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FFF06-04

June 2, 2006

Crop Conditions:

Both apples and peaches are growing well. Scattered hailstorms have caused anxiety but not much damage has been reported. Strawberry harvest has started in southern and central areas. Fruit size and quality are reported to be excellent. Brambles are still flowering in central areas. Blueberries are past bloom and recent rains are helping increase berry size. Grapes are blooming in southern and central areas.

Indiana Horticultural Society Summer Meeting:

The summer meeting of the Hort. Society will be held at 3 locations in (and slightly beyond) the northern part of the state. The first day of the 2 day meeting will be at Garwood Orchard in La Porte, IN and the following day we will visit Coloma Frozen Foods in Coloma MI and Tree-Mendus Fruit Farm in Eau Claire, MI.

Garwood Orchard is without doubt one of the very best orchards in the state. They have aggressively planted new cultivars and crops, and have been on the forefront of adopting new technologies. Many Indiana growers are familiar with Coloma Frozen Foods and purchase frozen products from them for sale in their markets. Herb Teichman and his Tree-Mendus Fruit Farm are famous throughout the Midwest for their innovative approaches to

farm marketing. Between these 3 operations, there is much for us to see and learn. It may seem like quite a drive to travel to the meeting this year, especially for those in southern parts of the state, but if you pick up just one or two good ideas to implement at your farm, the trip will have been worthwhile.

Another reason to attend the meeting is the update from John Wargowsky on labor and immigration issues. This is a hot topic right now, and many growers are very concerned. John is the executive director of the Mid American Ag. and Hort. Services, and is familiar to many growers through his support and participation in the Hort. Congress.

Garwood Orchard: To get to Garwood Orchards, from SR 2, west of LaPorte, go north on CR 500 W about 1/2 mile to CR 50 S in

Pinola. Go west about a mile to Forester Rd. The orchard headquarters is on the northwest corner, at 5911W 50S. From the west on Rt 2, at the bend in the road east of Pinhook, take Forester Rd. north to CR 50 S.

The main orchard land has been in the Garwood family since 1832, and the Garwood's have been fruit farmers since the 1920's. The orchards are owned by Carl and Donna Garwood, their sons Brian and Mike, and Jim and Phyllis Garwood and their son Tom. Management of the orchards has passed to the next generation with Brian, Mike and Tom in charge. Carl and Jim are pretty much "retired" from major decision-making, but are still actively working and very valued members of the organization. The Garwood's are very active in the Hort Society and both Jim and Brian Garwood are past presidents and Tom and Mike have served on the IHS Executive Board or on committees.

There are over 200 acres of apples, peaches, nectarines and other tree fruit crops. New plantings of pluots, cherries (on Gisela 5 & 6 rootstocks) and nectarines will be of interest. The Garwood's have been actively replanting their orchards with newer varieties, rootstocks and crops. Of the apples, about 90% of trees are less than 15 years old. However there are still three rows of Macs dating from 1976. Rootstocks include M.7, M.111, M.106, M.26, M.9, and Bud.9. All of the trees on dwarfing rootstocks have been staked, mostly with rail steel angle iron stakes.

The variety breakdown at Garwood's is still Reds first, and then Goldens with Gala and Jonathan tied for third. Other varieties include Fuji, Early Fuji, Braeburn, Jonagold, Honeycrisp, Empire, Rome, Mutsu, McIntosh, Ginger Gold, and others. Gala, Honeycrisp, Ambrosia, Early Fuji and others are increasing while Empire, and Rome are decreasing in importance. A block of top worked Earligolds will be of interest.

The peach variety picture consists of about 50% of the newer Paul Friday selections (Brian says they have tried most of them). Then perhaps 25% are Redhaven, Newhaven, John Boy and other standards, and 25% are the 'Stellar' varieties. There is a small planting of White Lady and some of the newer varieties from Adam's County Nursery. They have

established "research" or "evaluation" blocks in which they have made small plantings of a number of new tree fruits or new varieties to test. Different plum varieties (Earligold, Santa Rosa, Shiro, etc.), white nectarines, pluots, apricots, and sweet cherries on Gisela rootstocks are examples.

On the small fruit side, at meeting time the Garwood's should be just wrapping up harvest on their strawberries. They are using a 1-mil row cover for extending the season and for frost control. They also have portable irrigation. Plantings of red and black raspberries and thornless blackberries on ridges look very good. The blackberry varieties are from Arkansas.

Fruit sales are both retail and wholesale. Retail sales are through U-pick, a market at the farm and at a market in downtown LaPorte, and at farmer's markets in Chicago. A high percentage of their apples and vegetables are still sold through wholesale outlets. They have several cold storages, including one capable of being CA, but without the scrubber. The use of 'Smart Fresh' to extend storage life has been very helpful. The fruit packing line includes a waxer for wholesale sales.

They are now concentrating on growing only a few vegetables for wholesale: melons, sweet corn, green beans and peppers. They have also installed a pepper grading and packing line. As indicated, since we were last at Garwood's, they have established a retail market in downtown LaPorte that is a complete produce market. At the home place the market was expanded just last year with additional sales space that includes a bakery. The Garwood's still make their own cider. However the press is now a Frontier Technology continuous feed press housed in a separate pressroom. The cider is also pasteurized, using a Thermoline flash heat pasteurizer. Safety is a concern. The Garwood's were instrumental 35 years ago in helping to implement the cider workshops held across the state at that time. For more information, refer to: <http://www.garwoodorchard.com>

Coloma Frozen Foods: Situated in Coloma, MI, Coloma Frozen Foods, Inc. is a frozen food processor that has been in business for 22 years. A wide range of fruit and vegetable products is processed, including apples, asparagus, blueberries, plums, red-pitted cherries,

sweet cherries and rhubarb. Various flavors of juices and concentrates are also produced. The food processing season begins in May with asparagus and continues throughout the year with various other fruits and vegetables, and ends with apple season in March. Many of you are familiar with Coloma Frozen Foods products, and may even stock them in your market. Join us in our overview of their operations and a tour of their facilities. For more information, refer to: <http://www.colomafrozen.com>

Directions: Coloma Frozen Foods, 4145 Coloma Rd, Coloma MI 49038

From The Red Roof Inn, Benton Harbor, MI: Take I-94 East for 4 miles and then take the I-196 N exit (exit 34). Travel 4.5 miles then take exit 4 (Coloma/Riverside). Turn left (east) onto Coloma Road and travel half a mile to the plant.

Tree-Mendus Fruit Farm: The mission statement of the Tree-Mendus Fruit Farm sums it up “A family operated business that strives to provide the best service to our visitors while furnishing a variety of the freshest and highest quality fruit available in an atmosphere for clean outdoor family fun.”

It all began in the 1920’s at the Pennsylvania Railroad station in Ft. Wayne, Indiana. An enterprising young man sold some of his carload of fresh apples to a young lady with sparkling eyes. When William and Leone Teichman married two years later, they planted their dreams of growing fruit atop a high ridge near Eau Claire, Michigan on 160 acres they named “Skyline Orchards”. Because their romance sparked over a basket of Jonathan apples, William’s first planting was 15 acres of Jonathan’s. It was unheard of at that time to plant so much of one variety. Two rows of those original Jonathan trees still exist on the farm today. Today, Skyline Orchards has evolved to encompass over 450 acres known as Tree-Mendus Fruit Farm, and a family four generations strong. William and Leone’s son Herb and his wife Liz purchased the farm from his parents in 1969. To commemorate the nations bicentennial in 1976, Herb planted 200 apple varieties (one for each year), using some of the old varieties found in his fathers notes.

The Herb Teichman family is involved with all operations of the farm. Herb and Liz are

still involved in the day-to-day running of the farm, but their son Bill and his wife are now assuming more responsibility for overall management. Other family members involved are daughter Cindy, involved in field operations and another daughter Lynne who deals with PR and marketing. Many activities are hosted by the farm, the most famous of which is the annual Cherry Pit Spitting Championship. According to Herb, you can participate with “only minimal loss of dignity”. They also give school tours, (which Herb describes as “planting a seed”), sell cider and waffles, do u-pick, and operate a petting zoo. Most of their production is sold through their market at the farm, although some is also sold through whole foods stores.

Many of you will have heard of Herb Teichman and the Tree-Mendus fruit Farm. Make sure you make the most of the opportunity to tour this farm, and hear Herb’s views on marketing, dealing with customers, and operation of a retail farm market. For more information, refer to: <http://www.treemendus-fruit.com>

Directions: Tree-Mendus Fruit Farm, 9351 E Eureka Rd, Eau Claire, MI 49111.

From Garwood Orchard: Travel east on SR 2 (about 30 miles) then head north on US 31. Exit on Range Line Rd and head north. Continue north on Old US 33, then north on Deans Hill Rd, until M-140. Stay on M-140 until you get to Eureka Rd, head east to orchard. Maps will be available at Garwood’s.

From the Red Roof Inn, Benton Harbor, MI. Travel northeast 0.1 mile on Mall Drive then turn right onto Pipestone Rd. Travel 1 mile then turn left at Sodus Parkway. Continue for 3 miles then another 5 miles after it turns back into Pipestone Rd. As you pass through the town of Eau Claire, this road becomes Main Street and then M-140 on the east side of Eau Claire. Continue 2 miles on M-140 then turn right at Eureka Rd. The orchard is another 2 miles.

From Coloma Frozen Foods, Coloma, MI: Travel east on Coloma Rd through Coloma and into the town of Watervilet (about 6 miles) then turn right (south) onto M-140. Travel for 13 miles then turn left at E Eureka Rd and travel for 2 miles to the farm.

Program Schedule:

Tuesday June 27:

NOTE: Garwood's are on Central Daylight (Chicago) time. Times listed are local time.

Garwood Orchard, LaPorte, IN

- 9:30 am Coffee and registration
- 10:00 am Welcome and Introductions
Tour of market and bakery
Tour of facilities – packing line, cool storage, cider production facilities.
- 12:00 pm Lunch – catered lunch. Sign up and payment due with on-site registration.
- 12:45 pm Update on immigration and labor issues. John Wargowsky, MAAHS.
- 1:15 pm IHS business meeting
- 1:45 pm Field tour
- 5:00 pm Conclude field tour
- 5:30 pm Dinner – cookout at the farm

Travel to Benton Harbor, MI

Wednesday, June 28:

NOTE: Michigan is on Eastern Daylight time. Times listed are local times.

Coloma Frozen Foods

- 8:00 am Assemble for tour of plant and facilities.
- 10:00 am Conclude tour

Tree-Mendus Fruit Farm

- 11:00 am Welcome and Introductions
Overview of operations
Tour of market facilities
- 12:30 pm Lunch – catered lunch. Sign up and payment due with on-site registration.
- 1:15 pm Field tour
- 3:00 pm Conclude and adjourn. Have a safe trip home!

There is much to see and do at Garwood Orchard, Coloma Frozen Foods and Tree-Mendus Fruit Farm. We hope that you can join us for a good meeting. This meeting is sponsored by the Indiana Hort. Society and Purdue Extension and is open to anyone that wishes to attend. Membership in the Society is not required. We do ask that everyone register.

Registration will be \$5.00 per family (includes both days). Meals (Tuesday lunch and dinner, Wednesday lunch) will be catered for us at a nominal charge.

For those who wish to travel to LaPorte on Monday, details on LaPorte area motels are included below. However, it is likely that most will choose to travel to Garwood's early Tuesday morning, then on Tuesday evening after the cookout at the farm, travel to Benton Harbor and stay over-night there (see accom-

modation details below). From Benton Harbor, Coloma is only about 10 miles.

Motels in the LaPorte Co. Area Include:

Holiday Inn Express, 100 Eastshore CT, La Porte, IN. Phone (219) 326-7900. \$89 + tax but say you are with Purdue and ask for the government rate of \$79 + tax or book on www.orbitz.com for \$72 + tax.

Mayflower Motel, 2652 W State Road 2, La Porte, IN. Phone (219) 362-2092. \$45 + tax

There are also several motels just north of the intersection of U.S. 421 and I 94 (exit 34B) in Michigan City. Holiday Inn; Country Inn & Suites; Red Roof Inn; Super 8 and others.

Motel in Benton Harbor, MI.: The official IHS summer tour motel is: Red Roof Inn, 630 Mall Dr, Benton Harbor.

[MI 49022, \(269\) 927-2484](http://www.caf.wvu.edu/Kearneysville/disease_descriptions/millstable.html)

We have a room block reserved at the rate of \$39.99 + tax. Use the code “B043 Purdue” to get this rate. Directions from Garwood Orchard: Travel East on I-94 for 35 miles and take the Pipestone Rd exit (exit 29). Turn left off exit 0.2 miles.

Changes to Lorsban Label: There have been several important changes to the Lorsban 75WG label. Lorsban 75WG is now labeled for use post-bloom for control of trunk borers on apples. The advantage of the 75WG formulation over the 4E formulation is that it doesn't smell nearly as bad, which can be important in more urban areas. Expect the level of control to be similar between the two formulations. Also, Lorsban 75WG can be used on apples from dormant through Petal Fall. The product cannot be applied after Petal Fall as a foliar spray. No more than two applications or 2.67 lbs of Lorsban 75WG can be applied per acre per season. (Foster)

Insects and Weather: Insects, like all cold-blooded or poikilothermic animals, develop at different rates depending on the temperature. Insects have a minimum temperature, often around 50 F, below which they don't develop. For every degree about that minimum temperature, up to about 90 F, insects develop faster and faster. An insect that requires 30 days to complete its development when the average temperature is 60 F would only require 10 days to complete development when temperatures average 80. So you can see that watching the temperature tells us a lot about what to expect from insects. During the rather long stretch of cool weather, our insects have been developing very slowly. Now that temperatures are returning to normal (whatever that is), we can expect to see insects developing much more quickly. If you have not seen much in the way of insect problems so far, don't become complacent. These warmer temperatures are just what the insects and mites need to really get going. (Foster)

Apple Scab: Are you familiar with the Mill's Table? The Mill's table is a simple, but practical tool to predict scab periods, and is based upon the minimum number of hours of continuous leaf wetness required for scab infection at each given temperature. You can check out the Mill's table at:

http://www.caf.wvu.edu/Kearneysville/disease_descriptions/millstable.html

Most software programs for orchard management use the Mill's or modified Mill's table to predict scab epidemics. If you refer to such a table, you'll realize (if you didn't already intuitively grasp) that we went through one heck of a scab period—about 12 straight days of rains, high humidity, and ideal scab temperatures (61-75 degrees F)—for both primary (ascospore) and secondary (conidia) infection. This has resulted in the worst scab epidemic I've ever seen in Indiana... Oh wait, I've only been here for 10 months. Anyways, I hope this isn't a harbinger of things to come!

So, if you haven't seen scab yet, just wait: It takes about 9 to 17 days from the time of infection by apple scab until the appearance of the velvety, olive-gray scab lesions, filled with thousands of secondary spores. Keep in mind that fruit are at their most susceptible from pink until about 3-4 weeks after petal fall! For those of you with scabbed trees, apply Captan **Full Strength**—Mancozeb and Polyram may not give you the needed control at 3 lbs per acre at the first and second cover under the severe pressure that we are seeing. Use of the strobies (Flint, Pristine, Sovran) for the first, third and seventh cover, allows you to avoid using the sterol-inhibitors, which would not provide good scab control if used alone. The strobies also suppress sporulation—an added bonus. At the first, third and seventh cover, you've used your limit of three strobie sprays. Remember--We want these fungicides to last! Finally, Topsin-M 70 is a good choice if you AREN'T growing the variety Rome, and when used within 4 weeks of petal fall. Topsin-M gives excellent scab control, as long as resistance is not an issue. (Beckerman)

Fire Blight: After hearing scattered reports of blossom blight throughout Indiana, I am bracing for the worst: My Magic 8 Ball provided an answer of “Better not tell you now.” Although I doubt the psychic ability of the Magic 8 Ball, we don't yet know if the early season blossom blight will result into epidemic shoot blight. Furthermore, severe weather events resulting in trauma seem to be inevitable this year, with these strong storms injuring trees and spreading inoculums simultaneously. Therefore, we hope for the best, and prepare

for the worst by going over what should be done in the event of, well, the worst.
In the Event of the Worst (Seven Habits of Highly Effective Fire Blight Management)

Rule Number 1. DO NOT bother with streptomycin or copper spraying: There are no pesticides that will cure or prevent further spread of blight once it is established.

Exception to Rule Number 1: In the event of a hailstorm or heavy wind damage, application of streptomycin to prevent fire blight should be made within 18 to 24 hours after the storm—even if the foliage is not completely dry. If the likelihood of high winds and hail seems imminent, application up to 24 hrs before can prevent trauma blight. New data suggests that applications within 4 to 12 hours after the weather event enables targeting of bacteria prior to their internalization and establishment of infection. Applications can occur to wet foliage.

Rule Number 2. DO NOT over fertilize or attempt any other cultural practices that will stimulate plant growth (this means pruning).

Rule Number 3. Continue monitoring--Walk your orchards, checking for fire blight by looking for new growth that appears crooked at the tip with browning and wilting leaves.

Rule Number 4. Limit secondary spread by cutting out fire blight strikes. This tactic is most successful if these strikes can be removed immediately after they appear. Cut out blighted twigs 10 to 12 inches below any sign of infection, **being sure to sterilize pruning tools between each cut** (10% bleach with a drop of detergent, or 10% TSP).

Rule Number 5. Maintain good control of sucking insects that can spread blight.

Rule Number 6. Special attention should be given to young trees and/or trees on M.9 and M.26 rootstocks or interstems, especially those varieties especially susceptible to fire blight (Braeburn, Gala, Ginger Gold, Ida Red, Jonathan, Fuji). If epidemic blossom blight is present, with nearly every branch having a majority of the blossom clusters affected, it is neither practical nor desirable to prune out affected blossoms.

Rule Number 7. Learn from others (and your own) mistakes. Use fire-blight resistant rootstocks, particularly when growing more susceptible varieties, in replanted areas. (Beckerman)

Disease Management in Peaches: Most of the state is reporting a great crop of peaches—Let's keep it that way by staying on top of our sprays for control of brown rot, scab, and powdery mildew. With resistance a big problem in managing brown rot popping up all over the country (and most recently in New York state), some timely information has recently come out of Clemson University. Research conducted at Clemson by Imre Holb from the University of Debrecen, Hungary; found that Elite (Tebuconazole) and Indar (Fenpuconazole) provided better control than Orbit (Propiconazole), for protective applications. Curative control success was only found with Elite. Although this study was performed with detached fruit, it's something to keep in mind when spraying. Using the sterol-inhibitors in combination or rotation with the strobies (Abound, Pristine, Flint, and Sovran) will manage this problem, in addition to peach scab, powdery mildew, and Alternaria fruit spot and rot. Other protective fungicides to rotate in include Topsin-M and Captan. (Beckerman)

Shoot Positioning and Canopy Management: Grapes are in bloom across most of the central and southern parts of Indiana this week. Early varieties are blooming in the Lafayette area. Once we are past fruit set and shoots have toughened-up, it's time to get serious about shoot positioning in grapes. Varieties differ in their need for shoot positioning due to their growth habit and vigor. Some varieties such as Vignoles and Chancellor tend to have a semi-upright growth habit and relatively short shoots that stand up well on their own, so shoot positioning is seldom needed. Other varieties such as Traminette, Chambourcin and all the American varieties produce horizontally growing shoots that tend to run along the top of the trellis and cause significant shading of the fruit and renewal zone. Shoot positioning is very important with these varieties. The need for shoot positioning on other varieties will vary depending on vigor of the particular site. In high cordon-trained vines, shoot positioning involves pulling lateral-growing shoots off the

top of the trellis to hang vertically downward. In mid-wire cordon-trained vines, shoot positioning is done by tucking shoots between sets of catch wires, or pulling catch wires up into position so that the shoots grow vertically upward. Shoot positioning is critical for improving sunlight exposure of fruit and increasing fruit quality. Additionally, it improves fruitfulness of the basal nodes on the shoots for full fruiting potential next year. Shoot positioning may need to be repeated two or three times during the summer.

Leaf removal is another important component of canopy management. While most commonly associated with mid-wire cordon vertically shoot positioned training systems, it can be used on high cordon trained vines as well. Removal of 2-3 basal leaves in the cluster zone anytime from 1 to 3 weeks after bloom can significantly improve fruit quality by decreasing fruit rot potential, and improving sunlight exposure of clusters. Leaf removal later in the season can be effective, but care should be taken to avoid sun-burning. We generally recommend removal of leaves mainly on the east side of the rows. Our work with Traminette has shown a significant increase in important flavor and aroma compounds (monoterpenes) and wine quality scores when fruit gets partial sun exposure. (Bordelon)

Wine Grape Summer Workshop: The Purdue Wine Grape Team will hold its summer grape and wine workshop at Huber's Orchard & Winery near Starlight on Monday June 12. Huber's Orchard & Winery is one of the state's top Agri-tourism destinations complete with extensive fruit and vegetable plantings, farm market, ice cream and cheese shop, petting zoo, gift shop, banquet facility and more. Visit their web site at www.huberwinery.com to see all that they have to offer.

The day will begin with registration and gathering for coffee, juice and pastries at 9:00 am (EDT). At 9:30 Ted Huber and Bruce Bordelon will lead a tour of the Huber vineyards and small fruit plantings. Huber's has over 30 acres of vineyards planted to French-American hybrids including Chambourcin, Traminette, Cayuga White, etc., traditional European (vinifera) varieties such as Cabernet Sauvignon and Cabernet Franc, American types such as Concord and Catawba, and seedless

table grapes. They also have extensive plantings of strawberries, brambles (blackberries and raspberries) and blueberries. In addition to their small fruit and grapes, they grow apples, peaches, and vegetables.

At the conclusion of the field tour, Ted Huber and Jason Heiligenberg will lead a tour of Huber's Winery and Starlight Distillery. Huber's has the only farm distillery in the state. Enologists Butzke, Blume and Butz will discuss equipment, sanitation, and quality control.

Huber's will provide lunch in their banquet hall. Brian Blackford, Development Director with the Indiana Office of Tourism Development will speak on Agri-tourism's role in Indiana. Participants are urged to bring a bottle of their favorite wine to share.

Following lunch we'll have a recap on the Vintage Indiana Food and Wine Festival by Marketing Specialist Jeanette Merritt, and an update on the Indy International Wine Competition by Enology Specialist Ellie Butz.

At 1:30 the Indiana Winegrowers Guild will hold it's summer meeting. President Larry Satek will give an update on the legislative issues that the industry has faced this year. Following that update, the Guild will hold it's annual Grape Availability session where growers and winemakers meet to discuss availability, price, etc. Any growers with grapes not already committed to a buyer should plan to attend. The meeting will adjourn at 3:30.

Following the workshop, Purdue Enology professor Dr. Christian Butzke will host a B.Y.O.W. (Bring Your Own Wine), a wine tasting event for professionals only, where winemakers and grape growers will have the opportunity to get a peer review and critique of their own products before they market them. This session is open to licensed Indiana wineries only.

Registration for the workshop is \$50 for Indiana Winegrowers Guild members and \$75 for nonmembers. Advance reservations are required. To register, visit the Wineries of Indiana Web site at <http://www.indianawines.org> or contact Jill Blume, Purdue enology assistant, at blume@purdue.edu. (Bordelon)

Blueberry IPM Workshop and Blueberry Growers of Indiana Spring Meeting: Purdue is teaming up with Michigan State University to offer a Blueberry IPM Scout Training Workshop on Tuesday, June 13. The first part of this workshop was held in March. This follow-up session will include some indoor lecture, but primarily will involve hands-on training at local blueberry farms. The session will start at 9:30 am (CDT) at the Pinney Purdue Agriculture Center near Wanatah. Two hours of lecture and training will be followed by a box lunch, then travel to two local blueberry farms for a complete hands-on training experience. The first stop will be Blue Sky Berry Farm, 15552 S 1050 W, near Wanatah. Following that stop, the group will caravan to Goin's Berry Farm, 3340 S 750 W near North Judson. Specialists from Purdue and Michigan State will lead the workshop and will discuss scouting for weeds, insects, and diseases.

Registration for those that did not attend the first session is \$35. For complete information, directions and to register, contact Connie Holderfield at Purdue (765-494-1296) email cholderf@purdue.edu.

Following the IPM Workshop, the Blueberry Growers of Indiana will hold it's annual Spring Meeting and Farm Tour. This year's meeting will be hosted by Cliff and Wanda Bonnell at Bonnell's Blueberry Patch, 3565 S 750 W, North Judson, IN. This farm is just south of Goin's Berry Farm, so IPM Workshop attendees won't have far to travel. The meeting will start with a farm tour at 4:00 pm, Potluck dinner at 5:00 (please bring a dish to share, meat and drink provided), BGIN business meeting at 6:00 and MBG Marketing meeting at 6:30. For more information about the BGIN Meeting, contact president Melvin Van Kley at 219-956-3687, or the Bonnell's at 574-896-2266. (Bordelon)

Control of Fruit Rots in Blueberries: Fungal fruit rots, especially anthracnose caused by *Colletotrichum acutatum*, continue to be of economic concern in blueberries. Losses can occur before as well as after harvest. The cultivars Jersey, Bluecrop, Rubel and Blueray are very susceptible to anthracnose fruit rot, whereas Elliott is quite resistant. *Alternaria* fruit rot is sometimes found on Bluecrop ber-

ries before harvest and affects most varieties after harvest. Botrytis fruit rot is not as common in Michigan, but may be a problem in years when cool, wet weather prevails during the flowering and fruit development period. These rots can be distinguished to some extent with the naked eye: anthracnose is characterized by wet, pink to orange spore masses; *Alternaria* fruit rot by a dark green velvety mold and Botrytis by fluffy, tan to gray fuzzy mold on the berry surface. See the blueberry web site (www.blueberries.msu.edu) for pictures of symptoms.

The anthracnose fungus overwinters in dead fruiting twigs, but has also been found to overwinter in live, dormant buds. The infected buds typically die in the spring and support sporulation of the fungus. A twig blight, which is difficult to distinguish from Phomopsis twig blight, can also result from bud infection. With anthracnose there are two important periods when the infection risk is high because of peak spore release:

- 1) From pre-bloom to about pea-size berry (due to overwintering inoculum), and
- 2) From first blue fruit until the end of harvest (due to sporulating berries that infect surrounding berries). Fungicide spray programs should focus on these periods.

There are several fungicide options for control of blueberry fruit rots. The strobilurin fungicides Abound (azoxystrobin), Cabrio (pyraclostrobin) and Pristine (pyraclostrobin + boscalid) are excellent for controlling anthracnose fruit rot. They are (locally) systemic and considered "reduced risk." Since Pristine has two active ingredients, it tends to have a broader spectrum of activity than Abound and Cabrio. However, at the rates recommended for blueberries, Pristine is rather expensive. Applications can also be made between harvests, since the pre-harvest interval is 0 days.

Switch (cyprodinil and fludioxonil) is a systemic fungicide with a unique mode of action. Switch has activity against anthracnose, *Alternaria* fruit rot and Botrytis fruit rot and would be a great option if you are trying to control multiple fruit rots at once.

Elevate (fenhexamid) is primarily a Botryticide with suppressive activity against mummy berry.

Captevate (a pre-mix of Elevate and Captan) has efficacy against anthracnose also.

Topsin M (thiophanate methyl) + Captan (captan) or Ziram (ziram) are also good options for anthracnose fruit rot control. Topsin M received a Section 18 emergency exemption for use in blueberries this year.

Fungicides should be applied around bloom and early fruit development (to prevent the primary infections) and at first blue fruit or pre-harvest (to prevent secondary infections). (Annemiek Schilder, Michigan State Univ.)

Fruit Price Index Hits 15-Year High: The index of prices received for fruit and tree nuts for January and February were the highest since the index began in 1990, according to a report released last week by USDA's Economic Research Service (ERS). Much of the increase was due to high prices for citrus fruit as well as tree nuts, where tighter overall supplies this season have resulted in strong grower prices, according to the ERS. However, increases were also seen in such crops as apples, where prices were up over last year due to a smaller 2005-06 crop, according to the March 29 "Fruit and Tree Nuts Outlook." You can view the entire report online at <http://usda.mannlib.cornell.edu/reports/erssor/specialty/fts-bb/2006/> (Brian Sparks, American Fruitgrower)

Virginia Apple Growers Give Thumbs Up To Marketing Order: Three years after voting down their state's marketing order, Virginia apple growers have elected to reinstate it. The new 2.5¢ per bushel apple tax will be assessed to growers who produce more than 5000 bushels annually. Funds from this marketing order will be used to support the Virginia State Horticultural Society, the U.S. Apple Association, and a state research program. According to Winchester, VA, apple grower (and USA apple trustee) Phil Glaize, the approval of the marketing order signifies a move in the right direction for growers who have been concerned with the economic pressures the state's apple industry has faced over the years. "We still have a block of growers that are serious about looking ahead and remaining a part of the national apple industry," says Glaize. (Brian Sparks, American Fruitgrower)

Wendy's Drops Fruit Salad; McDonald's Remains Committed: In what is hopefully not a sign of things to come, the fast-food chain Wendy's has removed fruit salad from all of its menus. Despite touting its fruit salads as an easy and convenient way for consumers to add fruit to their diet, Wendy's chief operating officer Tom Mueller says sales did not meet expectations. However, McDonald's, the biggest fast-food giant of them all, says it will continue to heavily promote both its fruit and walnut salad and its Apple Dippers. At the Washington State Horticultural Association's 101st Annual Meeting in Wenatchee, WA, McDonald's Mitch Smith says the company is projecting it will purchase 55 million pounds of apples in 2005 for these products. The company continues to push for consistent, year-round quality, and will also begin putting nutrition information on all of its packaging next year. In other words, for growers, "It's a good time for the great taste of McDonald's." (Brian Sparks, American Fruitgrower)

Upcoming Meetings:

June 8. Eastern Indiana Fruitgrowers' Meeting. Grabow Orchard. Located at 6397 S SR13, Pendleton, IN. For info and directions: <http://www.graboworchard.com/> for more information contact Dave Clamme, dclamme@purdue.edu, Ph. 765-747-7732

June 12: Purdue Wine Grape Summer Workshop and Indiana Winegrowers Guild Meeting. Huber Orchard & Winery, Starlight, IN Contact Jill Blume for more details 765-494-1749, blume@purdue.edu or visit www.indianawines.org See article above.

June 13: Blueberry Growers of Indiana Summer Meeting and IPM Scout Workshop. See article above.

June 27-28. Indiana Hort. Society summer meeting. See article above for complete information.

July 9-11: American Society for Enology & Viticulture-Eastern Section 31st Annual Technical Meeting and Symposium. Rochester, NY. For complete information, program and registration, visit the ASEV-ES web site at <http://www.nysaes.cornell.edu/fst/asev/>

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