Crop competitiveness
- ❖ Explicit mechanisms for industry involvement are built into the legislation establishing the initiative