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Crop Conditions: Both apples and peaches are sizing well (mostly due to the short crop) despite the dry weather. Blueberry and raspberry harvest will start within a week in southern and central Indiana. Strawberry harvest is winding down and most growers report a pretty good year. The harvest season was one of the shortest on record due to the hot, dry conditions we experienced in May. The grape crop looks pretty good overall and some growers are even doing some cluster thinning to bring vines into balance.

Blueberry Crop Estimate: The Blueberry Growers of Indiana met recently at Blueberry Dune Farm near LaPorte. The evening was very enjoyable and thanks go to Don Kepler and family for hosting the event. The group enjoyed a tour of the farm and wonderful potluck dinner. Several items were discussed at the BGIN business meeting, including the annual crop estimate. While some growers have experienced almost complete crop loss from the Easter freeze, BGIN feels that, overall, the state will produce about 60% of a normal crop. It is estimated that Indiana growers will produce 2.2 million pounds of blueberries this year. About 1.2 million will be for fresh sales and the remainder will go for processing. While prices are still very strong for blueber-

ries, expenses are up as well. Many growers expect that their labor costs will increase at least 20% this year. Most growers are now paying 50¢ or more per pound to have berries picked. Consumers can expect a good supply of berries at local u-pick farms, farmers markets and grocery stores. Prices should be in the \$2.00-2.50 per pound range. Melvin Van Kley stepped down as President of BGIN after 10 years of service. Dale Bryant of New Salisbury was elected President for 2007-08. (Bordelon)

Strawberry Renovation: Matted row strawberry plantings must be renovated after harvest to establish new crowns for next year's crop. For best results, renovation should be started immediately after the harvest is completed to promote early runner formation. The early a runner gets set, the higher its yield potential. Renovation should be completed by the end of July in normal years. Harvest is winding down across the state so growers should begin renovation as soon as the last marketable berries are harvested. The following steps describe renovation of commercial strawberry fields.

1. **Weed control:** Annual broadleaf weeds can be controlled with 2,4-D amine formulations. Check the label as only a few

products are labeled for use on strawberries. (e.g. Amine 4 [Dimethylamine salt of 2,4-D (3.74 lb./gal.)] at 2 to 3 pts./acre in 25-50 gallons of water applied immediately after final harvest. Be extremely careful to avoid drift when applying 2,4-D. Even though the amine formulation is not highly volatile, it can volatilize under hot, humid conditions and can cause damage to desirable plants a considerable distance from the site of application. Some damage to strawberries is also possible. Read and understand the label completely before applying 2,4-D amine. If grasses are a problem, sethoxydim (Poast 1.5 EC) or clethodim (Select 2 EC) will control annual and some perennial grasses. However, do not tank mix these materials and 2,4-D. See ID 169 and the product label for rates and especially for precautions.

2. Mow the old leaves off just above the crowns 3-5 days after herbicide application. Do not mow so low as to damage the crowns.
3. Fertilize the planting. A soil test will help determine phosphorus and potassium needs, but foliar analysis is a more reliable measure of plant nutrition. For foliar analysis, sample the first fully expanded leaves following renovation. Generally, nitrogen should be applied at 25-60 lbs/acre, depending on vigor. It is more efficient to split nitrogen applications into two or three applications at regular intervals, rather than apply it all at once. A good plan is to apply about half at renovation and half again in late August when flower bud development is occurring.
4. Subsoil: Where picker traffic has been heavy on wet soils, compaction may be severe. Subsoiling between rows will help break up compacted layers and provide better infiltration of water. Subsoiling may be done later in the sequence if crop residue is a problem or if soils are too wet at this time.
5. Narrow rows: Reduce the width of rows

to a manageable width based on your row spacing, the aisle width desired, and the earliness of renovation. A desirable final row width to attain at the end of the season is 12-18 inches. Wider rows lead to low productivity and increased disease pressure. This means that rows can be narrowed to as little as 6 inches during renovation. Use a tiller or cultivator to achieve the reduction. Since more berries are produced at row edges than in the middle, narrow rows are superior to wide rows. Narrow rows will give better sunlight penetration, better disease control, and better fruit quality.

6. Cultivate: Incorporate the straw and other plant material between rows and throw a small amount of soil over the row by cultivation. Strawberry crowns continue development at the top, and new roots are initiated above old roots on the crown, so 1/2 - 1 inch of soil on the crowns will facilitate rooting. This also helps cover straw in the row and provides a good rooting medium for the new runner plants.
7. Weed control: Pre-emergence weed control should begin immediately. Dacthal, Sinbar or Devrinol are suggested materials. See ID-169 and check the product labels carefully. Devrinol must be incorporated by irrigation, rainfall, or cultivation to be effective. Rate and timing of Sinbar application is critical. If regrowth has started at all, significant damage may result. Some varieties are more sensitive to Sinbar than others. If unsure, make a test application to a small area before treating the entire planting. Use 2 to 6 oz/acre/application and no more than 8 oz/acre/year total. Sinbar should not be used on soils with low organic matter, or on sensitive varieties like Guardian, Darrow, Tribute, Tristar and possibly Honeoye. If Sinbar gets onto strawberry leaves, irrigate to wash it off. See the Midwest Small Fruit Pest Management Handbook for a table showing variety sensitivity to Sinbar.

8. **Irrigate:** Water is needed for both activation of herbicides and for plant growth. Don't let the plants become stressed. Ideally the planting should receive 1 to 1-1/2 inches of water per week from either rain or irrigation.
9. **Cultivate** to sweep runners into the row until plant stand is sufficient. Thereafter, or in any case after early September, any runner plant not yet rooted is not likely to produce fruit next year and can be removed. Coulter wheels and/or cultivators will help remove these excess plants in the aisles.
10. **Adequate moisture and fertility** during August and September will increase fruit bud formation and improve fruit yield for the coming year. Continue irrigation through this time period and fertilize if necessary. An additional 20-30 pounds of N per acre is suggested, depending on the vigor. (Bordelon)

Japanese Beetles on Grapes and Berry Crops:

The first of this year's Japanese beetles started to emerge in the Lafayette area this past week. Growers familiar with this pest know that they have a voracious appetite for leaves of a number of crops and non-crops plants, and the fruit of some crops such as blueberries and brambles. Control of adult beetles is relatively easy with insecticide applications. However, due to the continual emergence of adults over a several week period, re-application may be necessary several times during the season. Sevin is the most effective material labeled for use on most fruit crops. The preharvest interval (PHI) on small fruits is 7 days, which can present a problem during harvest. Imidan is moderately effective and has a 3-day PHI, which may help somewhat. Malathion has a 1-day PHI on blueberries and brambles, although it is not the most effective insecticide. Insecticides containing pyrethrum can be used up to the day of harvest, but provide only very short-term control. Insecticides that contain Neem extract appear to have some repellency against Japanese beetle. Be sure to adhere to the preharvest restriction and Restricted Entry Intervals for

whatever pesticide you choose to use. Traps are generally not recommended as they likely attract more beetles to the crop area. In recent years research has found that use of soil-applied insecticide, imadiclopid (Admire) at egg-laying will significantly reduce the number of larvae in the soil. However, it is unclear whether reduction of larvae in and around a planting will significantly reduce the number of adults feeding in a planting since they can travel quite a distance to feed. (Foster and Bordelon)

Japanese Beetles: In the Lafayette area, we saw our first Japanese beetles on June 3, about 2 1/2 weeks earlier than normal and 1 week earlier than we had ever seen them before. We can expect the numbers of beetles to increase over the next 3-4 weeks at least. At this point we don't know if this early emergence will correlate with higher numbers of beetles. Fruit growers who are on a reduced spray schedule because of a freeze induced crop loss should be especially vigilant, because defoliators like Japanese beetles can reduce the vigor of your plants. Your normal spray schedule may normally keep them in check, but now you may need to treat specifically for the beetles. Also, newly planted trees can be stunted by unchecked defoliation by Japanese beetles.

For organic growers who are trying to control Japanese beetles with neem, please remember that neem is a repellent, not a toxicant. Therefore, you will get your best results if you make your first application when you see the first beetles on your plants. Multiple applications may be necessary to protect your plants. (Foster)

Strawberry Leafroller: We've seen one strawberry patch in northern Indiana with a severe infestation of strawberry leafrollers. From a distance, the patch had a scorched appearance, but upon closer inspection, many leaves were rolled up. When they were unrolled, there was webbing and a small, green leafroller larva

inside. Since this pest generally shows up during harvest, the best control alternative is one of the *Bacillus thuringiensis* (Bt) insecticides. (Foster)

Potato Leafhopper: This migratory pest has arrived in Indiana a couple of weeks earlier than normal. Potato leafhoppers can be a problem on apples, grapes, brambles, and strawberries. They can be distinguished from other leafhoppers in the nymphal stages because the potato leafhopper nymphs crawl sideways. This is another one of those indirect pests that can become a problem if you are on a reduced spray program. Look on the underside of leaves and treat before you start to see “hopperburn” symptoms on the leaves. For apple growers, if you have a leafhopper problem, this may be a good time to use one of the neonicotinoid insecticides (Assail, Calypso, Clutch) for your next cover spray. (Foster)

Insuring the eradication of plum pox virus in southwest Michigan: In July 2006, plum pox virus (PPV) was detected in a single plum tree sampled at the MSU Southwest Michigan Research and Extension Center (SWMREC) in Benton Harbor, Michigan. PPV is a serious disease of stone fruit that can cause significant yield and quality loss. PPV has been the most significant disease of stone fruit in Europe for many decades and was detected for the first time in Pennsylvania in 1999, Ontario in 2000 and in New York and Michigan in 2006. The Michigan Department of Agriculture (MDA) has worked very intensively since that time to test the Prunus trees at risk at this and other Michigan locations. After testing more than 50,000 samples in late summer, no new “positives” were found in Michigan.

Under order of the Michigan Department of Agriculture and with the guidance of the United State Department of Agriculture, SWMREC is eradicating all peach, plum, nectarine and apricot trees (approximately 13,000 trees) within 500 meters of the block that once

contained the PPV contaminated plum tree. Plum pox virus strain D, the type detected at SWMREC, will not infect cherry, but can infect several other Prunus species such as dwarf flowering almond (*P. glandulosa*), black thorn (*P. spinosa*), and Japanese flowering cherry (*Prunus serrulata*), among others. The 500 meter eradication order issued by the MDA is similar to action taken in Pennsylvania to deal with a much larger plum pox virus contamination problem. Because plum pox virus is a disease that is slow to show symptoms, the extensive eradication zone around a detection site is necessary to eliminate the possibility of latent infections. The 500 meter eradication zone is part of a larger quarantine zone of approximately a two-mile radius and a larger nursery stock regulated area of 7.15 mile (11.5 km) radius around the positive plum pox virus site.

The quarantine will be cancelled when sampling of all susceptible fruit bearing and ornamental trees in the quarantine zone is negative for plum pox virus for three consecutive years. In the interim, much of the activity of the MSU peach breeding program, including establishment of new nurseries, will be moved to the MSU Trevor Nichols Research Complex near Fennville, Michigan.

As of June 4, 2007, 18 acres of peaches, nectarines, plums and apricots have been uprooted at SWMREC, ending with the eventual removal of all 24 acres of these fruit types. With the help of a Project GREEN grant and support of the Michigan Peach Sponsors, high value peach selections from the MSU peach breeding program have been sent to the North Region Special Project 5 (NRSP5) virus-testing facility of Washington State University in Prosser, WA. The extensive testing at Prosser with ELISA, PCR and indicator species will insure that these peach lines are clean. (Bill Shane and Mira Danilovich, Michigan State Univ.)

Sweet cherry variety showcase: International Plant Management, Inc., in cooperation with MSU Cooperative Extension, is sponsoring a Sweet Cherry Variety Showcase on Thursday, July 12, at 4:30 PM. The showcase will be held at the International Plant Management sweet cherry test block at Fruit Acres Farms, owners Annette and Randy Bjorge, in Coloma, Michigan. The test block is a collaboration between International Plant Management, Inc. (Wally Heuser and Wanda Heuser Gale) and the Bjorges.

The cherry test block has 85 plus sweet cherry varieties including selections from New York State Agricultural Experiment Station in Geneva, New York and the University of Bologna, Italy. Also at the site are varieties from Washington State University, Michigan State University, the Summerland program in British Columbia, Canada and many of the industry standard varieties. This block also features trees on eight standard and dwarfing rootstocks.

On display will be cherry samples from research stations and growers from Michigan and New York. Featured guests and speakers include Dr. Susan Brown, stone fruit and apple breeder from Cornell, Dr. Greg Lang and Dr. Bill Shane of MSU, Wallace Heuser of International Plant Management, Inc., and others.

All growers, extension and university personnel and their employees are invited to attend. Refreshments will be provided. Fruit Acres Farms is located in Coloma, Michigan, one mile south of I-94 exit 39, on Friday Road. The test block is a quarter mile east of the corner of Friday and Carmody Roads. Registration is not required. For more information, call International Plant Management at 800-424-2765.

“Start Your Own Business” Workshop: This workshop is intended for rural family members who are interested in starting a business or are in the early stages of a business. Topics

to be covered are characteristics of successful rural entrepreneurs, self assessment exercise, available rural businesses, steps in successful revenue and profit planning, support services for rural start ups and steps to get started. The workshop leader is James (Jim) R. Roudebush, an entrepreneur from Central Indiana with a rural background. He has an MBA in Marketing. Jim is a former Corporate Executive and owner of two successful Indiana small businesses. He currently serves as adjunct professor and lecturer. He has served on several national and state not-for-profit boards and is the former Chairman of Central Indiana Better Business Bureau. The workshop will be held on June 26, 2007 from 6: 00 – 8:00 pm at the Hendricks County Extension Office, 1900 E. Main Street, Danville, IN 46122. For directions visit <http://www.ces.purdue.edu/Hendricks/directions.htm>.

You can call, fax, or mail your registration to Hoosier Heartland RC&D Council. Registration is requested by seven days in advance of the workshop. Make checks payable to Hoosier Heartland RC&D Council, Inc. Only \$10 for Early Bird Registrations. Early Bird Registrants must register by seven days prior to the workshop. If you register with a family member or a friend, the workshop will only cost \$5 a person. All registrations after the Early Bird Registration, or at the door, are \$15 per attendee. (The workshop is valued at over \$100 per attendee, with most costs paid for by a grant from the Indiana Office of Community and Rural Affairs.). For more information phone 317.290.3250, Fax 317.290.3150 or email hhrcd@hhrcd.org

Upcoming meetings:

June 18. Purdue Grape and Wine Workshop and Indiana Winegrowers Guild Summer Meeting. Simmons Winery, Columbus, IN. Contact Jill Blume 765-494-1749

June 26. Cherry High Tunnel Field Day, Clarksville Horticulture Experiment Station, Clarksville MI, at 2:30 PM.

July 2-3. Indiana Horticultural Society summer field tour. July 2 will be at Beiersdorfer Orchard in Guildford and July 3 will be at Wesler Orchards in New Paris OH. See the last issue of FFF for details or check <http://www.hort.purdue.edu/fruitveg/>

July 12. Sweet cherry variety showcase, International Plant Management sweet cherry test block at Fruit Acres Farms, owners Annette and Randy Bjorge, in Coloma, Michigan at 4:30 pm. For more information, call International Plant Management at 800-424-2765.

July 15-17. ASEV-Eastern Section 2007 Annual Conference. Lehigh Valley, PA. Contact www.nysaes.cornell.edu/fst/asev/

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