



BRAMBLE

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THE NEWSLETTER OF THE NORTH AMERICAN BRAMBLE GROWERS ASSOCIATION, INC.

NABG Research Foundation Requests Proposals

The North American Bramble Growers Research Foundation (NABGRF) is seeking proposals for bramble research for the year 2005. Since 1999, NABGRF has funded a total of 20 proposals totaling \$40379. Last year, four proposals were submitted. All were funded, for a total of \$7500.

All bramble proposals will be considered, however preference will be given to proposals related to germplasm development, cultivar testing, and cultural management. We expect the level of support to be similar this year, and funding for individual projects is expected to range from \$1500-\$3000. Proposals will be reviewed by NABGA's Research Committee at our meeting in Nashville, Tennessee, in February 2005. Awards will be sent out shortly after those meetings, well before the 2005 growing season. Deadline for proposals is December 15, 2004. The full Request for Proposals is on NABGA's website at www.nabga.org.

The Research Foundation is a separate tax-exempt, non-profit foundation created by NABGA to receive donations and make research grants. Funds for the foundation come from a variety of sources. One-quarter of growers' base membership fee to NABGA goes directly to this funds. Other sources include funds raised at our conference product-tasting socials and direct donations. If you have suggestions or comments about priorities for funding or are interested in serving on the Research Committee, contact Gina Fernandez, Research Committee chair, at gina_fernandez@ncsu.com or 919-513-7416.✻



It's time to renew your membership!

Please use the membership form on the inside back page of this newsletter to renew your membership for 2005. If you don't want to cut up your newsletter, photocopy the form or download it at www.nabga.org (pdf file).

NABGA's membership year runs October 1 through September 30. Members who have joined in the last few months are considered 2005 members. Renew now to be sure to get a full year of newsletters, the Conference proceedings, and a substantial discount on your conference registration.

This year, we are pleased to offer discount subscriptions to three, not two, publications, adding the *Fruit Growers News* to *American Fruit Grower* and *Northland Berry News*. NABGA's special subscription rates for all three are approximately half of their regular rates.

For Raspberries, Ubiquity (at a Price)

By David Karp, from the New York Times, July 7, 2004. Reprinted with permission.

There was a time when raspberries were a seasonal delicacy, considered fancy enough to be served by themselves as dessert at fine restaurants.

Now they are always available, but the flavor that once made them such a delight is harder to find.

On a warm morning in Camarillo, California, at his family's raspberry ranch on the coastal plain northwest of Los Angeles, Garland Reiter helped me understand what happened.

Twenty years ago, off-season raspberries fetched more than \$20 a pound in New York, said Mr. Reiter, an owner of Driscoll Strawberry Associates, which researches, ships and markets berries. So, he and his foreman, Alfonso López, devised a system to grow berries 365 days a year.

"We trick the plants," Mr. Reiter said.

Red raspberry canes are normally planted in late winter and produce two crops. Second-year canes, called floricanes, bloom from late spring to early summer, and first-year canes, called primocanes, from late summer to fall.

Walking long rows of canes on trellises rimmed by strawberry fields and lemon groves, Mr. Reiter explained

how Driscoll is able to produce in the months when the canes usually do not bear fruit. The growers dig up dormant plants from northern nurseries, hold them in cold storage, then plant them in Southern California from April to September. The discombobulated plants then bear fruit from late fall to early spring.

That is the rainy season in California, and rain causes raspberries to soften and rot. So Driscoll began shielding many of the rows in near-transparent plastic tunnels, originally adapted from Spanish strawberry growers. Supported by metal hoops, and open at the sides for ventilation, these structures also protect against wind and mild frost. In the last two years, other growers have also started using the tunnels.

Since the equable maritime climate always seems like spring to the canes, workers even strip off leaves by hand to make them go dormant and then bloom again in winter. Driscoll has also bred proprietary strains that defy the canes' tendency to go dormant as the days shorten.

Driscoll's year-round crop in California, and help from its fields in Mexico in the winter, gave the company a crucial advantage with supermarket chains, which prefer to deal with only one supplier. The company now handles

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NABGA Member Farm Featured on CNN

By Sue Loomis Gragan

NABGA Executive Council member Sue Loomis Gragan's farm was featured on CNN during the weekend of August 28-29. She sent NABGA the following note.

This was one of those weeks that will not be repeated (and no doubt next week will be a TOTAL disaster)!

On Sunday, August 22, the *Washington Post* ran an article on couples changing from professional, in-town careers to farming, and we were one of the three they spoke with. (You can probably access the article at the *Washington Post* website. The article is in the Metro section, titled "Growing a Different Life.") That led to CNN calling us for a shoot. They came out Friday, spent about three-plus hours filming me in the raspberry patch and Dan picking peaches, then doing some additional shooting and interviews. Of course, this was whittled down to a mere three minutes! The piece ending

up airing yesterday during the 10:00 p.m. news and the 7:00 am news this morning. (We ran right after a five-minute piece on "Dog the Bounty Hunter"—tells you where agriculture is in this country!)

To make the week complete, we entered some peaches in the Maryland State Fair for the first time, and ended up winning best in class, best peach, and grand champion in the overall fruit division. Sorry our blackberries were done and the raspberries aren't looking great right now, or we would have tried those, too.

All this follows an article in a local quarterly magazine on Southern Maryland peach orchards, and a local newspaper running our picture (in the blackberry patch) with a story on the decline of farming in Southern Maryland. I'm beginning to think we are the only ones left in Southern Maryland!

It's been interesting. And my feeling is that any positive publicity that brings the words raspberry or peach to the public can only be good!*

Mark Your Calendar!

NABGA will hold its annual conference as part of the North American Berry Conference in Nashville, Tennessee on February 16-19, 2005. This is a joint conference with the North American Strawberry Growers Association. Bramble-related sessions will be concentrated on Thursday and Friday, February 17-18. On Thursday evening, as in years past, NABGA will host a product-tasting event as a fundraiser for our Research Foundation. NABGA's annual membership meeting will be held during lunch on Friday. Registration information will be sent out later in the year.

Share your ideas

If you have suggestions for topics for sessions, speakers, or potential exhibitors, can help organize our fundraiser, or would like information on exhibiting at the conference, contact NABGA.

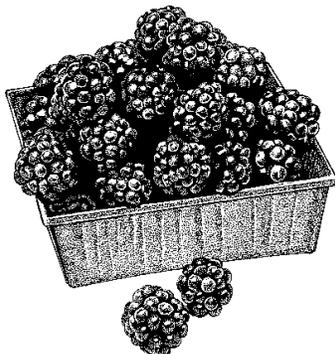
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For Raspberries, Ubiquity (at a Price)

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about half of the fresh raspberries shipped in the United States. With greater areas being planted and fields around Watsonville producing 12 tons per acre - an astonishing 10 times as much as in Northeastern plantings and three times the average in the Northwest - California overtook Washington State last year as the nation's top raspberry producer. Seventy million pounds of raspberries were harvested in California last year, most of them around Watsonville, the biggest raspberry district for both Driscoll and the state.

"We have a longer growing season, and we don't have winter injury or huge disease pressures, so we're able to harvest the genetic potential of the crop," said Carlos Fear, Driscoll's director of raspberry and blackberry research, in an interview at his office in Watsonville.

In a walk through a test plot where he was evaluating potential new varieties, Mr. Fear said that one of the 15 criteria he looks for is perfect berry architecture. The raspberry is an aggregate fruit, composed of many tiny drupelets. Mr. Fear said he breeds for small but uniform drupelets, which keeps the berry's structure strong, as well as skin strength, to avoid leaks, and a light red color, to keep the fruit looking fresh at distant markets.

Driscoll's innovations are a tremendous boon to productivity and shipping, but do not make the berries taste any better. Even the plastic tunnels, as useful as they are, slightly reduce light, and so they too reduce the raspberries' flavor. "You give up the ultimate to be better every day," as Miles Reiter, Garland Reiter's brother and the chairman of Driscoll, puts it.

How do Driscoll's raspberries rate for flavor? Some are mediocre, most are decent or good, but none are great. They are dependably pleasant, but lack the complexity and aroma of the best berries. Part of the problem is that raspberries trucked to distant markets need to be picked firm to arrive in good



condition, and most of a berry's aroma develops only with full ripeness.

One new variety is quite unusual. Breeders usually select for fruits that detach easily from the stem, since harvest labor accounts for two-thirds of the cost of fresh raspberry production. But last year Driscoll introduced Madonna (named after a nearby mountain, not the singer), which is sold with the stem attached. Marketed like jewels in a flat rectangular box, the berries are intended for dipping in chocolate, like long-stem strawberries.

Golden raspberries, their color determined by a single recessive gene, are mellow and more delicate than the red sorts. Driscoll sells only a few of its golden variety, Godiva, because it lacks durability, said Mr. Fear, who offered a sample of an experimental selection that was firmer.

At the end of a recent tour of his variety collection, Mr. Fear stopped at a scraggly bush whose fruit showed how transcendent the flavor of a raspberry can be. The berries of the bush, Rose de Côte d'Or, an old French variety, were small and soft but exquisitely intense. They resembled raspberry candy and were very sweet, with balancing acidity and a powerful, lingering aroma. If only store-bought berries could be like this.

Perhaps they can. For the best commercial raspberries, Miles Reiter himself suggested a visit to George Richter, who farms 45 acres in Fife, Washington, near Tacoma. His specialty is Tulameen, a large, luscious variety introduced in 1989 from British Columbia. It is considered the standard of quality in Europe, with an ancestry that includes Willamette, an old Northwest processing variety, for high flavor, and Cumberland black raspberry, for firmness. California is generally too

warm for Tulameen, and the Northeast too cold, but it flourishes in the Puyallup Valley.

When I visited a year ago, Mr. Richter, a genial man in glasses, a straw hat and a plaid shirt, was supervising the harvest of ripe Tulameen berries, to be shipped by air to upscale markets in the Northeast and Midwest.

His grandfather came from Minnesota a century ago and started growing raspberries in the area, Mr. Richter said. Fifty years ago the valley had thousands of acres of raspberries, both for fresh use and for processing, but in recent decades urbanization has pushed out most of the farms.

"This whole area is zoned for industrial use, and taxes are so high," Mr. Richter said with a sigh, pointing out nearby warehouses. "There are only a dozen growers left."

Washington's raspberry industry moved to Lynden, along the Canadian border. The climate, similar to Scotland's, with mild days and cool evenings, ripens berries with intense color and flavor, said Derek Peacock, who was then research manager for Enfield Farms. During harvest, in summer, it is conveniently dry, but in winter there is adequate rainfall and chilling.

More than 95 percent of the area's 8,000 acres of raspberries are grown for processing into frozen berries, ice cream, yogurt, juice and preserves. Quality and yields are high in summer, but autumn rains discourage growers from competing with California in the fresh market.

Twenty-five years ago, Lynden was a land of Dutch-American dairy farms, but as the dairy industry struggled, mechanized harvesting made berry farming for processing profitable. More farmers switched to berries in the 1990's, when wars in the former Yugoslavia, a major producer, interrupted shipments.

On a misty morning last July, Enfield's 500 acres of raspberries stretched to the horizon. Giant harvesters straddled the rows and shook the ripe berries loose with long flexible

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rods. A conveyor belt carried the fruit across an air cleaner to an upper level, where workers sorted it by hand.

"Adjusting the settings of the machines is an art form," Mr. Peacock said. The mechanically picked berries cannot be sold fresh because some are damaged and leak juice, but they are fine for processing. In the next decade, however, the development of firmer varieties will make it possible to harvest berries by machine and sell them fresh, Mr. Peacock said.

Driving his truck along Boundary Road, he stopped by rows bearing juicy, purple-red Willamette raspberries, which had a tart-sweet, winy taste, and Meeker, now the standard because of its higher yields, which was sweeter but a bit less rich.

Viral and fungal diseases are the scourge of raspberry growers, spreading readily in large fields. Early last century the United States had 60,000

acres of raspberries, three times the current figure, before mosaic virus devastated plantings. In the last decade, raspberry bushy dwarf virus, which causes reduced yield, smaller berry size and crumbly fruit, has afflicted Lynden's fields, Mr. Peacock said. It is time for a new variety that would resist the virus, he added.

Black raspberries, also called blackcaps, are a different species, native to the Eastern United States. Alluringly purple-black in color, they are small, round, firm, dry and very seedy, with a distinctive sweet taste of dark cherries. As fresh berries, blackcaps are too seedy for many people, and are rarely sold at supermarkets, but their intense color and flavor drive aficionados wild. Once used in the edible dye stamped on meat, and as coloring in Dr Pepper soda, blackcaps now are used mostly in processed foods like jam, for which their rich flavor is superb.

Their season is short, usually several weeks in July, and the canes are low-yielding compared with those of red raspberries. Scattered plantings exist

in the East and Midwest, but most of the nation's crop, about 1,300 acres of the Munger variety, is mechanically harvested for processing in the Willamette Valley, near Portland, Oregon.

Black raspberries were all but forgotten until two years ago, when a scientific study cited them as being the highest of all berries in anthocyanins, the antioxidant compounds that scavenge harmful free radicals associated with aging and cancer.

This sparked a surge in interest, said Don Sturm, a third-generation farmer who raises 70 acres of blackcaps in the valley, in Corbett. Visits to his Internet site (www.sturmsberryfarm.com), which sells berries and jams, jumped a hundredfold, he said, and Trader Joe's started offering a black raspberry juice blend.

Paradoxically, despite the reputed health benefits of their berries, black raspberry plants are extremely susceptible to viruses, and rarely live more than a few years, Mr. Sturm said.✻

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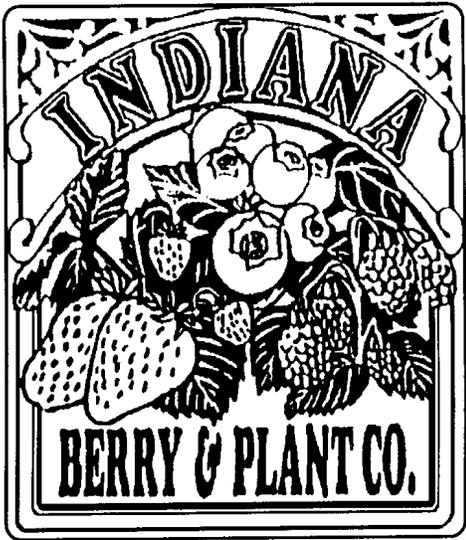
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MEMBER PROFILE

Sustainable Diversification for the North

NABGA member Dale Secher and his wife, Cindy, have been raising raspberries for more than 35 years at their Carandale Farm, about 12 miles from Madison, Wisconsin. They are not big producers of raspberries – they have about two acres of fall-bearing berries—but their farm reflects their concerns about the big picture, through a strong commitment to sustainable agriculture and some innovative on-farm research into alternative crops.

Raspberries compliment the Sechers' main crop, 16 acres of strawberries. They stopped growing summer raspberries and concentrated on the fall crop many years ago, because the summer berries required a lot more maintenance that conflicted with the strawberry crop. "We consider raspberries profitable, but not our central crop," says Dale. "People just don't buy in large quantities like they do strawberries." Diversification into raspberries, as well as apples, grapes, and pears, says Dale, is an insurance policy that helps spread the risk.

The Sechers sell all their raspberries direct to the public at farmers' markets, on the farm, and pick-your-own. Their main market is the progressive, health-conscious and environmentally aware college town of Madison. These consumers are enthusiastic seekers of local produce, but, says Dale, "They demand and want pesticide-free fruit. Virtually all growers around here use low-pesticide methods." Dale characterizes his production methods as "not organic but IPM, with no pesticide sprays." With a very wet growing season, this year, they've been plagued with grey mold, but he has refrained from using fungicides, tried to keep the plants as clean as they can, and accepted what losses can't be avoided. "We tolerate lower yields, and keep input costs down," says Dale. To make consumers aware of their practices, their website explains their "IPM Tool Chest" of tools. For raspberries,



NABGA members Dale and Cindy Secher of Carandale Farm

planting resistant varieties is key, along with factors of site selection and layout, such as wind breaks, plant density, row orientation to maximize sunlight, air and water drainage. Others IPM tools include green manure crops, cover crops, removal of diseased foliage and plants, mechanical cultivation, hand weeding, and preserving natural predators.

About half their raspberries are PYO, the rest are pre-picked. "What limits us on PYO is that people leave too many out there," says Dale. "The fall raspberries are fragile and people just break the tips off." Raspberries sell for \$4.00/pint at the farmers' markets and \$3.50/pint at the farm. All their PYO berries are sold by the pound, because they think it is fairer. PYO raspberries are \$3.50/pound. Customers are often initially confused by this, says Dale, so he often has to explain that the per-pound PYO price comes out to about \$2.60 per pint.

Carandale Farm grows a number of raspberry varieties. Each one, comments Dale, has its advantages and disadvantages. The season starts in mid-August or earlier with Autumn Bliss, which is a "pretty good all-round berry," followed by Autumn Britten. "It's gorgeous looking, but more subject to grey mold, and only good for PYO," says Dale. Next to ripen is Caroline, which is "very flavorful and has less gray mold, but soft." They finish with the old standby Heritage. "It's always a little chancy this far north," says Dale. "When the frost is early, we often lose as much as 50% of the crop."

One of Carandale Farm's most interesting enterprises – to the Sechers' as well – is its on-farm trial of unusual fruit crops. The project is supported by an Agricultural Development and Diversification grant from the Wisconsin Department of Agriculture. Explains the farm's website: "In our ongoing effort to push the limits of innovation and diversity, we have established a 2-acre on-farm trial for screening more than 30 types of unknown, little known and overlooked fruit crops. They are being evaluated for adaptability, sustainability and economic potential.

The goal of this project is to introduce new choices, diversify the agricultural base, create profitable niche markets, maintain open space in urbanizing areas, and benefit public health by introducing fresh and processed fruit products with high nutraceutical value." Besides unfamiliar European and Asian fruits, the trials include native fruits such as saskatoons, elderberries and pawpaws, and many varieties of plums, currants, and gooseberries, as well as native and Illini Hardy blackberries. Dale notes that while native blackberries seem to thrive in the region, and others have tried blackberries, varieties more suited to their climate are badly needed.

The trial's plantings were established in 2003, so crops are still getting established, but Dale hopes to be able next year to test the market potential for some that have started to bear. "I have a long-term concern for developing a regional alternative to a global approach, with more local processing and production," he comments. With 431 plants of 99 different cultivars, he has quite a management and recordkeeping challenge. Yet it is clear that he approaches it with both enthusiasm and commitment, and sees this as a way he can not only add to his own farm's success but make a lasting contribution to the region's agriculture. ❁

For more information about Carandale Farm and the on-farm trials, visit their website at www.carandale.com.

If you would like to suggest other farms to feature in the Bramble, contact the NABGA office.

RESEARCH REPORT

Raspberry Research Update 2003

By Brian R. Smith, University of Wisconsin-River Falls

The general objective of this program is to develop new floricanes and primocane-fruiting cultivars with improved characteristics for commercial growers in the eastern and midwestern United States and Canada.

The role of the University of Wisconsin-River Falls is to serve as winter hardiness testing site for the WI/ "Five Aces" Cooperative Bramble Breeding Program. Hybridization was conducted at "Five Aces Breeding" in Maryland. Seedlings were germinated, grown to transplant size, and then sent to UW-River Falls, field transplanted and selected over a 2 to 4 year period. Breeding and advanced selections have been sent to "Five Aces Breeding" for propagation via apical meristems/shoot tips (tissue culture) and for further hybridization use. Advanced selections have been sent to appropriate cooperating sites for further testing. Appropriate advanced selections with cultivar potential for Wisconsin are being tested at UW-River Falls.

Progress to Date

Support for this project has been provided by Five Aces Breeding, the Wisconsin Berry Growers Association, NABGA, and the Wisconsin Department of Agriculture. This represents the eleventh year of UW-River Falls' involvement in the Cooperative Bramble Breeding Program. Over the years, a total of 10,558 seedlings have been planted at UW-River Falls from which 59 advanced selections have been made. In Summer 2003, 826 seedlings were planted, representing 11 progenies. Seedlings are planted on a 2' x 8' spacing within and between rows, respectively. Advanced selections are planted in replicated or observational trials.

Currently, all the bramble seedlings (3,856) planted since 2001 still remain in the field as sources from which to

select for potential cultivar and breeding material.

The past two years were devastating to the bramble plantings. On May 1, 2001, a severe storm dropped marble- to baseball-sized hail for 20 minutes, ruining what was left of the floricanes. The winter of 2001-2002 was equally devastating. An extremely mild winter (only -4° in December-February), followed by a very cold March and record April snowfall killed most floricanes again. The winter of 2002-2003 also caused considerable injury. Although characterized by generally mild temperatures, severe fluctuations from 54° on January 8 to -1° on Jan 11 in conjunction with record frost depths (10') killed the floricanes on all cultivars except 'Killarney' and 'Boyne' and eliminated most of the seedlings also.

Twenty seedling selections were made this year (table omitted in this newsletter).

Raspberry Genotype Trials

A 3-replicate, 29-genotype, floricanes/primocane bramble performance trial was established at UW-River Falls this year. Observational plots were also established for ten advanced selections.✿

Selections in Raspberry Genotype Trials

Floricanes – fruiting	Primocane - fruiting
Boyne	Anne
Encore	Autumn Bliss
Esta	Autumn Britten
Festival	Autumn Byrd
K81-6	Caroline
Killarney	Dinkum
NY 253	Heritage
NY 258	Himbo Top
NY 283	Joan J
Nova	Kiwi Gold
OAM – W2	QEG
OAY – F1	Polana
PCS – 1	Ruby
PCS – 2	Summit
Prelude	
Royalty (purple)	
MacBlack (black)	
Cancanska (blackberry)	

Each research project funded by the NABG Research Foundation submits a progress report to the Foundation at the end of the year. These reports were received in December 2003 for projects funded in February of that year. Reports on all projects are printed in the *Bramble* over the course of the year.

RESEARCH REPORT

Evaluation of Raspberry Seedling Progenies For Heat Tolerance, Resistance to Variable Winter Temperatures, & Horticultural Characteristics

By James R. Ballington, Horticultural Science Department, NC State University

The funding that was received from NABGA for 2003 was used for supplies for constructing simple trellises for first backcross generation hybrid raspberry seedling progenies established at Jackson Springs, NC (primarily), and Fletcher, NC. These progenies involved crosses of F1 hybrids between *R. parvifolius* and red raspberry back to unrelated red raspberry genotypes.

Evaluation of previously established second backcross hybrid progenies of this type at the Jackson Springs site in 2003 demonstrated that it is feasible to select for all the stated characteristics (heat tolerance, resistance to variable winter temperatures, and superior horticultural characteristics). The percentage of seedlings meeting all these criteria was quite low, as expected, but six elite selections were identified from among 350 seedlings. The percentage of first backcross seedlings meeting the first two criteria (heat tolerance and resistance to variable winter temperatures) in 2004 should be significantly higher due to the higher percentage of *R. parvifolius* parentage. The percentage meeting the third criterion (superior horticultural characteristics) is difficult to predict.✿

Orange Felt (Orange Cane Blotch) of Blackberry

By Phillip M. Brannen, University of Georgia

With the recent expansion of the blackberry industry in Georgia, we have seen diseases which are only briefly mentioned as curiosities in other locations. One of these is the orange felt (also known as orange cane blotch) disease of blackberry, caused by the parasitic alga *Cephaleuros virescens*. Orange felt is especially prevalent on blackberries grown in very hot, wet, and humid environments, such as those encountered in much of the coastal plain areas of the Southeast. Where colony formation is limited, it has been stated that this alga does not limit production.

However, though confirming research trials have yet to be conducted, we are currently recommending that control methods be utilized in Georgia. Where ideal environmental conditions occur, this alga may possibly girdle canes or augment other cane diseases, causing subsequent decline and death.

Causal Organism

Only a few algal species attack plants, and of these, *C. virescens* is the only common species in the United States. The *Cephaleuros parasiticus* alga, though a significant pathogen of tea, has been reported on Louisiana magnolias, but has otherwise not been observed as a pathogen in the United States. The alga *C. virescens* is prevalent in the South, and it has been reported as a pathogen of nearly 300 species and cultivars of plants; of these, roughly 80 include stem spots or lesions as symptoms. Though *C. virescens* is generally reported to only colonize between the cuticle (upper waxy layer) and the epidermis (outer cell layer), colonization has been observed within the epidermal cells of the plant, and damaged tissue has been observed within the plant cortex region – opening the door for the possibility that the plant may be “girdled” by the infections or subsequent damage. Since stem cracking also accompanies infection, this may also



account for death of blackberry canes, due to secondary attack by opportunistic fungi such as *Botryosphaeria* species.

Symptoms

Initial symptoms are observed as colonies develop on canes. Orange felt is first characterized by the appearance of yellow, disk-shaped spots on the canes. Initial spotting is usually more prevalent towards the cane base. Orange felt is later characterized by orange spots which are often blotchy or velvety in appearance. The orange color results from the production of haematochrome pigments by the spore-producing structures as they mature. Spots often coalesce (merge) under wet, humid conditions – virtually covering the entire cane. Spots can appear in the late spring, but are more prevalent throughout the summer and fall as the colonies develop.

This disease is often confused with rust diseases of blackberry, since the spots are very orange in appearance as they mature. However, the two can be easily distinguished microscopically. In addition, rust spores readily rub off, forming a rust stain on whatever surface they touch, whereas lightly rubbing orange felt colonies does not result in a stain.

Disease Development and Spread

Through field observation and limited reports, it is assumed at this time that the disease cycle for *C. virescens* is roughly the same on blackberry as other plant species, but this has not been

For color pictures, see the web version of this article at www.nabga.org or the original article at www.smallfruits.org.

studied in detail. Generally, colonies form where zoospores (mobile swimming spores) settled the prior summer. In the case of blackberries, spread has to occur from floricanes

to primocane in each year of continued colony production. As the colonies develop in early to mid-summer, they form hair-like stalks (sporangiophores), which subsequently produce multiple sporangia. Under wet conditions, the sporangia in turn release multiple zoospores (swimming spores), each of which is capable of forming a new colony. Spores can actually swim to a new spot on a cane, but spread from floricanes to primocane is likely through splashing water from summer rains. Producing prolific numbers of viable spores, this alga can be aggressive. The disease cycle takes 8-9 months to complete.

Control

Removal of floricanes immediately after harvest may help to prevent further spread of the algal spores to primocanes. Copper sprays should also help to prevent spread. Many copper products are registered for control of a multitude of blackberry diseases, using relatively high rates for late dormant and fall applications and lower rates for times in which succulent tissue is present (read all labels for specific directions). The currently labeled use times for most copper materials may not be sufficient to cover all infection periods. Also, copper injury can occur under prolonged use or under certain environmental conditions, such as very hot or prolonged moist periods (poor drying conditions). Since sporulation of this alga has been observed in June, this may indicate that additional, season-long

Continued next page

NEWS PRUNINGS

Fungicide for Raspberries

In early June, Arvesta Corporation announced that CaptEbate 68WDG Fungicide is registered for use on raspberries nationwide. Said Mark Quick, area sales manager of Arvesta Corporation. "CaptEbate offers control of gray mold, anthracnose fruit rot and spur blight on raspberries." The product is a combination of two fungicides, Elevate (fenhexamid) and Captan. For more information, visit www.arvesta.com.

Resources for Organic Bramble Growing

Organic Culture of Bramble Fruits is a free publication of ATTRA, the national sustainable agriculture information service. The 20-page document includes sections on cultural considerations, weed management, fertility management, greenhouse raspberry production, diseases, insects, economics and marketing, and resources. additional publications that may be of value to those pursuing organic production is ATTRA's *Overview of Organic Fruit Production*.

Both are available on the web at www.attra.ncat.org/attra-pub or by calling 800-346-9140.

NE Small Fruit Pest Management Guide

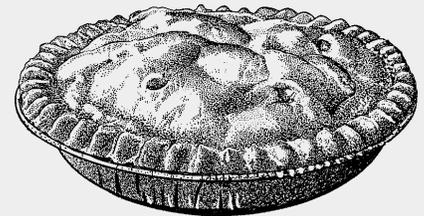
The current edition of the *New England Small Fruit Pest Management Guide* is now available for purchase for \$10 (plus \$4 for S&H). To purchase a copy send a check for \$14 made out to Univ. of Massachusetts to: Sonia Schloemann, 25 West Experiment Station/UMass, 25 West Experiment Station/UMass, Amherst, MA 01003. Credit card purchases of this publication can be made online by going to: <http://www.umassextension.org/Merchant2/merchant.mv>.

E-Newsletter Subscription

Because of budget cuts, the excellent e-mail newsletter *Massachusetts Berry Notes* will now be available by subscription only (\$25). For information on subscribing, email Sonia Schloemann (sgs@umext.umass.edu).

Southeast Strawberry Expo

The North Carolina Strawberry Association invites bramble growers interested in plasticulture strawberry production to the Southeast Strawberry Expo, November 3-5, 2004 in High Point, NC. The Southeast's premier educational event for strawberries, the Expo attracts growers from across the country. For more information, call 919-542-3687 or email ncstrawberry.com.



What's Cooking?

Please send your favorite raspberry or blackberry recipes for NABGA's website. Wouldn't it be great to have a recipe from every NABGA member?

Any kind of recipe is fine, from salad to dessert, from sauce to sorbet. Please try to provide the source (e.g. the name of the person who created it or gave it to you, or title, author, and publisher of a printed source) and we'll credit that source as well as you/your farm.

Mail your recipe to NABGA, 1138 Rock Rest Rd., Pittsboro, NC 27312, fax to 919-542-4037, or email to nabga@mindspring.com.

Orange Felt

Continued from previous page
or targeted applications of copper materials (reduced rates) may be necessary for optimal control; however, mid-summer copper applications are not generally allowed under most current labels, and once again, plant tissue damage may possibly occur under hot conditions. Reduced-rate, summer copper applications, as well as development of new algicidal materials and control methods, should be subjects for future research. Without regard, good sanitation and use of copper sprays (as currently labeled) are the best (only) good control methods available at this time.✱

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North American Bramble Growers Association

1138 Rock Rest Road
Pittsboro, North Carolina 27312
Phone: 919-542-3687
Fax: 919-542-4037
E-mail: NABGA@mindspring.com

It's membership renewal time! We hope you'll want to continue to be part of NABGA in 2004-2005, and welcome your suggestions of how NABGA can better serve you – and the bramble industry as a whole. Please renew today.

Name(s) _____

Farm/Company/Institution _____

Address _____

City _____ State _____ Zip Code _____ Country _____

Phone #1 _____ (home work farm cell toll-free)

Phone #2 _____ (home work farm cell toll-free)

Fax _____ Website _____

E-mail _____

NABGA's membership year runs October 1 – September 30. This year, our membership form asks for some new information. Additional phone numbers and your website will make NABGA's membership directory more useful and let us put links to your website on ours. Questions on what you raise, how you market, and how NABGA can help you help give a clearer picture of our members and their needs. Please circle any of the above information you would NOT like shared in NABGA's membership directory.

FEES (all fees in US funds only, please)

Grower Base Fee: \$75 (1/4 of this goes directly to the NABG Research Foundation) S_____

Acreage Charge: \$5 per acre, maximum charge \$35 S_____

Bramble researchers, extension, students: \$40 S_____

OPTIONAL DISCOUNT SUBSCRIPTIONS (a benefit of membership)

Northland Berry News U.S. \$16 Canada \$18 International \$22 S_____

American Fruit Grower U.S. \$10 Canada \$15 International \$25 S_____

Fruit Grower News U.S. \$6 Foreign \$18 S_____

ADDITIONAL DONATION to NABG Research Foundation (tax deductible) S_____

TOTAL ENCLOSED S_____

PAYMENT FORM Check or Money order Visa Mastercard

Account number _____ Expiration date _____

Signature of cardholder _____

Please make checks out to NABGA. Credit cards accepted September through February only. Send renewal to address above. All members receive a full year's subscription to the Bramble and a copy of the year's conference Proceedings.

Growers: What small fruit crops do you grow?

Blackberries Raspberries Strawberries Blueberries Other _____

How do you sell? Please check all that apply.

Pick-Your-Own Retail direct to consumers Wholesale (restaurants, small buyers)

Wholesale (larger buyers) Other _____

How can NABGA help you? What should the organization be doing? Please share your ideas and suggestions (use separate sheet if needed):

NABGA 2004 Officers and Executive Council

President- Mark Ciotoli, 122 Freneau Ave., Matawan, NJ 07747, phone 732-294-0707, e-mail Markcio@aol.com.

Vice President- Ervin Lineberger, Killdeer Farm, 300 Goforth Rd, Kings Mt., NC 28086, phone 704-739-6602, e-mail fruitgrower@netzero.net.

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.

Membership- Jim Burda, 20093 M-60 East, Three Rivers, MI 49093, phone 616-279-5093, e-mail jburda@net-link.net.

Bramble Editor- Debby Wechsler, 1138 Rock Rest Rd. Pittsboro, NC 27312, phone 919-542-3687, fax 919-548-4037, email 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.

2005 Conference Program Chair—to be determined

Regional Representatives

Region 1 (Represents all of Canada)

Kristine Naess, 358 Rue Principale, Pointe-aux-outardes, Quebec, Canada G0H 1M0, phone 418-567-2235, e-mail Kristine.naess@lesbuisson.qc.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@noursefarms.com.

Region 3 (Represents MI & NY) **Larry Krieger**, P.O. Box 116, Bridgman, MI, 49106, phone 616-465-5522, e-mail lmksny@aol.com.

Region 4 (Represents NJ, PA, Europe, and South Africa) **Mark Ciotoli**, 122 Freneau Ave., Matawan, NJ 07747, phone 908-583-3958, e-mail Markcio@aol.com.

Region 5 (Represents DE, MD, OH, & WV) **Sue Loomis**, D&S Farm, P.O. Box 272, Charlotte Hall, MD 20622, phone 301-290-1179, e-mail sueloomis@erols.com.

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

NABGA

1138 Rock Rest Road

Pittsboro, NC 27312

Phone: 919-542-3687

Fax: 919-542-4037

Email: nabga@mindspring.com

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Region 6 (Represents AR, IN, IL, KS, KY, MN, MO, ND, OK, SD, NE, TN & WI) **Bob Blain**, 2799 N. 1700 East Rd., Martinton, IL 60951, phone 815-428-7382, e-mail BOCO@dlogue.net.

Region 7 (Represents AL, DC, GA, FL, LA, MS, NC, SC, TX & VA) **Milton Parker**, NC Cooperative Extension, P.O. Box 569, Whiteville, NC 28472, phone 910-640-6605, e-mail yamman552002@yahoo.com.

Region 8 (Represents AK, AZ, CA, CO, ID, HA, MT, NM, OR, UT, WA, WY, Mexico, Central & South America)

Thomas N. Walters, Sakuma Bros. Farms, P.O. Box 427, Burlington, WA 98233, phone 360-757-6611, e-mail tomwalters@sakumabros.com.

**NORTH AMERICAN BRAMBLE
GROWERS ASSOCIATION (NABGA)
1138 ROCK REST RD.
PITTSBORO, NC 27312**