



## NABGA Holds Successful Annual Conference

NABGA celebrated another excellent conference in Columbus, Ohio, on January 15-17, in association with the Ohio Fruit and Vegetable Congress. If you weren't there, you missed a great meeting, with terrific presenters, thought-provoking discussion, and satisfying visits with old and new friends. There were many new faces of Ohio growers in the bramble sessions, and we are pleased to welcome many of them as new members. This year's bramble growers dinner, held at the Buca de Beppo restaurant, was a lot of fun; the family-style Italian restaurant was loud, cheerful, and delicious. This is clearly becoming a tradition!

Sent to you with this newsletter are Proceedings of the conference. You will also find reports of the Annual Meeting, Executive Council meeting, and Research Foundation meeting on pp. 2-3 of this newsletter and a financial report on p. 13.

One of the highlights of the conference was the presentation by Dr. Gary Stoner on research on the health benefits of black raspberries. His explanation of the research was both very clear and very exciting, and we've included both his Powerpoint presentation and an abtract of this research in the Proceedings, as well as a related article from Ohio fruit researcher Joe Scheerens, who spoke in



*NABGA president Ervin Lineberger was interviewed by a local farm radio station broadcasting from the conference.*

an overlapping session on related plant-based research on fruit antioxidants.

To round out the picture, see the article in this newsletter on pp 8-9.

### 2008 Conference Location

Make your plans now to be in Hershey, Pennsylvania at the end of January, 2008! NABGA will be meeting in association with the Mid-Atlantic Fruit and Vegetable Conference. Our sister organization, the North American Strawberry Growers Association, will be there too, and there are a lot of exciting possibilities for working together, including a pre-conference tour. Planning is getting underway, so if you have ideas for the conference, contact the NABGA office.✿



*Dr. Gary Stoner at the NABGA conference.*

## FDA To Conduct Produce Safety Hearings

The U.S. Food and Drug Administration (FDA) announced on February 27 that it would conduct two public hearings concerning the safety of fresh produce. The first hearing will take place on March 20 in California. The second hearing will be on April 13 in College Park, Maryland. FDA will share information about recent outbreaks of foodborne illness associated with microbial contamination of fresh produce and "solicit comments, data, and other scientific information about current agricultural and manufacturing practices used to produce, harvest, pack, cool, process, and transport fresh produce; risk factors for contamination of fresh produce associated with these practices; and possible measures by FDA to enhance the safety of fresh produce."

FDA is responsible for ensuring the safety of all domestic and imported fresh and fresh-cut fruits and vegetables consumed in the United States. For these hearings, it raises several issues and seeks answers to ten specific questions. These are (in abbreviated form):

1. At each stage in the supply form, what are the risks or practices that can lead to contamination?
2. How can or should current practices be changed to reduce the risks?
3. What current practices (e.g. GAPs) reduce these risks?
4. Is sampling of produce or inputs currently done?
5. What new Federal actions are needed, if any, to assure produce safety?
6. To what account should we take into account the wide variation with the fresh produce industry (in size or type of operation, nature of commodity, practices used, vulnerability to contamination, etc.)?
7. What types of records and other information are or would be most useful in facilitating traceback efforts?
8. Are written food safety plans/assessments/training/record keeping useful? To what extent are they in place?
9. How should adherence to GAPs or any new guidances be measured?
10. How would any proposed new Federal measures affect small business such as road-

*continued on page 12*

## Briefly Speaking...

Here we go, starting another new season! The earliest rhododendrons are blooming here in northwestern Washington, and our caneberries (the West Coast's term for brambles) are likewise emerging. Before the growing and research seasons kick into high gear, I thought I'd take a few minutes to introduce myself to you all as NABGA's new president.

I live and work in maritime northwestern Washington. With mild winters and cool, pleasant summers, this environment is just about perfect for raspberries, but a little cool for some blackberries. Somehow, that doesn't stop the wild, weedy Himalayans from taking over every vacant spot in sight, though.

My wife, Lynn, and I are raising our two delightful children. Peter is 8, loves to read, is very good with all kinds of animals, and says he plans to become an inventor. I believe him! Clare, 4, is all about singing and dancing. Both are major berry consumers. Like kids everywhere, they are rooting for each and every one of you. Feels good to grow something that's so good and so good for you, doesn't it?

I work for Washington State University, at the Mount Vernon Research and Extension Center. It's a mouthful, I know, but it's a great place to work. This station was originally conceived by our local growers in the 1940s, when a visiting seed crop pathologist helped them realize that research was essential to agriculture here. Together, they

built the station and persuaded WSU to staff it. As is true everywhere, agriculture has been through a lot of changes here in the last 60 years: crops have come and gone, the face of labor has changed a few times, and farms have gotten very big or very small to survive. However, the growers' dedication to research has remained constant. Last year, our grower community once again helped to fund a new, state-of-the-art building for the research station. I used to work for one of those growers (Sakuma Bros. Farms), so I guess you could say that I am part of their contribution to the station, too! Those of us working here realize how lucky we are to be in a community so dedicated to its agriculture.

The bramble community is like that, too. We are growers, extension agents, researchers, and industry reps all interested in growing and selling raspberries and blackberries. We are spread across North America, but we share a passion for our crops. We have many common concerns and dreams, as well: How can we get reliable help? How can we better promote our healthy products? How can we be sure that we are doing the best we can to avoid foodborne illnesses? NABGA is your link to this community, and I hope you will be an active participant: Come to the annual meeting, join our E-Forum (see p. 4), read and consider contributing to *The Bramble*, check out the website and share your suggestions for it. This community can build great things, too, with your participation!

— Tom Walters

## NABGA NEWS

### Annual Meeting Elects New Regional Representatives

At NABGA's annual meeting on January 17, the membership elected Executive Council representatives for the odd-numbered NABGA regions. The Executive Council (EC) is NABGA's board of directors, with members serving two-year terms. The following were elected (see the back page to see what states are in each region):

**Region 1, Henry Mutz**, Berryhaven Farm, Abbotsford, BC, re-elected to a second term.

**Region 3, Susan Lynn**, Sand Hill Berries, Mt. Pleasant, PA

**Region 5, Stanley Scarborough**, SunnyRidge Farm, Winter Haven, FL, re-elected to a second term.

**Region 7, Charlie O'Dell**, Crows Nest Farm, Blacksburg, VA

**At-Large Representative:** Mark Bolda, U of California Co-op Ext., Santa Cruz

Please welcome these new EC members to the leadership of NABGA and contact them with your concerns, issues, and ideas. Continuing in office for the second half of their terms are:

**Region 2, Nate Nourse**, Nourse Farms, South Deerfield, MA

**Region 4, Guy Moore**, Woodbine, MD

**Region 6, Dean Henry**, Nevada, IA

**Region 8, Henry Bierlink**, Washington Red Raspberry Commission, Lynden, WA

Full contact information for all EC members is on the back page of each newsletter.

At the Annual Meeting, members also heard reports from the Research Committee and Executive Secretary. Members suggested several priority issues for NABGA in 2008:

- Breeding for orange rust resistance
- Food Safety
- Marketing-promoting berry consumption and providing marketing tools for growers
- Promotion of Health Benefits to Consumers

### Executive Council (EC) Chooses Officers, Sets Budget, and More

The NABGA EC met on January 15 in Columbus, OH. Tom Walters, who was NABGA Vice President for the last two years, was chosen President. (See his "Briefly Speaking" above). The board heartily thanked retiring President Ervin Lineberger, who will continue to be active in NABGA. In other action the EC also:

- Approved the Association's financial report and annual budget (see page 13).
- Approved a continuing contract with Executive Secretary Debby Wechsler.
- Chose the Mid Atlantic Fruit and Vegetable Expo in Hershey, PA as the first choice for our 2008 Conference. (See front page.)
- Approved dues to the National Berry Crops Initiative and appointed Ervin Lineberger as our representative to the NBCI board.
- Discussed the recommendations of the NABG Research Foundation and possible reorganization of its structure, bylaws, and funding mechanisms.

- Discussed a possible name change for NABGA, perhaps “North American Raspberry and Blackberry Association,” to make it more consumer-friendly, and ways that NABGA could relate to state or regional groups as affiliates or chapters.

### EC Sets Marketing, Promo, and Membership Projects

The EC met again by conference call on March 12.

- A project to create handouts on raspberry, blackberry, and black raspberry health and nutrition benefits was approved (see details below).
- A project to develop and disseminate via email bramble media releases targeting food writers during the 2007 was initiated. *Members with a special interest in this, writing skills, and/or food media contacts are invited to contact the NABGA office.*
- Nate Nourse, New England Regional Rep, was elected Vice President of NABGA.
- Kentucky and Tennessee were moved from Region 6 to Region 7.
- Ervin Lineberger reported on the formation of a blackberry growers association in western NC (see page 4), and a membership committee, composed of Ervin, Mark, Nate, and Henry B was formed to formulate a proposal for affiliating other groups with NABGA.

Detailed minutes of the individual meetings are available to members on request. The EC plans to have conference calls about every two months. ✨



### For Members Only

#### Consumer Promo Cards

This spring, NABGA is in the process of developing a set of consumer information cards that growers who sell direct to the public can hand out to customers or tuck into their bags or boxes. There will be separate cards for blackberries, black raspberries, and red raspberries. Each card will give nutrition information, health benefits, suggestions for handling and storing the fruit, and the NABGA website, and will have space for a farm to put its own contact information.

## NABG Research Foundation Makes 2007 Grants

The Research Committee of the NABG Research Foundation met on January 13 in Columbus, Ohio, to consider proposals for funding in 2007. There were six proposals, and the committee recommended funding four of these. These recommendations were then approved by the Foundation’s Board of Trustees. The following projects were funded:

- Evaluation of Genotype x Environment Interactions in Primocane Fruiting Blackberry Populations (Weber, Clark and Luby of Cornell, University of Minnesota, and University of Arkansas respectively) - \$1,7000.
- High Tunnel Production of PrimeJim and PrimeJan Blackberries (Schloemann, University of Massachusetts) \$1800.
- Evaluation of Herbicides for Yellow and Purple Nutsedge and Annual Sedges Control in Blackberry Fields (Czarnota, University of Georgia) \$1,000 (plus \$2000 IR-4).
- Evaluation of reduced-risk fungicides for disease control in raspberries, (Schilder, Michigan State University), \$2000 (plus \$4000 IR-4).

The last two projects were funded through a cooperative arrangement with the IR-4 program, which supports research on pest and disease management tools for minor crops. NABGA’s \$3000 contribution (actually made to IR-4 rather than directly to the projects) was matched by IR-4 for an additional \$6000, for a total grants amount of \$9,000 to these two projects. ✨

NABGA will post masters for these on our website as high-resolution pdf files, so members can download them, add their contact info, take them to their local copy shop, and print as many as they want. To those members who don’t want to deal with digital files and the internet, NABGA will send master copies (on paper) on request.

These should be available before the next newsletter comes out, so watch for an email announcement or contact the NABGA office to see if they are ready after April 20.

## THANK YOU, Research Foundation Donors

The NABG Research Foundation is a separate organization started by NABGA to carry out funding of raspberry and blackberry research. The following made donations to the NABG Research Foundation between March 2006 and March 2007.

### Major Donors

SunnyRidge Farm  
Norcal/Sakuma Brothers  
Nourse Farms

### Individual Donors

Bob & Coleen Blain  
Anthony & Carol Boutard  
Felix Cooper  
Fred Finney  
Bill Fulton  
Ervin Lineberger  
Kristine Naess  
Charlie O’Dell  
Henry & Sandi Rose  
Ben Strickland  
George Sutton  
Frank Wiles

*Apologies to anyone whose name has inadvertently been left off this list.*

NABGRF is a charitable foundation, and all donations are tax-deductible. One-fourth of the membership fee for all grower members in NABGA goes directly to the Research Foundation. If you’d like to make a donation, contact the NABGA office.

### Searchable Database of Member Farms

Consumers, media, and others can now find NABGA member farms in their area through our website, searching by state or province. The nifty part of this is that members can ADD information to their listing, such as directions to the farm, hours open, special events, etc. You will be able change this text whenever you want!

To post this information, go to the “Members Only” section of the website,

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## NC Growers Form New Bramble Organization

Commercial bramble growers in Western North Carolina have recently formed the North Carolina Commercial Blackberry and Raspberry Growers Association. The group plans to affiliate with NABGA.

The number of commercial blackberry growers in Western North Carolina has recently grown rapidly. In August of 2006, SunnyRidge Farms started signing contracts with growers in the region, both experienced and new growers, seeking production that would follow that of south Georgia, where it contracts with about 25 growers. The North Carolina Extension Service helped organize educational sessions and field days for prospective new growers and smaller growers interested in expanding into wholesale production.

According to NABGA past president Ervin Lineberger, who has assisted with these educational meetings and the organizing of the new association, 14 growers attended its organizational meeting. He expects about 20 to eventually join. Many, but not all, will sell to SunnyRidge, and the group is independent of its major buyer. The association will be recognized by the NC Department of Agriculture as a North Carolina commodity association and will continue to receive assistance from the NC Extension Service, but growers from neighboring states are welcome to join. Because many growers are novice producers of berries, though most are experienced farmers, educational activities will be important. The first meeting, for example, was held in association with a sprayer demonstration. EUROGAP certification, meetings with suppliers of services, and IPM scouting are also potential topics. "We're going to work on some very exciting and specific things for Western North Carolina producers," says Ervin, "and we definitely want to be part of NABGA."

To find out more about the NC Commercial Blackberry and Raspberry Growers Association, contact NABGA member Wayne Mitchem at 704-276-1584 or [wayne\\_mitchem@ncsu.edu](mailto:wayne_mitchem@ncsu.edu).

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The NABGA Executive Council is exploring ways to support regional and

## New Blackberry Production Budget Available

In response to an anticipated growth in the commercial blackberry industry in North Carolina, a budget, "Estimated Costs, Gross Revenues and Returns for Commercial Blackberry Production in North Carolina" was recently developed by Charles Safley, Dept of Agricultural and Resource Economics, NCSU and Gina Fernandez, Dept of Horticultural Science, NCSU, for the costs associated with growing, harvesting and marketing 10 acres of blackberries. Selected material from this budget was presented as a poster at the NABGA 2007 annual conference and is published in the conference Proceedings. The full budget, as an Excel spreadsheet, is currently posted at [www.ncsu.edu/project/berries/extension/Commercial%20BK%20Budget%20Final.xls](http://www.ncsu.edu/project/berries/extension/Commercial%20BK%20Budget%20Final.xls).

### Abstract

Costs to establish blackberries (field preparation and establishment) were \$8,810/acre or \$88,100 for 10 acres. In addition, a new grower could spend an average of \$12,768/acre (\$127,680 for 10 acres) for additional equipment, machinery and cooling facilities required for the production and proper post-harvest handling of the berries.

The total cost of producing, harvesting and marketing the blackberries was estimated to be \$18,915/acre with a marketable yield of 2,000 flats/acre (9,000 lb/acre) in the third and subsequent years of production. Labor was the greatest expense category after the planting started producing fruit, totaling \$10,966/acre when full production was reached in the third year. Net revenues for wholesale market prices and yields were estimated assuming that 80% of the marketable fruit would be sold to wholesale markets. This analysis showed that if growers received a wholesale price of \$14.00/flat they would receive a return to land and management of \$9,085/acre for the third through tenth years with a marketable yield of 9,000 lb/acre. The annual net cash flow is positive after the planting is established and enough revenues are projected to be generated to cover start-up expenses in the 4th year. Our budget includes costs often ignored by growers such as overhead costs, fixed labor costs, and the costs of owning equipment and machinery (excluding depreciation). Therefore we feel it depicts a realistic picture of the costs associated with producing, harvesting, and marketing blackberries. Despite these additional costs, blackberry production in North Carolina using recommended practices can be a profitable venture.

This budget is only a guide and is not meant to be substitute for growers calculating their own costs and estimating their own breakeven yields. Costs vary from grower to grower due to market conditions, labor supply, age and condition of the machinery and equipment, managerial skill, and many other factors. Since every situation is different, it is recommended that every grower estimate their individual production, harvesting and marketing costs based on their own production techniques, price expectations, local supply of labor, and market situation.

It is also recommended that growers develop a marketing plan and have a marketing strategy before investing in a commercial blackberry operation. Production of high value produce is a risky business and the risk increases without a stable marketing outlet for the fruit. In extreme cases, growers have experienced financial losses when they were not able to find a suitable market outlet and/or when they did not meet the buyer's expectations.

The spray schedule in this budget is based on a typical year, however, as any grower knows, each year (and farm) is different and therefore your pests and means of control will likely vary from what is listed.✱

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state, and local groups and the best ways to connect them and their members with NABGA. The Executive Council, and the Western NC group, are working on developing procedures and templates for affiliation. However, since these groups vary widely, from the Berry Commissions of

the Pacific Northwest to multi-fruit state berry organizations, to local growers associations, it is likely that many different arrangements will be needed. The EC welcomes comments and suggestions from members on this subject. ✱

and click on "Finding Farms". Find your name in the list, and type your email address where requested. You must use the email address you provided us – this is a security measure – or it won't work. (If you don't use email, send the text you want posted to the NABGA office; I'll post it for you.)

If you don't see your farm on the list, let me know – this list is a subset of our membership, and I have to indicate which members are also farms. Since we never needed this distinction before, I have not done it systematically and may have missed a few people.

Currently these listings are the same as those in our membership directory. If there is any information listed about you and your farm that you don't want shared with the public through this service, let me know and I will take it off the web database. Similarly, I can change your address here to your actual farm address (rather than a PO box, for example) and keep your mailing address in our main database so you get the newsletter properly.

### Members-Only Password

The password changes each year in the spring so that *only* current members have access to this portion of our website. It currently also contains an archive of the newsletters and a complete membership list and will have other members-only materials, such as the consumer information templates.

You should have received a colored sheet of paper with this newsletter that contains this information. Please keep it for reference – where you can find it – in case you forget the password. You will also get an email announcement of this change.

If you aren't getting any of NABGA's occasional emails, we don't have your email address!✱

*Debby Wechsler, Executive Secretary*

## EVENTS

June 11 & 12, 2007 – 2007 International Berry Health Benefits Symposium, Corvallis, OR. For more information, and registration, visit <http://oregonstate.edu/conferences/berryhealth2007>.



## Spring Bramble Chores

*This list was developed by Dr. Gina Fernandez, Small Fruit Specialist at NC State*

*University and reviewed by Dr. Marvin Pritts at Cornell. Chores and timing may be somewhat different in your area or for your cropping system.*

### Plant growth and development

- Plants deacclimate quickly
- Bud differentiation (additional flowers formed)
- Bud break
- Flowering
- Primocane emergence

### Pruning and trellising

- Finish pruning and make sure all floricanes are tied to the trellis before budbreak.
- Rotate shift trellises to horizontal position before budbreak; rotate to upright position immediately after flowering.

### Weeds

- Weed growth can be very vigorous at the same time as the bramble crop peaks. Don't let weeds get out of control.
- Weed control is best done earlier in the season before harvest commences.
- Hand-weed perennial weeds in and around plots.

### Insect and disease scouting

The period of time in the spring when the plant is flowering is the most important season for control of insects and diseases. Know what your pests are and how to control them.

### Water management

- Bramble plants need about 1"-2" water/week. This amount will be especially critical during harvest.
- In the South consider installing an overhead system for evaporative cooling. Turn on once or twice a day from 10 am to 3 pm for short periods of time (approx. 15 minutes) until mid afternoon.

### Nutrient management

- Apply second half of nutrients if doing split application.

### Marketing and miscellaneous

- Service and clean coolers.
- Make sure you have enough containers for fruit in the coming season.
- Prepare advertising and signage for your stand.
- Contact buyers to finalize orders.
- Hire pickers.
- Prepare signage for field orientation; it is easier to tell pickers where to go if rows are numbered.

## Blackberry ABCs Notebooks Available

NABGA now has the *Blackberry ABCs* resource notebooks available for purchase by members. We compiled them for the "Blackberry ABCs" workshops at the Southeast Fruit and Vegetable Conference in Savannah, Georgia in 2006 and again in 2007, and made some extra copies in case others might want them.

The notebook is in a loose-leaf format so you can easily add or update materials. Here's some of what's in it:

- Extracts from the *NRAES Bramble Production Guide* (Cornell)
- *Growing Blackberries in North Carolina* (NCSU)
- Seasonal bramble chore checklists
- Cultivar descriptions
- Lists of nurseries
- SE Regional Brambles Integrated Management Guide, with comprehensive recommendations for weed, pest and disease control
- Articles on specific diseases, such as rosette and cane blight
- Recommendations for pruning, trellising, and nutrient management
- Blackberry production and marketing budget (NCSU)
- Bramble Resources list

Some of this material is available on the web (if you know where to look), but it's very convenient to have it all in one place and on paper. The cost is \$18 (postage included). Order one from NABGA today!

## Q & A

*NABGA has facilitated several interesting conversations via email or the E-Forum recently that bear publishing in the newsletter. Hope you enjoy them!*

**Q** *from Kentucky home gardener Mark Winqvist:* I have a simple question but have had a hard time getting an answer. Basically there is a lot of conflicting opinions and information on the internet. In your opinion what is the best variety of Raspberry to grow in Kentucky based primarily on flavor?

I do not care if it is ever-bearing or fall-bearing and productivity is not an issue. Mostly I want a good to eat fresh berry and do not care about storing, freezing, or selling. I grew up in Washington state where the climate is perfect for raspberries and I have been disappointed in the flavor of both Latham and Southland here in KY. Southland is what I have now and the plants produce bumper crops of flavorless berries!

**A** *from KY member Cal Blake:* Judi and I like Caroline. though she swears she likes the taste of Fall Gold better. I asked Terry Jones what he liked best last January and he recommended Caroline. We planted last March and got a not bad yield in September.

**A** *from Joe Masabni, KY Extension:* Here's my 2 cents: there's no arguing with taste or flavor. One person's tastiest fruit is another person's trash.

Besides, if you are comparing the taste of fruits you had in Washington state to what you can get in our region of the Midwest, you are comparing apples and oranges. Think of the apple size and color we get from Washington state, and the same apple cultivar you get here. There's no comparison. The long dry sunny days and cool nights keep the sugar level high in fruits grown in Washington state, while the hot nights in our area uses some of the sugar reserves made during the day.

I am afraid you have to select the best site and cultivar suitable for your area, and manage it properly and get used to its taste. I have always complained about the same thing with grapes. I still haven't tasted a table grape as juicy and tasty as

## Join the Conversation at NABGA's E-Forum

Wonder if someone else has had the same problem you're seeing? Looking for a solution? Got a great idea to share? Just comment about something bramble-related? NABGA has started an e-mail forum so that members can easily communicate online. This forum is different from the occasional email alerts and reminders we send out from the NABGA office to all members for whom we have emails. **You have to actively join.** It takes just a few minutes of your time. Only NABGA members can join.

Directions are below. If this is more than you can deal with, let me know, I'll see if I can add you directly.

1. Go to the website <http://tech.groups.yahoo.com/group/NorthAmerican-BrambleGrowers/>

2. If you do not already have a Yahoo account, follow the steps to create one. You can use your own name or create an alias. You do NOT have to fill out any info except to create an email address and a password. If you have a different email address already that you check regularly, list it as your primary alternate address rather than the Yahoo address.

3. Then, to join the group, you will be asked to:

A. Verify contact information—your Yahoo name and email preference.

Click on your other email address if you don't want to bother with the Yahoo one.

B. Write a brief comment – something that lets me know who you are (since you may have an alias) so I can determine whether you are a member.

C. Decide how you want messages delivered. You have the choice of getting each individual email that is sent, a daily digest of all messages that day, special notices only, or just checking the website for messages. I recommend choosing the daily digest. You can change these preferences at any time.

E. Select a display preference. Unless your computer system is very old or your internet connection is horribly slow, choose the "enhanced" option.

Once this is done, I will get a message you've applied to join. If you are a member, I'll approve your forum membership and you'll get a notice via email. Let me know if you have problems. While navigating the group website is a bit confusing, I assure you that reading and responding to the emails themselves is easy – and I think you that you will find it both interesting and useful.

—Debby Wechsler

what I had back home.

**A** *from John Strang, Kentucky Extension:* I understand your disappointment over the raspberry flavor in the East, as I went to school in Oregon.

Oregon and Washington have a highly desirable climate for growing raspberries and blackberries. The climate is dry during the summer, which reduces berry diseases and avoids the flavor dilution by water uptake from rain. It is cloudless and sunny during the day, which maximizes photosynthesis. Finally, it is usually cool during the day and at night, which slows the respiration process, which is metabolizing the sugars, and this keeps the berry sugar levels high.

Based on the raspberries that I have

tried in Kentucky, Caroline followed by Autumn Bliss are the best tasting fall-bearing red raspberries. Jewel is a very good black raspberry.

Keep in mind that the flavor is affected by the weather prior to harvest. Cloudy, rainy, hot weather will reduce flavor and cool (not cold, the flavor can taper off in late fall), sunny, dry weather will produce the best flavored berries.

**A** *from Nourse Farms:* We would recommend "Taylor" as a summer bearing red raspberry or the new variety, "Jaclyn", an everbearing type for best flavor...

**A** *from Courtney Weber, Cornell:* Kentucky is a tough area for raspberries, as I am sure you are aware, because it

falls into the middle zone that can be too hot and too cold in the same year. I think you will probably have the best luck with some of the varieties developed at the University of Maryland. Caroline is a fall-bearing variety with very good flavor and large fruit. Josephine is another fall bearer from the same program with good flavor. Most fall bearers will produce a small summer crop lower down the cane the following summer if you don't prune them out. It is not commercially viable but good for the homeowner. Many nurseries carry Caroline; Josephine is less available. Heritage has a classic raspberry flavor but is not as good as Caroline or Taylor. Heritage is probably the toughest of the varieties. It is being grown successfully all over the world. Taylor is a late summer variety with very good flavor. It is not grown much any more because the fruit is relatively small and soft. Winter will not be a problem for any fall bearer. Summer heat is more likely to cause problems.

A western variety that has superior flavor but may suffer some winter damage is Tulameen. It is a summer-bearing variety.

**A** *from Phillip Pense, Pense Nursery, Inc.:* This is an open debate. Heritage is rated as having a very good flavor. It is also grown out in Washington state. Taylor is one I do not carry but is considered maybe the best flavor. The ones I recommended for Kentucky are, Nova, Reveille, Heritage. These types will survive in your area. The types in Washington would be Meeker, Willamette, Chiliwack, Heritage and others. They do not grow well out in the East.

**F** *ollow-up from Mark Winquist:* Wow, I got a lot more responses to this question that I ever thought I would. Thank you all for the information on the best tasting raspberry for Kentucky.

It seems pretty much agreed upon that Taylor is about the best tasting but has small soft fruit, Heritage has good flavor and is about the most durable, and Caroline has a very good flavor and grows well in Kentucky.

The reason I asked for help on this is because I only have a few prime spots to grow raspberries and I hate to try to eliminate one crop to plant another. After

the new (and hopefully better) crop gets established I will probably do away with what I am growing now. The current Southland produces super crops but has a very blah flavor... I was disappointed.

So it seems to be a toss-up between Heritage and Caroline but I think I'll go with the Caroline simply because I got a response from a Kentucky grower saying it was a favorite.

**Q** *from Northern Quebec via the E-Forum:* I'd like to hear from commercial raspberry producers in zones 3 and north. What varieties have you tried, which do well for you, what are the weaknesses and strengths of those you have tried, what improvements would you like to see in terms of available varieties for your region? I am trying a number of varieties in Northern Quebec but the trial has gone through only two winters, neither of them severe. So far Nova and Prelude look the most promising of the varieties tried (Algonquin, Boyne, Encore, Festival, Nova, Pathfinder, Prelude, and Taylor). Both Encore and Taylor ripen much too late for this region but quality has been good. Algonquin, Festival, and Pathfinder all lack vigor under our conditions, which are minimal.

**A** *from Prince Edwards Island via the E-Forum:* I have tried most of the above varieties and stayed with Nova, But it tends to fall-flower a lot and I have trouble with root rot. Killarney make up the rest of my five acres. They winter well and have much better flavor, but are a little thorny.

**Q** *from Elke Weibelzahl, University of Florida:* I am about to install a LARS system [Limited Arm-Rotation Shift-Trellis as developed by Dr. Herbert Stiles at Virginia Tech University] on the University of Florida's brand new blackberry patch in Central Florida. It sounds like it would be the ideal system to use here in Florida in order to guarantee good air circulation/sanitation. I am closely sticking to Dr. Stiles' publication but would love to find someone who has some experience working with the system. I would really appreciate if I could get some insider feed back a.s.a.p. Any response is welcomed by our team.

*Contact her at (352) 846-2861 or elke@ufl.edu or send comments to NABGA.*

## Concerning Northland Berry News

*Members who subscribed to Northland Berry News (NBN) with their NABGA memberships have noticed – and complained – that they were not receiving any issues over the last few years. NABGA forwarded these complaints, pressed NBN for satisfaction for its members, and finally stopped offering subscriptions to NBN. We pass on to you this communication from Paul Otten, NBN publisher:*

Please convey the Board and members my apologies. I had to make some critical choices two years ago that would substantially impact my use of time that resulted in having to temporarily put Northland Berry News on the back burner... though I did not anticipate that it would be for two years at that time. It's a long story, and I won't bore you with the details.

We will be back into publishing Northland Berry News by the end of February, beginning of March. The periodical will be a bit more issue-focused, somewhat shorter and with a less advertising. We intend to fill all subscription obligations, and to satisfy any possible unhappiness incurred with our "irregularity," I am going to offer each a number of options:

1. Continue with print issues until the subscription expires.
2. Opt for an electronic version, with a free subscription extension.
3. Apply outstanding balance to sets of back issues worth 200% of the balance.
4. Apply outstanding balance to a selection of berry books worth 200% of the balance.
5. A combination of #3 & 4.
6. Apply outstanding balance to a variety of downloadable audio-video presentations on biological farming, marketing, berry culture and/or wellness.
7. Apply the balance to NABG Research Foundation.

*Contact Paul at pmo@chof.net or 615-646-0557 with your preference. NABGRF would welcome your contribution.*

## Black Raspberries/ Blackberry Antioxidant Research at OSU

Dale Stokes owns a 230-acre farm in Wilmington, Ohio, but he is also in the business of saving lives.

Stokes is the main berry provider for cancer researchers at Ohio State who are attempting to prove that consumption of certain berries, particularly blackberries, black raspberries and strawberries, can stop the spread of colon, esophageal and oral cancer.

"I would estimate that I've given about 15,000 pounds of berries over 20 years to this research," Stokes said. "To ensure consistency, I grow all of the black raspberries at Ohio State in the same patch of roughly three acres."

Several groups of researchers based at the OSU Medical Center are studying the effects of berry consumption. Black raspberries and blackberries have proven to be particularly effective in reducing the size and spread of tumors in rats with oral and esophageal cancer, according to Dr. Gary Stoner. He has led the research regarding the positive effects of antioxidants in berries for more than 20 years.

"I first heard about Dr. Stoner's work in 1987 when he was with the Ohio Col-

lege of Medicine in Toledo," Stokes said. "I heard what he was trying to do and I approached him and told him I was the largest individual grower of black raspberries east of the Mississippi."

In the early 1980s, Stoner and his research group began working with a compound that featured ellagic acid - a plant nutrient that is plentiful in several types of berries.

"We started talking about possibly preventing cancer with berries rather than ellagic acid, which is not in the juice of the berry, but in the seed and the pulp," Stoner said. "The concentration of ellagic acid in the berries increase tenfold by taking out the water. And we said if we embark on this we need to identify a single source to standardize this as much as possible."

The first berries used for research were picked, frozen, placed on a drying apparatus, freeze dried and ultimately pulverized into a berry powder. The powder was then added to the diets of animals with colon and esophageal cancer.

"We found the powder was striking at inhibiting new blood cells that cause cancer to spread, with between 40 and 60 percent effectiveness for esophageal cancer,"

Stoner said. "We extended the studies to colon cancer and found the powder was more effective, about a 60 to 80 percent protection against colon cancer in rats."

Word of Stoner's findings soon spread, and several other OSU researchers are looking to fight cancer with berries. Dr. Christopher Weghorst and his research team began to test Stoner's theory on hamsters with oral cancer.

"Dr. Stoner had shown black raspberries could deter esophageal and colon cancer," Weghorst said. "We exposed the oral cavity of a hamster to tobacco smoke and carcinogens and gave them berries before, during and after exposing them to the carcinogens. The hamsters that were given the berries had significantly less tumors, about 44 percent."

Weghorst wondered if the research was applicable to humans. Preliminary data from the last several years suggests that berries have a chemopreventive effect on extracts of human oral cancer cells. Weghorst advanced the study to patients, who received berry lozenges from the time of diagnosis through surgery.

Before and after surgery, treatment of the



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same oral tissues from the same patients favored chemoprevention through gene modulation.

Despite all the research and success, doctors still are not exactly sure what causes the positive effects.

"Berries are a complex mixture, but one antioxidant that is a major player are the anthocyanins, basically what gives berries their dark color," Weghorst said. "We do not know the specific compounds that are causing this. It's probably not the result of one compound, it's probably an additive effect."

Expanding the Research Research on this topic has expanded to diverse lengths. Stoner is attempting to find similar effects in animals with strawberries. Dr. John Fromkes and Dr. Laura Kresty from OSU showed that berries reduce the size and spread of lesions in a form of esophageal cancer called Barrett's esophagus. Dr. Susan Mallery from the department of dentistry is treating human pre-malignant lesions with a berry gel.

"The gel is causing a reduction or regression of the lesions of 50 to 60 percent of the patients in six weeks," Stoner said.

Researchers are conducting berry trials in China for esophageal and colon cancer. Another study with a doctor from the Cleveland Clinic focuses on treating dangerous polyps that cause colon and rectal cancer. Stokes is also undertaking the biggest black raspberry trial in the nation with the help of Dr. Harry Schwartz from the University of Maryland.

"We're constantly looking for black raspberries with higher bioactives,"

**The BRAMBLE** is a quarterly publication of the North American Bramble Growers Association (NABGA) and is a benefit of membership in the association. For sample copy, reprint permission, membership information, and advertising rates, contact

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Email: nabga@mindspring.com

Web: www.raspberryblackberry.com

*The Bramble* © NABGA 2006

Stokes said. "This is a conventional breeding process rather than genetic engineering. We're not moving certain cells, we're using the cells shown in the female plant."

Randomized trials in the future might prove that certain berry compounds do prevent cancer, but for now OSU cancer researchers are recommending people eat about four ounces of black raspberries, blackberries or strawberries three to four times per week. The several different directions and treatment ideas that Stoner's research has inspired is a significant accomplishment, a long way from what Stokes heard about berries 30 years ago.

"It doesn't particularly surprise me," Stokes said. "I had heard through word of mouth that other farmers were giving their calves with diarrhea black raspberries and it was helping. But I didn't know how the compounds would work, or to what effect." ❀

*Source: media.www.thelantern.com. The Lantern is a student newspaper of Ohio State University.*

### Conference Follow-Up from Dr. Stoner

*When NABGA contacted Dr. Stoner to thank him for his presentation, he sent the following comments:*

I think the main problems with black raspberries are availability and cost. People are constantly telling me that they read about our work or saw television coverage only to go to the store to discover that there were no black raspberries to purchase! Probably the industry will have to develop sites in other countries to raise these in order to make them available to the public on a more consistent basis. The red raspberry industry will probably have to consider supporting some research on their products in order to compete with strawberries and blueberries. Strawberry and blueberry farmers have gotten a pretty good "bang for their buck" when supporting research. The type of research needed to spur the business on would not be too expensive.

I will keep you posted on new research developments.

## PRUNINGS

### Follow-up on Raspberry Marketing Order

The Washington Red Raspberry Commission has voted to pursue a National Research and Promotion Program for frozen red raspberries that would assesses both domestic and imported fruit. A similar program by the US Highbush Blueberry Council provides almost half a million dollars a year for promotion. An earlier issue of *The Bramble* mentioned that WRRRC was considered including in the program other segments of the bramble industry such as fresh market berries. However, it has now decided to concentrate on frozen red raspberries.

### Website to Visit

The National Berry Report is a free daily report now compiled by the California Strawberry Commission from USDA data. It tracks the shipping numbers and prices of fresh blueberries, raspberries, blackberries and strawberries coming into U.S. market terminals. For example on March 19, lots of blackberries and raspberries coming in from Mexico! Visit it at <http://www.calstrawberry.com/members/nationalberryreport.asp>.

*From The Small Fruit Update, an email newsletter by NABGA member Tom Peerbolt. Subscribe at [smallfruitupdate@peerbolt.com](mailto:smallfruitupdate@peerbolt.com)*

### NABG Research Reports

Each issue of *The Bramble* usually contains a report on research funded through the NABG Research Foundation in the previous year (four projects in 2006). Please look in the conference Proceedings, mailed out with this issue of *The Bramble*, for reports on two of these projects – it didn't make sense to publish the same reports in two places. One 2006 project was reported last issue of *The Bramble*, and the other project has been continued into 2007 and will be reported in the next cycle of reports.

*Researchers: The Bramble can also report other research of interest to members; let us know about your projects.*

## GROWERPROFILE

### A Special Trellis System

At the Southeast Fruit and Vegetable Conference in Savannah, Georgia, in January, 2007, attendees heard about a very different blackberry management system that produces easy-to-pick crops of high quality fruit for Pick-Your-Own – it is essentially a blackberry espalier system. The presentation was by Arlie Powell, retired Auburn University Extension Horticulture Specialist, who with his family, operates Petals from the Past, a nursery in central Alabama specializing in antique roses, heirloom shrubs and hard-to-find perennial flowers and herbs. The farm has about three acres in blackberries, and smaller plantings of other fruit crops, partly as demonstration gardens for gardeners who may buy plants from the nursery. The blackberries, blueberries, muscadine grapes, and figs are sold both PYO and pre-picked, and the tree fruit – Asian pears, persimmons, and apples – are sold pre-picked. Petals from the Past also offers guided tours of

their gardens and educational programs.

In order to reduce disease problems of plants and fruit rots and create a “memorable harvest time experience”, Petals has developed a special management system for garden production of blackberries. Arlie calls this system “T-PUPS”, for “Trellised Production Using Primocane Suppression.” The system allows for enhanced yields of quality fruit the second growing season after planting, reduces fruit rot by opening up the fruiting surface of the plants, lessens potential problems from double blossom by eliminating primocanes during the period of infection, and allows easy removal of floricanes when harvest is complete in early summer.

Their planting consists of Kiowa and Chickasaw varieties. Kiowa has been very successful for them, but Chickasaw has been disappointing: yields were great at first, but the plants started dying after about three years from numerous problems, mostly viruses, and these plants are being replaced individually, as they die, with Kiowa. Plants are trained along a two-wire trellis, with the lower wire at

30-36 inches and the second at 60 inches. Plants are spaced 3-6 feet apart in rows 12 feet apart. Plants are mulched with 4-6 inches of pine-bark mulch and irrigated with a drip system.

Primocanes are initially pruned out at the base of individual plants beginning about mid-April or when these shoots have reached about 6 inches in height. After the initial pruning of primocanes to a height of 1-2 inches, this type of pruning of primocanes is repeated every 12 to 15 days until the 20<sup>th</sup> to 25<sup>th</sup> of June. Some of this pruning occurs during the harvest season, which usually begins between May 20 and 25 and lasts until early July with peak harvest June 10 to 20; in total, a six- to seven-week harvest season. Once harvest is complete, (around July 5-15), old floricanes are removed from trellises and destroyed. By this date, primocanes have been allowed to reach an average height of 15-25 inches. Fertilizer is applied and irrigation is used to supplement rainfall as required to keep primocanes rapidly growing for the rest of the growing season.

In the T-PUPS system, two strong

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primocanes are selected for filling the trellis system (other primocanes must be eliminated) throughout the remaining growing season. One cane is allowed to grow to 6-12 inches above the bottom wire then cut at 1-2 inches above the wire. Two branches are selected for growing along the wire, one in each direction, and others are eliminated. A second primocane is allowed to grow up to just above the top wire and pruned to branch along this wire. Green polyethylene plastic tape is used to secure the primocanes and branches to the trellis wire. Also, once the chosen primocanes have reached the bottom wire, the leaves between the ground and the first wire are rubbed off with gloved hands to make it easy for workers to see and pinch off any suckers that branch out of the leaf nodes. Timing is important, Arlie notes, or they end up having to cut these instead, which takes much longer.

Additional pruning is required during the summer to guide development of branches along the wires and eliminate additional primocane growth at the base of the plant. When the side branches of one plant reach the next plant, they are pruned back about 8 inches. Branches that then form on these main laterals are pruned to about 8 to 10 inches long. With proper care, a new fruiting system will be re-established on the trellis by the time the plants cease growth in the fall (usually in mid-October). Kiowa is especially suited to this type of system because it continues to grow so vigorously through the summer.

The planting yields 8,000 to 10,000 lbs/acre, with almost no loss. "We pick 95-99% of the fruit," says Arlie. Pick-your-own customers, as you can imagine, love the system, which controls these exuberant and aggressively thorny plants and offers lots of large, easy-to-pick fruit. "We have it designed with centipede grass down the middles so the mothers can wheel their strollers right down between the rows as they pick," he says, and disabled and elderly pickers also like the



*The pruning system used at Petals from the Past reduces disease problems and improves harvest. Photo courtesy Arlie Powell.*

accessibility and ease of picking. About 60% is sold PYO, 30% is sold retail at the farm, and the remaining 10% is wholesaled to a small handful of regular buy-

*NABGA member Arlie Powell may be contacted at 140 County Rd. 830, Clanton, AL 35045, 205-451-2387, arlie-gwen@aol.com*



*Ripening blackberries along the lateral arms of the T-PUPS trellis are easy to see and pick. Photo courtesy Arlie Powell.*

ers. Blackberries sell PYO for \$5.00 to \$5.50 for a three-pint container (about 2 ¼ pounds) and about \$1.50 to \$2.00 more for the same quantity pre-picked. The farm sells both by the pound and the container, depending on how busy they are; for example, at their occasional special events, where there's no time to weigh the fruit, it is all sold by container.

Arlie Powell estimates that labor costs for the extra labor involved in training the plants is about \$1000 to \$2000/acre. However, he feels that this cost is made up through extremely efficient harvest, high fruit quality, and reduced spraying – no sprays are used after April – and the bottom line is favorable. "We're paying on one end, but saving on the other," he says. With this carefully thought-out T-PUPS system, he is also creating an appealing and unusual planting that draws in and pleases his customers. ✨

## FDA Produce Safety Hearings

*Continued from front page*

side stands, farm gate operations, farmers markets or other small businesses involved in direct sales?

Data reported to the U.S. Centers for Disease Control indicate that between 1973 and 1997 reported outbreaks of foodborne illness in the U. S. associated with fresh produce increased in absolute numbers and as a proportion of all reported foodborne outbreaks. Unpublished data compiled by FDA indicate that from 1996 to 2006 there were approximately 72 reported outbreaks of foodborne illness associated with approximately 20 fresh produce commodities. Of these, 12 outbreaks were associated with tomatoes, 11 with melons, and 24 with leafy greens such as lettuce and spinach. These outbreaks involved a number of pathogens, including E. coli O157:H7 and Salmonella species, and both domestic and imported produce.

FDA believes that recommended GAPs, when implemented, can be effective in reducing the risk of microbial contamination of fresh produce. "However, the fact that outbreaks of foodborne illness

associated with fresh produce continue to occur supports a close examination of the extent to which these measures have been implemented; whether, if implemented properly, they have been effective; and what additional or different interventions might be appropriate to reduce the risk of future outbreaks." ❖

*Reprinted from The Strawberry Grower, the newsletter of the North Carolina Strawberry Association. NABGA will comment to FDA and encourages individuals also to do so. The full FDA announcement is posted at [www.ncstrawberry.org/docs/FDAdocument2-27-07.pdf](http://www.ncstrawberry.org/docs/FDAdocument2-27-07.pdf).*

## Are We Doing Our Part To Ensure the Safety of Our Berries?

*Reprinted from NY Berry News, February 07. By Cathy Heidenreich, Cornell University's College of Agriculture and Life Sciences, Ithaca, NY*

"Food Safety Begins on the Farm – We're Doing Our Part, Are You?" This adaptation of the GAPS (Good Agricultural Practices) program slogan might

be the title of a promotional piece on food safety which you tuck into every purchase from your farm stand or PYO. It might include a brief discussion of the risks of food-borne illnesses, what you do every day on your farm to minimize these risks and ensure customer safety, and how the customer can become a partner in this process by washing hands before and after handling produce on the farm and after using restroom facilities, as well as properly washing, handling, and storing produce at home.

Coming up with just such a slogan and promotional piece were the first things I thought of while attending the Ontario Fruit and Vegetable convention last week where a large portion of the berry session was devoted to food safety. How would I protect the consumers of my dream berry farm/operation from food-borne illnesses? What else would it take besides a slogan and a brochure?

In the wake of recent events on the west coast of the US, the first speaker, Ben Chapman, from the University of Guelph, really brought the point home. The title of his talk was "Learning from



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## Some First Steps to Food Safety

- Examine your farm for high risk areas or processes. Focus on these first.
- Train workers in proper handwashing.
- Supply clean water, soap, single use towels, and clean restrooms for workers and customers.
- Keep livestock away from irrigation sources.
- Store containers away from mice and other vermin.
- Use clean containers to pick and store fruit.

Produce Outbreaks: Creating a Culture of Food Safety in the Berry Industry". The first fact he shared was that the local farmer is one of the people most trusted by produce consumers, according to national surveys in Canada and the US. Are we worthy of that trust? Are we doing our part in creating and maintaining a culture of food safety? Let's do more than just hope our consumers don't find that trust misplaced. If we each do our part, creating a culture of food safety can soon be a reality for the New York Berry industry [and the rest of us!].

Chapman indicated it's not a case of "if", but "when" we have an outbreak. Here are some of the questions he addressed to the audience:

- Does our berry industry have a proactive plan in place?
- Are we ready now to do IMMEDIATE crisis intervention as an industry when this occurs?
- Do we have an industry spokesman for food safety?
- Are we as an industry consistently involved in interventions to reduce risks, like investing in food safety research, building strong industry groups, addressing gaps in science, encouraging members to actively engage in food safety evaluation and planning, underwriting food safety education, developing promotional pieces like the one suggested above that could be distributed by our berry industry and personalized for our local growers?

Let's take it another step closer to home. What if a reported incident oc-

## NABGA FINANCIAL REPORT

### FY<sup>1</sup> 2006 Financial Summary

INCOME	
Bramble ads	595
Dues	8,870
Acreage assessments	1,650
Literature	58
Subscriptions (profit)	585 <sup>2</sup>
Conference	3,313 <sup>3</sup>
Donations (research)	500
Sponsorships (conference)	<u>1,450</u>
Total income	18,292

### EXPENSES

Management	8,138 <sup>4</sup>
Newsletter Exp.	607
Bank/Card Exp.	143
Office Exp.	140
Telecommunications	150
Postage	511
Printing	597
Travel (conferences)	482
Conference	2095
To Research Foundation	5328 <sup>5</sup>
Funded Res. Projects	<u>2,244<sup>6</sup></u>
Total Expense	21,804
Net Income/Loss	-3512

Total in Checking Account, October 1, 2006: \$19,092.28

### Notes

1. NABGA Fiscal Year is October 1 to September 30. The board has proposed changing NABGA's accounting to a calendar year so that the year ends closer to NABGA's annual meeting.
2. \$230 was collected for *Fruit Grower News*, which became free. These funds will be contributed to to NABG Research Foundation.
3. Includes dinner payments, reimbursements for travel/hotel by GFVGA plus a share of conference profits.
4. Includes some expense reimbursements and not all months, so does not reflect actual annual cost. Contract year begins in March.
5. Includes individual donations, 25% member tithe, and additional funds authorized (\$3202) to NABG Research Foundation.
6. Includes final payment to non-research project funded in 2005 and payment for project from 2003 which had never been sent.

### FY<sup>1</sup> 2007 Budget

INCOME	
Bramble ads	600
Dues	10,000
Acreage assessments	2,000
Literature	500
Subscriptions (profit)	100
Interest income	750
Conference	500
Donations (research)	700
Sponsorships (conference)	<u>1000</u>
Total income	15650

### EXPENSES

Management	8900
Newsletter Exp.	1000
Bank/Card Exp.	160
Office Exp.	200
Telecommunications	200
Postage	600
Printing	600
Travel (conferences)	1000
Conference	2095
To Research Foundation	3000
NBCI Dues	<u>500</u>
Total Expense	16,160

curred on my farm? What would my response be? Would I be able to say with assurance (and verify with documentation) that I was doing my part? How about you? Have you done a food safety self assessment? Do you have a food safety plan in place? It's time now to step up to the plate and just do it!

Resources are available to assist you

with this process through the Good Agricultural Practices Program, located at: <http://www.gaps.cornell.edu/>. ✱

*Note: NABGA is supporting efforts to develop GAPs recommendations specifically oriented to smaller direct market retail and PYO berry growers (bramble, strawberry, and blueberry). We'll keep you posted.*

## NABGA 2007 Officers and Executive Council

**President - Tom Walters**, Northwest Washington Research and Extension Center, 16550 State Rte 536, Mount Vernon, WA 98273, phone 360-848-6124, e-mail twwalters@wsu.edu.

**Vice President - Nate Nourse**. See Region 2 below for contact information.

**Executive Secretary & Treasurer - Debby Wechsler**, 1138 Rock Rest Rd. Pittsboro, NC 27312, phone 919-542-3687, fax 919-548-4037, e-mail nabga@mindspring.com.

**Research Committee Chair - Gina Fernandez**, NCSU Dept. of Horticultural Science, Box 7609, Raleigh, NC 27695, phone 919-513-7416, e-mail Gina.Fernandez@ncsu.edu.

**Bramble Editor-** Debby Wechsler, 1138 Rock Rest Rd. Pittsboro, NC 27312, phone 919-542-3687, fax 919-548-4037, e-mail nabga@mindspring.com.

### Regional Representatives

**Region 1** (all of Canada) **Henry Mutz**, Berryhaven Farm, 320 Mt. Lehman Rd. S., Abbotsford, BC V4X 2L4, phone 604-859-6380, e-mail berryhaven@shaw.ca.

**Region 2** ( Represents CT, NH, MA, ME, RI & VT) **Nate Nourse**, Nourse Farms, 41 River Rd., South Deerfield, MA 01373, phone 413-665-2658, e-mail info@nourse-farms.com.

**Region 3** (Represents MI, NJ, NY, PA, Europe, and South Africa), **Susan Lynn**, Sand Hill Berries, 304 Deer Field Rd. Mt. Pleasant, PA 15666, phone 724-547-9259 email shberries@zoominternet.net.

**Region 4** (Represents DE, MD, OH & WV) **Guy Moore**, 2415 Woodbine Rd., Woodbine, MD 21797, phone 410-489-7034, e-mail guymoore@verizon.net.

**Region 5** (Represents AL, GA, FL, LA, MS & TX). **Stanley Scarborough**, Sunny-Ridge Farm, P. O. Box 3036, Winter Haven, FL, 33885 phone 863-294-8856, e-mail stanley.scarborough@sunnyridge.com.

**Region 6** (Represents AR, IA, IN, IL, KS, MN, MO, ND, OK, SD, NE & WI) **Dean Henry**, The Berry Patch Farm, 62785 280th St., Nevada, IA 50201, phone 515-382-5138, e-mailberry.patch@midiaowa.net.

**Region 7** (Represents DC, KY, NC, SC, TN & VA) **Charlie O'Dell**, 1859 Brookfield Rd., Blacksburg, VA 24061, phone 540-552-4322, e-mail olecro@agro-k.com

**Region 8** (Represents AK, AZ, CA, CO, ID, HA, MT, NM, OR, UT, WA, WY, Mexico, Central & South America) **Henry Bierlink**, Washington Red Raspberry Commission, 1796 Front St., Lynden, WA 98264, phone 360-354-8767, e-mail henry@red-raspberry.org.

## Raspberry Cobbler

*From Champaign Berry Farm, the farm of conference speaker Mike Pullins.*

- 1 cup sugar
- 3 Tbsp. cornstarch
- 1 cup water
- 1/2 tsp. vanilla
- 4 cups fresh or frozen raspberries

### Topping:

- 1 cup flour
- 3/4 cup sugar
- 1/4 cup margarine (or butter)
- 1 beaten egg

Mix sugar, cornstarch, water, and vanilla. Cook over medium heat until thick. Add berries and pour into baking dish. For topping, mix flour, sugar, and margarine as if making pie dough. Add egg. Mixture should appear crumbly. Sprinkle over fruit mixture. Bake at 400 degrees for about 40-45 minutes or until topping is lightly browned.

*Please send in your own recipes for NABGA's website!*

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