THE BRAMBLE

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THE NEWSLETTER OF THE NORTH AMERICAN RASPBERRY & BLACKBERRY ASSOCIATION, INC.

Grand Rapids, Michigan, Here We Come!

NARBA will hold its conference on Monday, December 8, and Tuesday, December 9, 2008 in Grand Rapids, Michigan, in association with the Great Lakes Fruit & Vegetable EXPO. Our conference will start on Monday morning with discussion groups and workshops, including one on the "Basics of Raspberry & Blackberry Production" led by Marvin Pritts of Cornell, a great teacher and bramble expert, and Eric Hanson, Michigan State University extension specialist. The afternoon will consist of educational sessions, followed by our annual meeting. Then, a "Dutch Treat" dinner at a local restaurant is planned – these diiners were very successful gatherings at our recent conferences in Savannah, GA, and Columbus, OH. Tuesday will feature a full day of educational sessions.

We are excited about the speakers we have scheduled. These include Dr. John Clark, University of Arkansas blackberry breeder, and Dr. Jim Joseph, USDA-ARS/Tufts University, who is one of the leading researchers on the health benefits of berries. He did some of the seminal research with blueberries, has recently worked with blackberries, and is just beginning a project involving raspberries. On Tuesday evening, John Clark will present a "bramble travelogue" describing his travels to other raspberry and blackberry producing areas of the world during a recent sabbatical.

"Grower Spotlight" sessions will include leading Michigan grower Fred Koenigshof, who has 60 acres of raspberries, which he takes to Chicago, wholesales, sells on the farm, and sells to wineries. Other topics being planned include a panel discussion on trellising, training, and pruning, reports on research on high tunnels and other NABG Research Foundation-funded projects, and sessions on disease and weed control, irrigation, and post-harvest handling/packaging.

The Great Lakes Fruit & Vegetable EXPO program starts on Tuesday (the second day of the bramble program), and runs through mid-day Thursday, December 11, with more than 3000 attendees, a huge trade show of more than 300 exhibitors, and as many as eight concurrent educational sessions: blueberries, tree fruit, farm marketing, organics, and various vegetables.

Bramble conference attendees will be registered for the Great Lakes EXPO (unless they come on Monday only) and may choose to attend any of these other sessions and the trade show Tuesday through Thursday. (Some of your family/farm members may also want to sign up for a Farm Market Tour that will run concurrently with our Monday workshops and sessions.) All registration will be handled through the Great Lakes EXPO, and we are working closely with them on the many logistical details. The EXPO is not expensive: advance registration is $60 ($15 for spouses and additional family members); Monday's workshops and sessions will have low or no fees for NARBA members (and higher fees for non-members).

Attentive members will notice that the dates of this conference mean we have two "annual" conferences in one year, since we also met in January, 2008. While we traditionally meet in January or February, the Great Lakes EXPO is always held in early December, which necessitated this unusual arrangement. We'll be back on schedule in 2010, as we're planning a February meeting – in California!

The Most Important Conference Information *RIGHT NOW*

The final schedule of sessions is several months away, but if you are even tentatively planning on coming to the conference, make a reservation at the **Amway Grand Plaza Hotel**, the host hotel, as soon as possible. The word is that this hotel fills up by October..and maybe sooner! If you change your mind and decide not to come or need to adjust the number of days in your reservation downwards, you can do so without penalty if you call by November 12th. So go ahead and make reservations while you are thinking about it, even if your plans are not definite!

Many conference events (including our Monday sessions), will be held in this hotel, which is connected with the DeVos Place Convention Center, the site of the trade show and most of the other educational sessions. It's a lovely, elegant old hotel, looking down on the Grand River, with several museums and park areas just across the river in walking distance. To make a reservation, call **800-253-3590** or **616-774-2000** and ask for the "Great Lakes Fruit & Vegetable EXPO" special block. Room rates are $101 for single or double, $111 for three persons and $121 for four persons. We recommend that your book rooms starting Sunday evening and then for as many days of the EXPO as you choose.

Visit www.glexpo.com to get an idea of the schedule – as of mid-June, the 2007 program was still posted, but 2008's schedule, other than berry programs, is likely to be very similar. Registration materials will be posted at the beginning of September and mailed out shortly afterwards.

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NARBA Initiates Food Safety Task Force

Meeting via conference call on June 5, the NARBA Executive Council authorized the creation of a Food Safety Task Force to develop a food safety program specifically for raspberry and blackberry growers, especially smaller growers who sell pick-your-own and direct to the public. This Task Force will be chaired by NARBA past-president Ervin Lineberger, and will include growers from across the country as well as other expertise.

As most members are aware, food safety is a concern across the produce industry, especially in the wake of incidents involving lettuce last year and, just recently, fresh market tomatoes. There has been discussion of regulatory programs by USDA and many commodities have worked to develop plans for their products. Larger fresh-market bramble growers who sell wholesale to major distributors are already being required to have third-party audits. Often these do not take into account the particular production system or risk factors for brambles – a food safety plan created for lettuce production, for example, is not really appropriate for blackberries, a perennial crop with its fruit developing well above the ground, and the particularities defined by this Task Force should help such third-party programs better evaluate bramble growers' operations.

Smaller growers generally do not participate in third-party audits, yet incidents on smaller farms are equally hazardous to anyone involved and could be devastating to the entire industry if they draw media attention. And direct marketing and PYO have some different needs and risk factors from wholesale operations.

Because it's often difficult for growers to even know how to get started on an on-farm program, especially when faced with long lists of recommendations (many of which don't seem to apply to brambles or to address the greatest risks for bramble fruit or direct market), NARBA's Food Safety Task Force has been requested by the Executive Council to develop a tiered program, ranging from "entry-level, must-do" recommendations to more extensive food safety risk management and monitoring, depending on the size and complexity of the operation and its type of marketing. Worksheets and record keeping forms for self-audit will be developed..

This group will begin its work in the next few months, meet in Grand Rapids just before our conference, and then present its draft recommendations for comment and discussion in a session on Monday afternoon, December 8.

Please contact the NARBA office if you are interested in serving on this task force or have suggestions or recommendations.

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Briefly Speaking...

You call this spring? It has been the coldest spring in at least 30 years in Northwestern Washington, and it's been wet. Everything is behind schedule, except for the molds and other diseases. Our raspberries are doing OK and for once, the price for processed raspberries looks good. The weather caused a truly weird and unforeseen labor situation in Oregon, where they have plenty of people to harvest strawberries, but not enough ripe fruit to pick. Across the rest of the country, a number of growers are struggling with a late season and even worse, flooding.

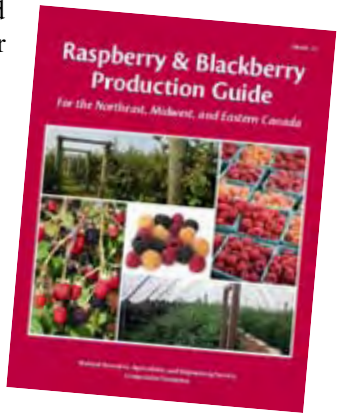
Food safety task force. Check out the article on the Food Safety Task Force (to left on this page) and please consider becoming involved. We hope to develop tiered food safety plans, with special attention to what's appropriate for smaller growers. Food safety is a responsibility we all share as growers, large or small. Being a small-scale grower, or selling locally won't make anyone immune from food safety issues. If or when there is a problem, we will all probably be painted with the same brush. Just ask a tomato grower!

Hoping that you have survived the shock of your fertilizer bills, and that your parking lot is full of happy families buying berries,

—Tom Walters, NARBA President

New Production Guide Is Here & Ready to Use

The new *Raspberry and Blackberry Production Guide for the Northeast, Midwest, and Eastern Canada* from Cornell has now been released, and a very useful publication it is – 157 pages chockful of useful information, with 134 color photos, 36 line drawings, 30 tables, and more than 70 cultivar descriptions. The photos will be especially helpful in diagnosing diseases and other problems. NARBA is offering a special reduced rates for members of $35/copy (U.S. shipping included; price for Canada or other countries slightly higher based on additional mailing costs). This is $8 less than if you order from NRAES. We've sent copies to all who pre-ordered and have some in stock; to order, simply send a check or credit card info and your mailing address to the NARBA office (or use the form in the last newsletter).



Summer Bramble Chores

This list was developed by Dr. Gina Fernandez, Small Fruit Specialist at NC State University, and reviewed and revised with the assistance of Dr. Marvin Pritts at Cornell. Chores and timing may be somewhat different in your area or for your cropping system.

Plant growth and development

- ❑ Fruit development.
- ❑ Rapid primocane growth.
- ❑ Floricanes senesce.

Pruning and Trellising

Floricane-fruiting raspberries:

- ❑ May need to adjust primocane numbers if canes are too thick (i.e. remove less vigorous primocanes at their base)
- ❑ Train primocanes to the trellis.
- ❑ Pinch black raspberry primocanes at 2 to 3 ft. to promote lateral growth.

Primocane-fruiting raspberries:

- ❑ Train primocanes within a trellis to hold canes erect.

Erect blackberry types:

- ❑ In warm climates with a long growing season, hedge (tip) the new primocanes when they are about 6-12" below the top wire of the trellis to encourage lateral branching. Continue hedging at monthly intervals to maintain desired branching and height of canopy (laterals should reach top wire).
- ❑ In colder climates, tip primocanes once when they are about 2–3 ft. tall to encourage lateral branching.
- ❑ Prune out spent floricanes after they have produced fruit, do not thin out primocanes until mid-to late winter.
- ❑ Train primocanes to trellis to minimize interference with harvest. Shift trellises or V trellises make this relatively easy.

Trailing blackberry types:

- ❑ Train new primocanes to middle of trellis, or on the ground in a weed free area or temporarily to trellis outside of fruiting area (depends on trellis type).
- ❑ Cut back side shoots to 18" (after dormancy in cold climates).
- ❑ Remove spent floricanes after harvest.

Weed management

- ❑ Mow along side of row to maintain the width of the bed to 3 to 4 ft.
- ❑ Weed growth can be very vigorous at the same time as the bramble crop peaks.
- ❑ Weed control is best done earlier in the season before harvest commences.
- ❑ Mow middles regularly to allow pickers to move through rows easily.

Insect and disease scouting (these will vary by region)

- ❑ Scout for insects
  - ❑ Raspberry crown borer (canes girdled and wilt)
  - ❑ Psyllid
  - ❑ Two spotted spider mite
  - ❑ June beetle
  - ❑ Japanese beetles
  - ❑ stink bugs
  - ❑ fire ants
- ❑ Scout for diseases
  - ❑ Botrytis
  - ❑ Rusts
  - ❑ Orange Felt (orange cane blotch) (blackberry)
  - ❑ Sooty blotch (blackberry)
  - ❑ Orange rust
  - ❑ Powdery mildew
  - ❑ Double blossom (blackberry)
  - ❑ Cane blight (blackberry)
  - ❑ Powdery mildew

Water management

- ❑ Bramble plants need about 1-2 inches of water/week; this amount is especially critical during harvest.
- ❑ For blackberries (not raspberries) in warmer climates only, consider installing an overhead system for evaporative cooling to reduce sunscald. Turn on once or twice a day from 10 am to 3 pm for short periods of time (approx. 15 minutes).
- ❑ Give plants a deep irrigation after harvest.

Nutrient management

- ❑ Take leaf samples after harvest and send to a clinic for nutrient analysis. Do not fertilize with nitrogen at this time of the year.

Harvest and marketing

The busiest time of the year for a blackberry or raspberry grower is the harvest season. Each plant needs to be harvested every 2-3 days. For larger plantings, that means fruit is picked from some part of the field every day of the week.

- ❑ Pick blackberries when shiny black for shipping. Those that are dull black are fully ripe and suitable for PYO only.
- ❑ Pick directly into clamshells with absorbent pads, or for PYO use clean cardboard flats, take-home baskets, or sanitized re-usable containers.
- ❑ Keep harvested fruit in shade and move into coolers as soon as possible to lengthen the shelf life of the fruit.
- ❑ Use forced-air precoolers for best removal of field heat.
- ❑ Store at 32 to 34°F and 95% relative humidity.
- ❑ Freeze excess fruit for jam, juice, or wine.

Bramble Research & Extension Experts On-line

NARBA's bramble "Experts" list on its website has just been updated and expanded. This resource lists university and USDA personnel working in raspberries and blackberries and is searchable by state, by area of responsibility (e.g. research, extension, teaching) and by area of expertise (e.g. breeding, horticulture, entomology, etc.) . Check it out!

If you know of anyone else who should be included, please let us know.

Customer Resources from NARBA

The Members-Only section of our website offers recipe cards and health benefit cards for blackberries, raspberries, and black raspberries that you can download and photocopy to make handouts for your customers. If you want new recipe cards created and added to the collection (or 4-up cards of single recipes), or if you don't have internet access and would prefer hard copies, simply request these from the NARBA office.

—Debby Wechsler, NARBA Executive Secretary

Q & A

Conversations About White Drupelet

Below is an edited version of a recent conversation on NARBA's E-Forum. Please also see the article on the facing page by blackberry breeder John Clark, whom we invited to comment about the white drupelet issue.

Q From Ken Barber, Alabama grower: Does anyone known what causes white drupelets to randomly appear on erect blackberries and more importantly, what the recommended solution is to minimize them? From our experience, they have yet to appear on our trailing plants. However, our Apache erect thornless seem to produce from one to over 10 per berry on over 40% of the first ripening set of berries. Too early to tell yet on the berries yet to ripen.

One gentleman from north Alabama told me yesterday they only seem to appear on his during the first flush of his Apache berries and then mostly disappear or at least become fewer in number. Hopefully, that's the case. Interestingly enough, though, they don't seem to appear on our new ripenings of Arapaho, Navaho, Ouachita, Roseborough, or Choctaw varieties. If they do, only one or two drupelets may appear on a few berries per plant.

A From Stanley Scarborough, SunnyRidge Farm: White druplets are an inherited characteristic and have no solution although they can be better or worse at different times of the year. Apache is the only released variety with this as an excessive problem. We have had all of our growers with SunnyRidge remove them from their fields since the white druplets were undesirable by our customers. I wish the response were better.

A From Chrislyn Particka, Sakuma Brothers: I agree with Stanley that it's unfortunately a genetic condition and there's not a thing that can be done to fix it. Apache is definitely greatly more affected than any other cultivar. It doesn't seem to affect flavor, in my opinion, so if you're making jam or anything like that, you can always sort those out and use them for that.

A From Charlie O'Dell, Virginia grower: The white drupelets on Apache seem to be common to that variety. I tell our U-Pickers they taste fine, please ignore them, and most go ahead and pick them. I tried minor element sprays, more potassium, nothing seems to help. Hope someone has an answer.

A From Anthony Boutard, Oregon grower: White cells are typically caused by ultraviolet (UV) light. We have encountered the problem in most caneberries. The damage occurs when there is an abrupt increase in temperature and a drop in humidity. We see it when the temperature exceeds 90 degrees F and the humidity is low. It can be severe after a period with things loping along in the 70s. Wind exacerbates the problem by pushing away the moist, dense air in the canopy.

Cool, humid air scatters and absorbs the UV radiation. Hot air is less dense and the UV rays penetrate the canopy and cause cell damage. You can see the change in air density when you spray. Early in the morning, the droplets may only go a few feet from the sprayer. As things warm up in the morning, and the air is less dense, the spray may travel a great distance.

For the fruit, it is similar to an office worker who takes a holiday and burns in the sun. The fruit has not had a chance to acclimate to the hotter temperature and more intense UV radiation that results. We have noticed that fruit deep in the canopy, where you expect it to benefit from shading, is particularly prone. Infrared (IR) radiation also damages fruit, but tissue death caused by overheating due to IR radiation is more common on exposed berries.

In the Willamette Valley, we often have cool periods interrupted by sudden short bursts of high temperatures exceeding 100 degrees F. Although we drip irrigate, we have overhead sprinklers to cool the field. If the forecast calls for 90 degrees or more, we start the sprinklers between 6:00 am and 9:00 am, depending upon how severe the heat will be. The higher the forecasted temperature, the earlier we start. The goal is to maintain morning temperatures and air density as long as possible. We rotate through the field on 20-minute sets. We have found it is impossible to cool down a field once it has heated up. Our site is windy; on a site without wind, the protocol may vary. We stop the sprinklers around 6:00 to allow the fruit to dry before nightfall. We have found cooling the field to maintain air density effective in reducing white cell to a minimal nuisance. Bear in mind, we are not misting the berries; we are pushing 800-plus gallons a minute over the field.

One year, we lost about 40,000 pounds of fruit when two fuses failed on a Sunday morning and the temperature spiked to 108 degrees as I was scrambling unsuccessfully to buy more fuses. Not easy to find 90 amp fuses on a Sunday! It brought home the effectiveness of our efforts.

A Follow-up from Ken Barber: The temperature flux you refer to happened to us about three weeks ago, but not as severe as you folks experience out West. We had an abnormally cool spring in the 70s and low 80s up until about the second week in May and then all of a sudden it busted into the 90s for about 3 days with relatively low humidity, then it went back into the 80s with our normal mid-level humidity reappearing with dew points ranging between 60-70 degrees.

From what you're saying that spike may have caused the excessive amount of white drupelets to appear, whereas now our temperatures are stabilizing in the high 80s and low 90s and should remain there for the remainder of the summer, as it is rare for us to soar into the 100s. It will be interesting to watch the Apache and Chickasaw berries as they ripen from this point on to see if the white drupelets become less frequent. I tell ya, this berry growing business becomes more fascinating every day!

If you have not joined our E-Forum on Google Groups and would like to be added directly, send a request to me at info@raspberryblackberry.com. Be sure to indicate what email address you'd like used for the Forum, if not the one you email me from.

—Debby Wechsler, Exec. Secretary

Musings on White Drupelet and the 2008 Season

By John R. Clark, University Professor, University of Arkansas. (Written at Sunrise, Friday June 13 – lucky just to be writing this!)

The blackberry season of 2008 brings with it a blessing not had in much of the mid-South in 2007, a CROP. Last year's fruit-growing experience was very humbling; there was not much to complain about concerning quality, white druplets, firmness, flavor, or other characters as there was not much to pick, taste or sell. It is great to see blackberry plants laden with fruit in 2008, and I have observed this from Georgia to California and points in between. Getting all these berries picked seems the biggest challenge.

The most substantial issue with the 2008 year thus far has been late ripening. In Arkansas, our fruits are running about 7-10 days late. I understand late ripening is a substantial issue in Oregon, and somewhat less so in California and the deep South. It is something like waiting for Santa Claus to come, but now that the season has started everyone is digging in for the long haul. The other weather factor has been an unusual amount of rain in April and May, at least in Arkansas and other states; if this continues this will be a major concern for blackberry growers as rain on ripening berries puts the crop at substantial risk. Also early I am seeing more dry drupelets and dry-tipped berries, what normally is attributed to anthracnose. This is likely due to these early rains, plus the fact that in the Arkansas breeding program, only one fungicide is applied, liquid lime sulfur at budbreak – thus little control is attempted for this disease. The idea is to select for resistance. I expect that this concern will pass as the season progresses, and I bet growers applying fungicides are seeing less or none of this problem.

One other item I have had some reports of is scattered occurrences of orange rust on genotypes that have not had this before. My good friend Bruce Bordelon at Purdue University e-mailed that he had orange rust on his Apache plants in his back yard. I have never heard of Apache having this disease. I remember years ago visiting a grower field in Arkansas that had orange rust on Kiowa and Arapaho. I dug the plants up, hauled them back to our research location, and observed them over the years. They never showed much of the disease again, though remained weak. Seldom have I heard of this disease on these varieties again. This tells me that there are some factors involved with orange rust that we likely know little about. This also tells one to be careful about "resistant" claims for a new release thought to be screened for a disease.

White drupelets are especially a problem with the Apache variety of blackberry.

White drupelets

White drupelets were once a non-issue and are now something I think about every day during the blackberry fruiting season. What do I know or think I know about this issue? Here are some thoughts:

• Varying levels of white drupelets have been seen each year in the Arkansas breeding program scattered around the thousands of plants observed. Dr. Jim Moore taught me to select away from this trait although its cause was not known.

• Once this was thought to be due to insect feeding, with the white drupelets caused by the insect injecting a substance into the drupelet that contributed to the anthocyanins being damaged, resulting in the white appearance; spraying for stinkbugs and other insects was pursued by some growers (and still is by some) with varying degrees of success, with little proof that insects are contributing to this problem.

• Apache shows more of this problem than any other variety, at least of the Arkansas releases. At its release in 1999, I had not observed much of this problem over the years for A-1798, which became Apache. Occasionally it was noted but not in great volume. But, soon after release, reports of this became common. I was quite disheartened to see a commercial planting in south Georgia removed due to this problem, one of the prettiest plantings of it I had ever seen of Apache – all due to white druplets.

• Tolerance for white drupelet varies to some extent by grower. Shipping growers have near no tolerance, while pick-your-own growers are able to tolerate it to some extent. As my good friend Charlie O'Dell says, if you can tell the customer they taste fine and are okay, then that lessens the concern. That is not an option on a grocery store display shelf, however.

• White drupelet is seen on almost all of the other Arkansas thornless at times, except perhaps Navaho. However, the occurrence is usually very little and quickly disappears after the season advances beyond the first few days or week. I don't

Continued on next page

Musings on White Druplets and the 2008 Season

Continued from page 5

remember seeing too much white drupelet on the thorny releases over the years except occasionally on Kiowa.

• White drupelet is usually worst in the first week of harvest, then lessens to little to none later in the season in most years and locations.

• Rainfall appears to make this much worse, with sunlight on wet berries plus high temperatures (possibly 90 F or above) exacerbating this issue.

• White drupelet also is seen in areas with no rainfall – this appears puzzling and contradictory to the point made just above, but higher intensity sunlight is usually found in these no to low rainfall areas (lower humidity thus "thinner" air to affect the light). I have observed this in locations such as the Willamette Valley of Oregon, the Central/San Joaquin Valley of California, and Tasmania.

• Berries located nearer the ground, particularly on first-crop-year plants, often have more white drupes, likely because it is often wetter for longer periods in that area after rains (or more insects near ground level?).

• White drupelet can be seen on unripe berries, red or even very infrequently on green berries. In early season 2008 we had an inch of rain or so on May 31 at Clarksville, AR, as the earliest berries on thornless genotypes were ripening. It was then in the upper 80s to low 90s (hotter than normal for the end of May), likely with sunshine after the rain or while the berries were still wet. This led to some sad berries – white druplets, anthracnose, just no good whatsoever. This problem passed in a few days but showed what this combination of weather events can do even to so-called "white drupelet resistant" genotypes. A grower from California who was visiting a few days later saw this and commented, "Why not put a tunnel over these and remove the problem?" Good idea. Would it work? I am not sure, but it likely would help. But most blackberry growers in the South or East are not as ready to use tunnels as the more seasoned *Rubus* growers in California, at least in my observation. There is knowledge to be gained on managing tunnels and checks must to be written to get them – two big issues to deal with.

You can rest assured that I have refocused my efforts and observations in recent years to select and release plants that do not have this problem, or at least much of it, as the breeding program progresses. I did not observe substantial white drupelets on A-1798 during its years of observation before release as

Identifying Pest and Disease Problems

Not sure what problem you are seeing on your plants? There are links to several excellent diagnostic websites at www.raspberryblackberry.com. Go to the "Growers" section in the menu on the left. Then click on "Links to Resources for Growers", and scroll to the heading "Pest/Disease Diagnostics".

You can also upload a digital photo to our E-Forum and ask other members for their thoughts.

Apache in 1999. It was occasionally seen but was not thought limiting. Was I not paying attention? Was I distracted by the fabulous healthy plants producing great quality berries twice as large as Navaho? I can't say for sure. However, as it became planted widely, and particularly as shipping developed as a major marketing outlet in the early 2000s (at least in the South) the tolerance for this issue for many growers went from some to none. As a breeder, when one of the "children" gets away from the house and acts up (as Apache does with its white druplets), this leads to thoughts of regret. However, I still believe that Apache has made growers money in most instances and its value exceeds this liability. The plants continue to sell well (maybe mostly for PYO and home use?).

The most important issue is evaluating for white drupelet on new selections and discarding those that have this problem. Fortunately I strongly believe that reduced to no white drupelets can be selected for (it is what breeders call a "heritable" trait – there is genetic variation for the trait). The big challenge is

Apache blackberries – without any white druplet problems. Photo U. of Arkansas

that, as with many traits, there is a very large environmental influence on white drupelet occurrence. That is what makes evaluations difficult, as the conditions for its development are not always present, which could have occurred for Apache in its final year or two of evaluation before release. Breeding for no thorns on blackberries or no fuzz on peaches (nectarines) is easier by comparison – plants either have thorns or fuzz or they don't; these traits don't vary by environment. These traits, though challenging at times to manage, don't make a breeder look like an idiot.

So, breeding is the answer it seems. I know, same old story, breeder caused this problem, says he/she can fix it, works on it (slowly it seems!) and takes forever to do it while drawing a nice government check. The perfect world for employment. All I can say is that I have 30,000 seedlings (planted 1.5 ft apart, thus 45,000 feet, thus a little over eight miles) that I am evaluating in 2008, and I have no white drupelet occurrence right next to my heart (along with big, firm with great postharvest handling potential, thornless, primocane-fruiting, sweet, high yielding, disease-resistant, range of seasons of ripening, guaranteed high profit) as I walk these eight-plus miles of seedlings each week. There ought to be some "sho-nuff" winners in here! I hope my shoes and legs hold out. I will tell you more about this in December in Michigan at the NARBA meeting.

John Clark will speak about blackberry breeding on Tuesday, Dec. 9 at the conference, then present a "bramble travelogue" that evening.

How Do You Train PYO Customers to Pick the Ripe Berries?

Do members feel that some kind of how-to-pick literature or posters would be helpful in their PYO operation? NARBA was forwarded via email a query from an Extension agent for a PYO grower "asking for literature suitable for children as well as parents on how to pick blackberries. He has a pick-your-own field and is losing profits because the kids (and parents) do not know which berries are ripe and how to pick them… it sounded to me like he wanted something with pictures suitable for children. He is currently not allowing kids under 12 on the site."

We passed the question on to members through the E-Forum. Some said materials would be helpful, others seemed to talk to their customers one-on-one to accomplish this, and felt that experience was a quick teacher when customers sampled both ripe and under-ripe berries. We'd be interested in hearing from other members as well. Some of the comments:

• I find it sad that he will not allow those under 12 years old "hands on access" to the very best quality blackberries I know of, though I understand from a management standpoint (and harvest season stress level) where he is coming from. In my experience, this next generation is exactly the target stakeholder.

• We do note a learning curve for our first time blackberry pickers – we always tell them to pick the soft, dull black color berries, they are the ones ripe and ready, and to leave the shiny, hard black ones alone to ripen! This works very well for us; they learn very quickly when they taste one not ripe! We let all in to pick, right down to toddlers with parents. We definitely realize that U-Pick is not the best way to get a crop harvested, lots of waste (unpicked berries) and folks eating them in the fields, but for us it is a necessity due to labor shortage. If not for U-Pick we would have no fresh fruit available for localvores who are our support-base and who make our business both profitable and enjoyable! We contact them by email, we do not advertise to the general public who find out about us by word of mouth from happy customers.

• I think it will be very difficult to instruct children how to pick when they are only occasional pickers. I find it difficult and for some impossible to instruct adults. What may be of even more importance is the price he is charging for U-pickers. We charge $2.50 per pound and although we only have a very limited supply, very few complain as that is half the price in the stores.

• This is only our first year as a PYO grower, but we did some checking with other PYO growers prior to opening and came up with a plan that seems to be working pretty good for us. As far as training folks to tell which is a ripe berry, I stop by when they first start picking, especially if there are kids, and show the parents how to tell the difference as well as where the best picking locations are.

Topics on the NARBA E-Forum over the last few months have also included bramble research priorities, winter die-back, and white druplets (see page 4). Email info@raspberryblackberry.com if you want to be added to the E-Forum.

Insect Pest Research in Southeast Brambles

By Hannah Burrack, NC State University Department of Entomology

Bramble production has increased throughout the southeastern United States and questions about integrated pest management in these systems have accompanied the increase. Growers in the Southeast have reported high levels of thrips during bloom, but their impact on plant health, fruit set, and fruit development is unknown. Thrips (thrips is both plural and singular) are typically generalist plant feeders and use their asymmetrical mouthparts to rasp open plant cells and ingest the liquid inside. They can cause yellowing on foliage, and floral feeding early in the season can result in scarring as fruit develops. Thrips are important vectors of plant viruses, including impatiens necrotic spot virus (INSV), which has been detected in blackberries. The impact of INSV on plant health is unknown. Thrips have short generation times, as little as a week during hot weather, and these generations can overlap to result in high adult numbers. To sample thrips in most crops, scouts usually beat foliage or flower clusters against a white sheet of paper and count the slender, minute insects present. This method does not work as well with the delicate flowers found on brambles, so direct flower observation may be the best scouting method.

Grower observations suggest that poor fruit set, damaged drupelets, and poor pollination may be related to high thrips populations. Research is being conducted in North Carolina to determine thrips' influence on blackberries grow in the Southeast. Five sampling locations compared five different trap designs for efficacy in monitoring thrips during bloom. Weekly trap captures are being compared to thrips sampled in blossoms and on leaves to determine trap types that most accurately reflect thrips presents in blossoms. There are several possible species of thrips that could be present during blackberry bloom, but the most likely candidates in the Southeast are eastern flower thrips, *Frankliniella tritici*. Populations of western flower thrips, *Frankliniella occidentalis*, also occur in North Carolina, and tobacco thrips, soybean thrips, cereal thrips, and others may also be present on plants. Eastern and western flower thrips are very similar in appearance, and all thrips species can only be identified to species under the microscope. A proportion of thrips caught weekly at each location and in each trap type are being identified to determine the species composition of thrips present in blackberries. These monitoring locations are also being used to track seasonal population fluctuations.

Does thrips damage cause this fruit appearance?

In addition to investigating thrips biology in blackberry systems, research is also being conducted on registered and experimental compounds for thrips control with support from the Southern Region Small Fruit Research Consortium and the Southern Region IR-4 program. The registered compounds being tested are Assail, Delegate, and the organically acceptable materials Pyganic, Aza-direct, and Ecotec. The unregistered materials include neonictiniods, one organophosphate, and a microbial insecticide. The most important consideration, aside from efficacy, for all these materials is their impact on pollinators, as applications will occur during bloom. Data from these trials will also aid development of an economic threshold for thrips in blackberries.

There is still much to learn about thrips as well as about the broad range of insect pests in southeastern blackberries, including Japanese beetles, spider mites, and strawberry clippers. Entomologists at North Carolina, Virginia, Arkansas, and other states are investigating biology and management of these pests, and we are moving toward developing integrated tools for insect pest management in this emerging fruit production system.

Grower observations suggest that thrips populations may impact pollination.

Thrips trap types being tested in North Carolina. From left: light blue PVC, yellow PVC, dark blue PVC, blue sticky card, and apple maggot trap. Blue sticky cards are more attractive to western flower thrips.

Uruguay Berry Notes

From Jorge Soria, fruit researcher, National Institute of Agricultural Research (INIA) of Uruguay

Uruguay has 700 hectares planted with blueberries and its production for the past season – mainly exported to the States – was worth US$ 5 million and up. Brambles are not so extensive, but their area is increasing too, giving opportunities to small to medium scale growers. Acreage is difficult to estimate, as there is no census for the brambles—their registration will start in the next 2010 Census. But I estimate 15 hectares for raspberries, 15 hectares for boysenberry , and 10 hectares for blackberry.

In addition, we have an additional 100-200 hectares of blackberry in the wild, mainly at farm boundaries and non-agricultural areas, and the species is more a weed problem than a cash crop. Nonetheless, some neighbors take advantage of these, selling for fresh or making processed products.

Uruguayan blackberries are now being exported to Italy with good success; I don't know if anyone is intending to export to the U.S. Neither Argentina nor Uruguay have been approved by USDA for entry of their crop to the States.

This past season I started a modest breeding program focusing on adaptation and on early season/late season varieties, and including boysenberry genetics in blackberries. I am closely in touch with the main blackberry breeding program situated in EMBRAPA Clima Temperado under Dr. María do Carmo Bassol's guidance. I have also worked with Dr. James Ballington at NC State University.

Washington Red Raspberry Comission News

The Washington Red Raspberry Commission (WRRC), an affililate member of NARBA, reports a number of items of interest in its June newsletter:

• The International Raspberry Organization, which brings raspberry growers from around the world together every other year to discuss projects to assist raspberry growers worldwide, met in Poland in May. WRRC represented US growers. You can see presentations from the countries represented at the IRO conference by visiting www.red-raspberry.org/news/events.html. These are large pdf files of Powerpoint presentation. The charts and pictures are quite interesting, even though the additional context provided by the spoken part of the presentation is missing.

• WRRC has an active promotional program that benefits all raspberry producers, although its growers raise primarily for processing. They recently sponsored a dessert reception for the annual conference of Research Chefs of America and presented raspberries at the National Restaurant Association convention. WRRC has started a new consumer-oriented website at www.raspberryinfo.com, with recipes, health information, berry FAQs, and more. The article on page 11comes from this website.

• WRRC is funding a number of new nutrition research projects involving raspberries.. These include a project at Tufts University involving Dr. Jim Joseph, who will speak at our conference in Grand Rapids, a project in France, and one at the University of Toronto. We will watch for results from these!

Fire Blight in Raspberries

Adapted from M. Heimann and S. Jeffers, University of Wisconsin. Reprinted from Massachusetts Berry Notes, June 2008 Vol. 20, No. 8. For information on subscribing to Berry Notes, email sgs@umext.umass.edu.

A serious disease of apple and pear trees in New England, fire blight also affects many other members of the Rosaceae, including brambles. Raspberries are the most susceptible of the bramble fruits to infection by the fireblight bacterium *(Erwinia amylovora)* but other bramble can also be infected.

Symptoms: The most obvious symptom results from infection of the cane tips, which become blackened and curl over as they die and dry out. This "shepherd's crook" appearance is typical of fire blight symptoms on other host plants. As the disease progresses down infected canes, the leaf petioles and veins and surrounding tissue turn black. Discolored veins may be more apparent from the underside of leaves. Entire leaves may turn black, wither, and die. Typically, discoloration and dieback are limited to tender young growth at shoot tips. The disease can affect fruit clusters as well. Infected fruit stems turn black and the young developing fruit becomes hard and dry.

Cause: Fire blight is cause by the bacterium *Erwinia amylovora*. Raspberry infections are caused by a different strain of the bacterium that which causes apple/pear infections and so infections can not travel from one to the other. Infections are most likely spread from plant to plant by insects, wind, and splashing rain. Wet conditions in the canopy from rain, high humidity, overhead irrigation, combined with warm temperatures, favor disease development.

Disease Management: Cultural controls are very important in managing this disease. The following practices offer effective methods for limiting the spread of this disease in commercial raspberries:

1. Only plant certified disease-free nursery material purchased from a reputable source.

2. Use good sanitation practices in the field by removing and destroying all diseased and infested plant material as soon as it is found in the field and cleaning tools, especially pruning clippers, before using them in another field.

Raspberry cane tip bent in "shepherd's crook" from fire blight. Photo from Wisconsin Cooperative Extension fact sheet A3499.

3. Manage insect pests to avoid transmission of diseases from one planting to another. Do this by regularly scouting the field to determine need, rather than by preventive spraying.

4. Do not overfertilize with nitrogen which stimulates excessive vegetative growth, resulting in a dense and wet interior canopy.

5. Plant and prune with an eye toward optimizing air circulation within the rows to help create good drying conditions as well as good spray penetration and coverage when sprays are applied.

6. Remove any wild brambles from surrounding areas which can be reservoirs of insect pests and pathogens that move into commercial plantings.

Cultivar Resistance: Fire blight infects red and black raspberries and blackberries. There are no truly resistant cultivars available, but some are more susceptible than others. Boyne, K81-6, and Encore are identified as more susceptible to this disease.

Chemical Control: No chemical controls are specifically registered for fire blight in raspberry. A delayed dormant copper application for other target diseases may help reduce inoculum, but may result in tissue damage in some copper-sensitive varieties. Following good cultural practices outlined above is recommended over relying on any spray applications.

Raspberries Rank High with Consumers

Edited from an article at www.raspberryinfo.com, a website of the Washington Red Raspberry Commission.

A recent national survey of 1500 consumers had the respondents rank 13 fruits in order of preference. Raspberries came in second, just behind strawberries. Bananas, apples, blueberries, and watermelon all trailed behind the red raspberry. Consumers reported that they like the unique sweet-tart taste of raspberries – more distinctive than strawberries or blueberries and sweeter than cranberries.

When asked which fresh or frozen berries, berry juice or juice blends they had purchased in the last year, the respondents again put strawberries first, with cranberries and raspberries a very close second and third.

Almost 9 in 10 consumers reported trying raspberry products including frozen raspberries, juices, and juice blends. Six in 10 felt frozen raspberries were cheaper than fresh, and 91% reported no concerns about buying frozen raspberries.

When asked how they used raspberries, consumers responded that smoothies were far and away the most popular usage, followed by desserts, topping for cereals, in yogurts, and in baked goods and desserts.

When asked to rank berries by their health benefits, raspberries came in third, behind blueberries and cranberries – no surprise since the nutrition benefits of those two berries have been bolstered by significant nutrition research and years of consumer promotion.

MARKETING

A Premium for Locally Produced Food

Research at Ohio State University suggests that the average supermarket shopper is willing to pay a premium price for locally produced foods, providing some farmers an attractive option to enter a niche market that could boost their revenues.

The study also showed that shoppers at farm markets are willing to pay almost twice as much extra as retail grocery shoppers for the same locally produced foods. Both kinds of shoppers also will pay more for guaranteed fresh produce and tend to favor buying food produced by small farms over what they perceive as corporate operations, according to the study.

Most of the survey was conducted in late 2005. Acccording to Marvin Batte, a co-author of the study and the Fred N. VanBuren professor of agricultural, environmental and development economics at OSU, the findings still apply today, even in the face of rising fuel and food prices.

The researchers surveyed shoppers at 17 Midwestern locations, including seven retail grocery stores, six on-site farm markets, and four farmers' markets hosting sellers from multiple farms. The researchers used data from 477 surveys.

The survey presented shoppers with two product options. Both were baskets of strawberries, but they were presented under various combinations of price, farm location, and farm type. Some scenarios also included a freshness guarantee. After presenting the options, the researchers asked shoppers which basket of strawberries they would buy.

"We were able to determine how important price was, how important where the strawberries were produced was and whether the freshness guarantee was a factor," Batte said. "What made the biggest difference was local production."

The average retail shopper was willing to pay 48 cents more for strawberries produced locally, and shoppers at farm markets were willing to pay 92 cents extra. With the base price for a quart of berries set at $3, farm market shoppers were willing to pay almost a third more for the local produce.

The freshness guarantee also held meaning for shoppers. If shoppers were promised fresh produce that was recently harvested, farm market shoppers were willing to pay 73 cents extra and retail shoppers indicated they would pay 54 cents more.

The researchers also tried to test shopper interest in supporting small vs. large farms by naming one fictional berry producer "Fred's" and the other "Berries Inc." Shoppers in grocery stores were willing to pay 17 cents extra for a quart of berries from Fred's, and farm market shoppers were willing to pay 42 cents more for the perceived small-farm produce.

In the study, local production meant the berries were grown within Ohio. Batte said the findings could easily extend to the rest of the country, but the definition of local would be likely to differ in California, a large state with multiple growing regions, and New England, where several small states are clustered closely together.

This work was supported by the National Research Initiative of USDA, the Fred N. VanBuren Program in Farm Management at Ohio State, and the Ohio Agricultural Research and Development Center. Co-authors of the study were graduate student Kim Darby, outreach program leader Stan Ernst and Professor Brian Roe of Ohio State's Department of Agricultural, Environmental and Development Economics. The study was published in the May issue of the American Journal of Agricultural Economics.

Adapted from an article June 8, 2008 at www.sciencedaily.com.

Successful Farm Email Lists

By Simon Huntley of Small Farm Central, which provides web design and web hosting for direct market farms. He also wrote last issue's "Farming the Web" article.

A few easy techniques, followed consistently, will yield surpringly good results in growing your mailing list. Collecting emails from your customers is an easy task and a large email list can build up very quickly if you use some simple techniques faithfully. If you go to farmers' markets or otherwise interact with the public, your email sign-up list should be ready everyday. Each time you make a sale to a new customer be sure to ask them if they want to sign up for your mailing list and have an elevator pitch ready such as, "We just send an email out every two weeks with the newest products available, photos, and links to our website. You can unsubscribe at any time, and it's a great way to learn about the products we have after the farmers' market season is over."

The sign-up for can be very simple – I just made one up last week for a conference using an Excel spreadsheet and asked for the following information:

- Name
- Email address
- Demo (y/n)
- Mailing list (y/n)
- Signature

Although collecting the customer's name is not required, it is nice to collect that information to help your handwriting analysis as you decipher the email address. Most of the time people write their information down in a hurried way and are not thinking to write legibly so you can type the address into your computer, so the more information you collect the better off you are.

I wrote in large text at the bottom of each page: "We will not share your email address with anyone for any reason and you can unsubscribe at any time." Even though you know you are trustworthy and will not share emails with any other organization, many customers are wary of giving away their email addresses so remind them over and over that they can unsubscribe and that you only use the

Membership Directory Additions and Changes

At right are new members since the 2008 directory was published, members left out of the directory by mistake, and changes/corrections to the listings. We recommend that you clip or photocopy this list and attach it to your directory, and perhaps jot in the corrections.

information for your farm.

To really increase the size of your mailing list and customer satisfaction, give some extra value to people that opt in to your list. Do you have extra flowers of one variety because you accidentally grew 500 row feet instead of 50? Give each customer a flower when they sign up for the mailing list to say thanks! They will appreciate the flower and you will appreciate the extra email address.

Another good place to collect email addresses is on your website; have a text box and submit button that adds any email entered to your mailing list. This usually takes some advanced skill or software (such as the Small Farm Central service and other options) because you are going beyond the capabilities of normal HTML and getting into more advanced programming. A bare bones approach could just encourage visitors to send a message with "SUBSCRIBE" in the subject line to your email address. This technique can turn a casual web surfer coming to you from LocalHarvest into a regular paying customer.

Legal issues

Unsolicited emails are a big problem on the Internet; Congress has tackled the issue with the CAN-SPAM Act of 2003 (Controlling the Assault of Non-Solicited Pornography and Marketing Act). It all boils down to this fact: you must give the recipients of the email list a mechanism to discontinue all emails from your farm.

This can be as simple as replying to you with "UNSUBSCRIBE" in the subject line or as complex as the way Small Farm Central and other mailing list software works. When someone requests removal from a farm's mailing list, we first check against the database to make sure the email exists. If it does, we generate a unique link and send it to the address provided. Then the recipient simply clicks the link sent in the email and they are removed. This ensures that the person requesting removal from the list is the owner of the address.

Since your farm mailing list will likely not get huge you probably don't need to read all the laws related to spam, but it is important to follow the basic rules. Penalties can include being labeled a spammer on various spam databases (this means your emails will go to "Junk" instead of the Inbox), having your email account stripped by your service provider, fines, or, most importantly, the loss of customer trust. ☘

To learn more about Small Farm Central, read other articles, or sign on to receive notices of Simon Huntley's blog, visit www.smalfarmcentral.com.

2008 Membership Directory Update (June)

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Corrections/changes:

AgraPoint International should be added to the to consultants list on page 20.

Contact info for **Indiana Berry & Produce Promotions,** is listed by name in the Member Businesses list on page 20, but contact info was listed under Sam Erwin (page 5).

Nate Nourse cell phone should be area code 413

Ramon Aguilar new email: Ramonaguilar@supercable.es

Charlie O'Dell email should be olecro@vt.edu

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

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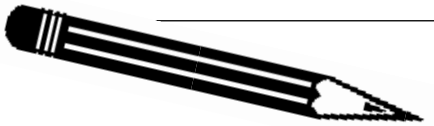

MARK YOUR CALENDAR!

The North American Raspberry & Blackberry Conference will be December 8-9, 2008 in Grand Rapids, Michigan in association with the Great Lakes Fruit & Vegetable EXPO (December 9-11, 2008).

See page 1 for more information. *Registration forms and schedule details will be available by the beginning of September.*

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