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Happy Thanksgiving. Please share your blessings with those less fortunate.

Note: This is the final issue for the 2001 season. The next issue will come out in March 2002. If you receive the paper copy in the US Mail, please renew your subscription with your Indiana Hort Congress Registration or with the attached form.

2001 Season Review

Weather:

The winter of 2000-2001 was a bit unusual with an early fall freeze in many areas during late September followed by mild weather until mid-November, then cold the rest of the winter. The coldest period was mid December through early January. The coldest spot was Crawfordsville with -19 on Christmas Day, but most areas saw minimum temperatures of about -10°F or above, so winter injury was minor for most crops. Some grapes suffered extensive winter injury due to the early fall freeze, especially vines 1 to 3 years old.

Despite the relatively mild winter, unseasonably warm temperatures in early March caused concern to many. Fruit crops had received their chilling requirement and

responded to warm temperatures and begin development. A cold snap hit the state on April 17-18, with temperatures in the mid to upper 20s around the state. Damage occurred on a number of crops, especially brambles, grapes, and blueberries. Frost rings were obvious on apples in some areas. Another freeze on May 13 further damaged blueberries in north central areas, and caught some unsuspecting strawberry growers off guard.

Rainfall was near normal throughout the season for most parts of the state, but again varied widely. Some areas had drought conditions through much of June, then too much rainfall in July. Summer weeds really took off after the July rains and many planting were weedy.

Overall the season has been warmer than normal. GDDs base 50 from April 1 are averaging about 200 more than normal as of September 30. Unusually cool and wet conditions occurred in June resulting in very poor fruit set on some grape varieties, especially in the northern part of the state.

Hail was a major problem for many growers. Early hail in June across north central areas caused widespread damage to crops. We got a major storm on August 25 at our Meigs horticultural research farm that destroyed fruit

in our grape and apple research plots. Growers reported hail as recently as mid September.

Tree fruits:

It was a pretty good year for apples and peaches if you managed to avoid the hailstorms. There were at least six hail events that caused damage this year. Early season growth was good with frequent rain. Generally the peach crop was good, although as always there was some crop loss due to winter freezes. Warm temperatures in August resulted in poor coloring of many summer apples, but cooler nights in September helped out coloring with main season varieties.

Tree Fruit Diseases:

Fireblight was widespread and severe throughout Indiana this past year. Reports of severe blossom blight were initially received from growers in the extreme southern part of the state (Madison, New Albany, etc.); however, fireblight quickly proceeded to march northward, eventually spreading throughout the state. We suspect the major contributing factors to this year's fireblight outbreak were: a) a slow but steady buildup of fireblight inoculum over the past two years (both 1999 and 2000 saw increased reports of fireblight); b) late freeze damage to blossom tissue throughout many areas in the southern part of the state; c) the unusually high temperatures (80 & 90's) which occurred shortly after bloom. The high temperatures did much to help infections 'take hold' and contributed to further buildup of the fireblight bacteria; and of course; d) summer hail damage. A number of growers reported significantly less fireblight in those blocks treated with Apogee and also indicated they were very pleased with the reduced vegetative growth. Before fireblight hit we were predicting a light disease year because of the unusually dry conditions in April and the first part of May. Indeed we did not record a single scab infection period prior to bloom in the Lafayette area. Consequently, apple scab and most other early foliar diseases,

such as peach leaf curl, remained at a low level throughout the year. However, due to frequent rainfall throughout the summer, sooty blotch and flyspeck of apple intensified as the season progressed. At harvest, both diseases were severe in orchards that had not maintained an adequate spray program.

Fruit Insects:

The fruit insect situation in Indiana was fairly typical in 2001. There were several insects that were more numerous than normal, while others were less common than we normally would have expected.

In early spring we had a long period of southerly winds, which resulted in another outbreak of Eastern flower thrips on strawberries. The outbreak was not as serious as some we have had in the past. We don't know for sure if that was because there were fewer thrips, or because we anticipated their arrival and growers got them under control quickly.

We also saw higher than normal populations of white apple leafhoppers in some orchards early in the season, and higher than normal populations of potato leafhoppers in others orchards later in the summer.

Populations of European red mite were generally low this summer. The most likely explanation for the lack of problems with mites is that growers have several good miticides that they can use, and they have done an excellent job conserving the predatory mites that keep ERM populations low.

Obliquebanded leafrollers were once again present in the far northern part of the state. This is at least the third consecutive year that we have seen at least some damage from this pest. This would indicate that it has become firmly established in Indiana. How much farther it will spread is anyone's guess.

Codling moths in Indiana continue to show an inability to follow the rules. All the books say that there should be two distinct generations of codling moths each year, with a partial third generation in some areas. One of

our observations over the last few years is that moth catches in pheromone traps never return to zero between generations. This year some growers had large catches of moths in pheromone traps during the period between generations when no moths are supposed to be flying. These results show the importance of growers using pheromone traps to monitor moths in their orchards so that they know when the moths are active.

Small Fruit and Grapes:

The winter temperatures caused little damage to grapes and small fruit this year. Some grapes suffered extensive winter injury due to the early fall freeze, especially vines 1 to 3 years old. The April and May freezes had mixed results. Hail damaged our research plots, but few commercial growers were hurt.

Grapes

Early grape varieties such as Marechal Foch suffered bud damage across the state from the April freeze. Yields were reduced considerably. Cool wet conditions during grape bloom caused poor fruit set, especially on labrusca varieties in the northern part of the state.

Grape diseases were at very low levels in 2001 due to dry conditions early the season. 2001 had the least amount of Phomopsis cane and leaf spot of any recent year. Some cluster stem damage was still observed on Chardonel, so the disease was not completely absent. Bitter rot was common on early and mid season varieties, but not too severe. Black rot showed up in poorly managed vineyards, but was not a major problem. Late season downy began showing up recently. A rare case of Zonate leaf spot was found in the Bloomington area.

Grape Berry moth was at the highest level ever observed in Indiana vineyards during 2000, but was not a major problem this year. Either nature cooperated or growers were more diligent in spraying this season. Japanese beetles continue to be a problem in vineyards in many parts of the state and emer-

gence seems to continue throughout the season. Live adults were seen in mid September in the Lafayette area.

Fruit quality has been good to excellent this season. Hot temperatures in August and early September led to low titratable acidity and high pH in the early varieties. Cool temperatures in mid September greatly improved fruit quality of the remaining varieties.

Blueberries

Blueberry yields were about average with good fruit quality and decent fruit size on early varieties. Some damage occurred from both the April and May frosts in the major production areas. Dry conditions reduced fruit size in later varieties like Jersey. Harvest started about 7-10 days early. Japanese beetles were as bad as ever and continue to plague growers. Losses are fairly high to this pest and control is very difficult due to PHIs and REIs of materials registered for use.

Brambles

Blackberries and raspberries both suffered from the April and May freezes, especially in northern areas. Good yields were obtained only where freeze damage was not severe. Irrigation was critical in areas where rain was lacking. High temperatures during July also cause poor fruit quality of raspberries. Japanese beetles continue to be the worst insect problem, though tarnished plant bug has been noted on fall-bearing types. Anthracnose was present, but not too bad this season due to the dry conditions early.

Strawberries

The strawberry crop was good across the state this year. The April and May frosts caused damage in some areas and a few growers suffered from heat related problems during harvest. Harvest was 1-2 weeks early. Fruit size and quality were excellent in most areas. Eastern Flower thrips showed up again, but did not cause a major problem this season. Black root rot complex continues to be a major limiting factor to longevity in matted row plantings.

Tax Deductible Gifts to the Return Bloom

Fund: The Indiana Horticultural Society has established the Return Bloom Fund to help support tree fruit research and extension programs at Purdue. Just as return bloom in your orchard is all about doing something this year that will be of benefit to you next year, so it is with this fund. Contributions support apple research and extension at Purdue University and allow projects to be undertaken that would not otherwise be possible (see the Return Bloom Fund report following). These projects cover the areas of horticulture (Peter Hirst), Entomology (Rick Foster) and plant pathology (Paul Pecknold).

The Return Bloom Fund is an initiative of the industry to help support programs that directly benefit the fruit industry in the state of Indiana. The suggested amount is one (1) cent per bushel. This is a very nominal amount and should present little problem for Indiana growers. For each 1,000 bushels a grower produces that translates to \$10. For each 10,000 bushels that becomes \$100. Growers in other states are contributing much larger amounts to their industry research and promotion programs.

Indiana citizens can receive a 50% tax credit for direct contribution to an in-state university up to a maximum gift of \$400 if filing a joint return or \$200 if filing an individual return. The tax credit directly reduces the bottom line of your state income tax, either reducing the amount you owe in taxes or increasing the refund you will receive. If you work for a company that participates in the Matching Gift Program, you may double (or more) the value of your gift. Look for form CC 40 or check with your accountant.

Contributions can be made payable to Purdue University and sent to: Return Bloom Fund, Dept. of Horticulture and Landscape Architecture, Purdue University, 1165 Horticulture, W. Lafayette, IN 47907-1165. On your check memo line, please indicate for fund 704-1165-0012. For more information on gift giving contact the Purdue Research Founda-

tion, Purdue University, West Lafayette, IN 47907 for information on the Annual Giving and Matching Gift Program. PRF will send a brochure that explains all the options and provides forms needed for contribution and tax credit.

Return Bloom Fund Report: This has been a busy year and we appreciate the support we received from the growers. Contributions to the Return Bloom Fund were substantially higher this year than in past years. So far this year we have received almost \$7900 compared with \$6298 last year. These funds have been used for:

- Organic planting – last year we told you about a planting we had begun to establish both at the Meigs farm here in Lafayette with a similar planting at the farm in Vincennes. This year we completed the planting with 500 Pristine trees. Work will focus on non-chemical pest, disease and weed control, and also thinning with organically approved materials.

- Summer help – we employed a summer worker who was part of the labor pool at the Meigs farm for plot maintenance.

We also contributed funds from the Return Bloom Fund toward several pieces of equipment. Although our contribution in each case was small (less than 25% of the total cost), it helped to leverage funds from other sources. The equipment purchased was an orchard sprayer for the Meigs farm, a mower for the SWPAC farm in Vincennes and a Gator for use with research plots here in Lafayette. Some of these activities and equipment purchases simply would not happen without your support through the Return Bloom Fund. It also sends a clear message to our administrators that the industry values what we do. Once again, thanks for your continued support.

Indiana Horticultural Congress: Planning is moving along nicely for next year's Hort

Congress that will be held January 28-30, 2002 at the Adams Mark Hotel in Indianapolis. We are developing the program for the various groups and welcome your input. Sessions on tree fruit, fresh market and raw product vegetables, grapes and wine, organic production, and new crops are being planned. If you have ideas or topics you would like to be covered, please let us know soon. Remember, the congress is for the participants, not the organizers, so let us know what you want. For registration information, visit the Purdue Horticulture website at www.hort.purdue.edu.

Beginning Commercial Apple Production:

Once again this year, we will be holding a workshop on Beginning Commercial Apple Production in conjunction with Hort Congress. The workshop will be held on Monday, January 28 at the Adams Mark Hotel. This one-day intensive session is primarily intended for those contemplating entering the apple industry, or those that have just bought an orchard, although anyone interested is welcome to register. Although there will be some overlap of topics with last year, we will also cover a range of new subjects also. There is a nominal fee charged to cover handout materials. See the Hort Congress registration form to sign up.

More Beginners Sessions: There's more than just corn or apples in Indiana! The Purdue Wine Grape Team will again offer beginner sessions on commercial grape growing and amateur wine making at the Indiana Horticultural Congress. The sessions will be held during the morning of Monday, January 28 at the Adam's Mark Hotel in Indianapolis. You must register for Hort Congress, but no additional fee is required for these sessions.

Cider Contest: The now annual Indiana Cider Contest will be held once again this year in conjunction with Hort Congress. This has been a popular event for state cider makers over the last 3 years. Either frozen or fresh cider is fine, and 2 gallons per entry is re-

quired. The winner and place-getters will receive a mounted plaque and the bragging rights that go along with it.

More Federal Help: American apple growers are likely to receive \$75 million in market loss assistance this year. This is on top of the \$138 million of federal assistance last year. The House of Representatives approved \$150 million but the senate version of the bill did not include any assistance for apple growers. A joint House-Senate agricultural appropriations conference committee compromised and recommended \$75 million. This still has to be approved by the full senate and house before it can go to the Presidents desk to be signed into law. We don't have any information at the moment that indicates if this assistance is approved, how or when payments will be made.

EPA Restricts Use of Guthion and Imidan:

The EPA has recently announced their plans to further restrict the use of two commonly used fruit insecticides, azinphosmethyl (sold as Guthion and Azinphosmethyl) and phosmet (sold as Imidan). These restrictions represent a continuation of the implementation of the Food Quality Protection Act. Previous decisions have eliminated most or all uses of chlorpyrifos (Lorsban) and methyl parathion (PennCap M).

The registrations of 28 crops are being cancelled for azinphosmethyl, with 7 crops being phased out over 4 years, and 8 crops allowed to be treated on a time-limited basis for another 4 years. Some of the crops cancelled are quince, nectarines, plums, prunes, grapes, and strawberries. Tart cherries and peaches are included in the groups that will be phased out over 4 years. Time-limited registration for 4 years will be allowed for apples, crab apples, blueberries, sweet cherries, pears, and caneberries. Apple growers will be limited to 3.5 lb ai/A per season, and a minimum of 7 days between applications. The reentry interval (REI) will be 14 days for all activities. The

preharvest interval (PHI) will be 14 days for rates ≤ 1.0 lb ai/A and 21 days for higher rates. In addition, there will either be a prohibition against using Guthion in ‘pick your own’ operations, or restricting use to early season or a 30 day PHI for PYO operations. There will also be other restrictions to protect applicators and prevent drift and non-target effects.

Registrations for Imidan will be cancelled for domestic pets, household ornamentals and household fruit trees. Imidan was frequently recommended for homeowners to use on fruit trees, so this cancellation will have a major impact on home fruit growers. Crops that can be treated during a 5-year time-limited registration include apples, apricots, blueberries, crab apples, grapes, nectarines, peaches, pears, plums, and prunes. Registration will be unchanged for 28 crops, including cherries. As best I can determine at the current time, the new label for Imidan will take effect on June 1, 2002. There will apparently be no limit on how long product with the old label can continue to be used in accordance with that old label.

So, what does this all mean? For some time, I have been warning apple growers that they should prepare for the time when they would no longer have organophosphate insecticides available to use on apples. I believe that these decisions are additional steps toward that time when the OPs won't be available. For the time being, it appears that growers will be able to make about 3 applications of Guthion each year and should be able to use Imidan to finish off the season. PYO operations may not have Guthion as an option. The 14-day REI will cause apple growers considerable problems. You will have to be very careful how you schedule applications of Guthion to allow you to enter your orchard and take care of activities.

As for me, I will continue to test alternatives to the OP insecticides. There are a lot of them available right now. However, they are going to be more difficult to use than Guthion and Imidan as far as timing and targeting specific insects. We all need to learn more

about them. I would encourage growers to do some experimenting of their own. Insecticides don't always act the same way when an entire block is sprayed as when small plots of 1-3 trees are used. Growers who would like to look at some of these new materials are welcome to contact me for advice and assistance. I encourage all of you to attend the Hort Congress in January and the winter and spring fruit meetings. We can discuss where we are headed more thoroughly at those meetings. (Foster)

Upcoming Meetings:

November 27, 2001 - Illinois-Iowa Fruit and Vegetable Conference. Holiday Inn in Bettendorf, Iowa (Quad Cities). For more information, contact the Rock Island County (IL) Extension office at 309-796-0512, or the Scott County (IA) Extension office at 563-359-7577.

January 10, 2002 - MSU Bramble School. Holiday Inn Kalamazoo West, Kalamazoo, Michigan. Contact Al Gaus, 616-944-4126 (gausa@msue.msu.edu); Bob Tritten (tritten@msue.msu.edu), 810-732-2177; or Gary Thornton (thornton@msue.msu.edu), 231-946-1510

January 16-17 (18 for herbs), 2002, Illinois Specialty Crops Conference, Champaign, Illinois. Clarion Hotel and Conference Center, Champaign. Contact Bill Shoemaker, 630-584-7254, wshoemak@inil.com

January 28-30, 2002 – Indiana Horticultural Congress. Adam's Mark Hotel, Indianapolis. Watch for more details in the future. Visit www.hort.purdue.edu

February 7, 2002 Illinois-Wisconsin Fruit and Vegetable Conference, Stratford Inn, Harvard, IL. Contact Don Schellhaass, 815-338-4747, schellhaassd@mail.aces.uiuc.edu or Maurice Ogutu, 708-352-0109, ogutum@mail.aces.uiuc.edu

Feb. 15-17, 2002 Illinois Grape Growers and Vinters Association meeting. Peoria. Watch for more details.

March 5-6, 2002 Illinois Small Fruit and Strawberry Schools, Holiday Inn, Mt. Vernon. Contact Mosbah Kushad, 217-244-5691, kushad@uiuc.edu or Bronwyn Aly, 618-695-2444, bargerb@mail.aces.uiuc.edu

**FACTS FOR FANCY FRUIT
SUBSCRIPTION NOTICE FOR 2002**

Facts for Fancy Fruit is a newsletter for commercial and/or advanced amateur fruit growers. It provides timely information on pest control and production practices that should be of interest to all growers. The information is not intended for home fruit growers unless those growers wish to follow commercial practices. All growers or interested persons are welcome to subscribe, however.

At least 14 issues will be published during 2002, bi-weekly during the growing season and monthly otherwise. The subscription price of \$15.00 includes only the basic costs of printing and mailing at first class rates. The newsletter is also available free of charge electronically through the world wide web at <http://www.hort.purdue.edu/fff/fff.html> or by email. If you have e-mail and would like a copy sent electronically, send your e-mail address to bordelon@hort.purdue.edu and we will include you on the list, or subscribe through the web at <http://www.hort.purdue.edu/fff/fff.html>.

If you wish to receive the printed version of the newsletter in 2002, please fill out the form below and send it to the Department of Horticulture, along with a check for \$15.00 (tax included) **made out to Purdue University**.

We hope that you will benefit from the information contained in the newsletter. We welcome your comments and suggestions.

Bruce Bordelon

Please send me "Facts for Fancy Fruit" for the 2002 season. Enclosed is my check for \$15.00 (tax included). Make checks payable to PURDUE UNIVERSITY.

Name _____
Address _____
City _____
State _____ Zip _____
Phone# _____ County _____

Please Check:
Grower _____
Sales _____
Other _____

I would like to see information on the following fruit crops:

Apple _____
Peaches _____
Pears _____
Blueberries _____
Strawberries _____
Grapes _____
Raspberries _____
Cider _____
Other _____

Please Return to: Facts for Fancy Fruit
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