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Last Issue of 2000: This is the last issue of Facts for Fancy Fruit for 2000. All paid subscribers will receive the first issue of 2001 in March. At that time you will have an opportunity to renew your subscription. You may also renew through the Indiana Horticultural Congress registration in January (which we prefer). If you receive the e-mail version only there is no need to renew. We hope you have enjoyed this year's issues and found them useful. If you have any suggestions on how we can make the newsletter more useful please contact us.

Indiana 2000 Season Fruit Review:
Weather:

The winter of 1999-2000 was another La Nina winter as predicted with swings in temperature and precipitation. Fall through early December was very warm and dry, but zero to sub-zero temperatures occurred by the end of the year, and temperatures well below zero occurred in late January. The minimum low temperatures for the winter occurred January 21-28. The coldest spot in the state was Richmond that reported -17°F on January 28. We recorded -12°F at West Lafayette on the 21st. Most of the southern 1/3 of the state was warmer with lowest temperatures reported as -2°F at Terre Haute, -1°F at Bedford, 0°F at Seymour, 3°F at Oolitic, 2°F at Vincennes, and 9°F at Mt. Vernon. Those temperatures were not in the range that we normally expect to cause significant damage to fruit crops. However, unseasonably warm temperatures in early March caused concern to many. Fruit crops had received their chilling requirement and responded to warm temperatures and began development. A cold snap hit the state on March 12-13, with widely varying temperatures around the state. Examples of some of the minimums were: LaPorte 28, Kendallville 23, Plymouth

20, Lafayette 9, Indianapolis 17, Greenfield 19, Bloomington 17, Trafalgar 16, Seymour 22 and Scottsburg 23. Damage varied widely by crop and region. Rainfall was near normal throughout the season for most parts of the state, but again varied widely.

Tree Fruits:

Peaches

Indiana produced some beautiful peach crops this year. A freeze early in the season caused some initial worry but those fears were mostly unfounded, especially in the southern areas of the state. Fruit size and yields were both good where growers did a good job with their thinning.

Apples

"Patchy" is the best word to describe Indiana's apple crop this year. Many blocks of Red Delicious and Mutsu were badly affected by the early season freeze, so supplies of these varieties were in short supply at harvest time. Other varieties looked to be in poor shape too, but as development progressed it became clear that for most growers chemical thinning would still be necessary. In fact, the freeze may have helped out in some cases by getting some of our thinning taken care of early. The season started for us about 10-14 days early. Usually when the season begins early, such differences are less pronounced at harvest time, but this year we stayed about 10 days early throughout the season. Fruit size was generally pretty average, but not outstanding. During the fall, the weather stayed warm which presented problems with attaining sufficient color on many varieties. A cool few nights from October 7-10 helped us out with color on most remaining varieties, but came too late for most varieties.

-Hirst

Tree Fruit Diseases:

Persistent wet periods throughout the growing season resulted in moderate disease pressure and an 'average' disease year...with exceptions. One exception was fire blight...again! As noted last year, there were a number of isolated reports of moderate to severe fire blight throughout the state. However, overall we feel fortunate in that we escaped the devastating losses from fire blight reported from southwest Michigan. Sooty blotch and flyspeck of apple intensified as the season progressed due to persistent wet conditions throughout summer. At harvest, both diseases were severe in orchards that had not maintained an adequate spray program. Frequent scab infection periods during April and May resulted in another bad year for apple scab, fruit infection was very high in those orchards lacking a good, early spray program for scab. Moderate winter temperatures resulted in an above normal carry over of apple powdery mildew and a consequent increase in mildew, especially on Jonathon and other mildew prone varieties. Leaf curl was again the most prominent disease on peach and nectarine. Brown rot and peach scab were noticeable in many orchards in southern Indiana, especially where mid and late season fungicide sprays had not been maintained. -*Pecknold*

Insects and Mites:

2000 was fairly typical year for insects and mites. The European red mite continued to defy the conventional wisdom and was present in high numbers in some orchards early in the summer, even though there was a considerable amount of rainfall in many parts of the state. We usually expect mites to be more of a problem in hot, dry years. We put out several studies in growers' orchards to test the efficacy of Apollo as a rescue treatment. In general Apollo worked well as a rescue treatment is used early in the season, but by late June, it no longer provided acceptable control. I will report on the results in more detail at the winter meetings.

A couple of other insects that were present in higher than normal numbers in several locations were spotted tentiform leafminers and rosy apple aphids. Growers that I talked to got excellent control of both of these pests with Provado.

Japanese beetles continue to be a major problem in many areas, feeding on a wide variety of fruit crops. This year was no exception, with very high populations being reported in some locations. In other spots, Japanese beetle numbers were down, possibly as a result of various natural enemies that may be suppressing their numbers.

Once again, the biggest insect news of the season came from Washington D.C., rather than from the orchards. Effective December 31, 2000, Lorsban will be allowed for use on apples pre-bloom only. Lorsban was

identified in our 1994 pesticide use survey as the third most commonly used insecticide on apples in Indiana. This restriction will eliminate most of the uses for which Indiana apple growers applied Lorsban. The tolerance for chlorpyrifos (the active ingredient in Lorsban) will be reduced from 1.5 ppm to 0.001 ppm. Lorsban also will become a Restricted Use Pesticide. Lorsban, or its companion product Dursban, will no longer be available for use by homeowners. Like the decisions on PennCap M last year, this decision alone is not devastating to apple growers. However, given the additional restrictions placed on Guthion, the loss of PennCap M, and the pending decision on Imidan, the loss of Lorsban for most uses severely limits the options available to apple growers. As I have said frequently, I believe that apple growers should look to the future under the assumption that at some point they will no longer be using organophosphate insecticides (Guthion, Imidan, Lorsban, PennCap M, malathion, diazinon, etc.). No one knows when that time will come, but it is prudent to begin preparing now. One of the major thrusts of my research is to look for non-OP methods for controlling apple pests. I will also be reporting those results at the winter meetings. - *Foster*

Small Fruit and Grapes:

The winter temperatures caused little damage to grapes and small fruit this year. The mid-March freeze is likely responsible for the significant amount of delayed winter injury that was observed on brambles, especially in central and northern areas. The growing season started early and stayed about 1-2 weeks ahead of normal all the way through harvest for most small fruit crops. Grapes were the exception where harvest was about normal.

Grapes

Fruit quality was excellent where fruit rots were not a problem. Untimely rains in August and September caused major fruit rot problems on grapes in southwestern areas. Otherwise, diseases were not a significant problem this year. Grape Berry moth was at the highest level ever observed in Indiana vineyards. Growers should plan to closely monitor this pest next season. Pheromone traps are available for monitoring populations and timing sprays. Refer to the Midwest Small Fruit Pest Management Handbook for details. Japanese beetles continue to be a problem in vineyards in many parts of the state. Complete control is nearly impossible, so some damage is expected but should be kept to acceptable levels.

Blueberries

Blueberry yields were about average with good fruit quality and size. Some damage occurred from late spring frosts in the major production areas. Harvest

started about 7-10 days early. Japanese beetle numbers seemed to be down compared to previous years in most areas.

Brambles

Raspberries and blackberries saw mixed results. Some growers reported extensive cold injury from the March freeze while others saw little problems. Blackberries in southern areas performed best among the bramble crops.

Strawberries

The strawberry crop was excellent across the southern part of the state this year, and only fair across central and northern areas. Several late frosts caused damage in central and northern areas, and high temperatures in early June further reduced fruit yield. Harvest was 1-2 weeks early. Fruit size and quality were excellent in southern 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.

-Bordelon

Private Applicator Recertification Program Changes:

For years many have argued that the private applicator recertification system provided only basic training and was outdated. Beginning in January of 2001 all that will change. Under the new system, farmers will have the option to attend continuing education sessions over the five year life of their permit, or to recertify "the old way", by re-exam. Beginning in January, continuing certification programs will be offered. Farmers must attend at least three of these sessions within the five year certification period. No more than two can be attended for credit in any given year. Topics for the sessions may include traditional pesticide issues or emerging topics such as use of genetically modified crops. To learn more about this new program, attend the Joint Session at the Indiana Horticultural Congress in January. Cheri Janssen, Private Applicator Program Specialist with the Purdue Pesticide Programs office will give a presentation and answer questions. We plan to offer a recertification program on Tuesday evening, Jan. 30 at Hort Congress.

Cider Contest: The 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 2 years. Either frozen or fresh cider is fine, and 2 gallons per entry is required. The winner and place-getters will receive a mounted plaque and the bragging rights that go along with it. Last year's winner has his plaque on display in his market where he believes it has resulted in increased cider sales.

Cider Survey I'm planning another brief survey to update the status of the cider industry in Indiana. This information allows me to be well informed in discussions with the Indiana State Department of Health, the FDA and US Apple Association. Cider makers should be receiving this in the mail in a few weeks time. Please take a moment to complete and return the survey promptly. If you are a cider maker and don't receive a survey by the end of the month, please contact Peter Hirst (765-494-1323). I appreciate your cooperation with this.

President Clinton Signs Agricultural Appropriations

Bill: After months of tough negotiations, President Clinton signed the agricultural appropriations bill into law on Oct. 28. The \$78 billion bill included \$3.6 billion in direct aid to farmers, with special attention given to losses sustained by apple growers.

The appropriations provide the nation's apple growers with \$138 million in economic assistance. This total includes \$100 million in assistance for market losses, and \$38 million for crop losses suffered by apple growers over the past two years.

"Apple growers across America have been hard hit by three terribly tough years in a row," said U.S. Apple Association (USApple) President Kraig R. Naasz, whose group was instrumental in efforts to secure apple assistance. "We are very grateful that Congress acted on our pleas to address the devastating losses suffered by apple growers."

The bill directs the Secretary of Agriculture to make payments totaling \$100 million to apple producers to provide relief for the loss of markets caused domestically by a recent flood of unfairly-priced apple juice concentrate from China, and in the export arena by trade barriers and the recent financial crisis throughout Asia. Growers will be eligible to receive market loss assistance payments on their first 1.6 million pounds of apple production, which roughly equates to 40,000 bushels.

The bill further directs the Secretary of Agriculture to spend \$38 million to compensate apple growers for quality losses to their 1999 and 2000 crops due to fire blight or weather-related disaster, including but not limited to a hurricane or hail.

"USApple is working with the U.S. Department of Agriculture's Farm Service Agency to encourage the distribution of these funds to growers as quickly after the bill is signed into law as possible." Naasz added.

According to U.S. Department of Agriculture statistics, apple growers suffered \$760 million in losses over the past three years due to unfairly-priced Chinese concentrate imports, lost sales to key export markets and weather-related crop disasters.

Other key provisions of the bill included \$75 million to compensate growers for losses associated with disease including plum pox virus and watermelon

sudden wilt; and \$1.6 million for potato research and multi-state variety development.(from <http://www.fruitgrowersnews.com>)

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 which will be of benefit to you next year, so it is with this fund. Contributions support apple research and extension at Purdue University, and allows 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 Foundation, 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: The past year has been a busy one with a number of research studies being conducted. One of the problems with much of the research we do is that it is long term in nature, and although we want to communicate the results with the industry, we don't want to be premature with this. Let me give an example of what I mean. We currently have a planting evaluating a number of new semi-dwarfing rootstocks that was planted in 1994 by Dr. Dick Hayden.

One rootstock was G.30 - in previous tests it had looked promising, but our planting was part of the first nationwide extensive testing of this rootstock. In the 5th year the trees were looking good until we had a windstorm. Seven of the 8 trees snapped off at the graft union due to some level of incompatibility. If I had stood up and heavily promoted this rootstock after 4 years (at which time it was looking very promising), there would be a number of you wanting to run me out of the state by now. So while we want to get our results out to the industry, we need to take the time to be confident in our results and recommendations.

As many of you know, we have been busy developing a new research farm at the Throckmorton Center, just south of Lafayette. We have made a number of new plantings there over the last 2 years. Some of these are:

- 1) Organic ground cover management. Comparing various mulches with conventional herbicide strips
- 2) Red Delicious trees planted for mite research
- 3) Evaluating new dwarf rootstocks for apple
- 4) Evaluating new semi-dwarf rootstocks for apple
- 5) A general planting for plant pathology research
- 6) Organic apple production - 500 trees planted with another 500 to go in this coming spring (planted at Lafayette and Vincennes)
- 7) A block of trees for entomology research
- 8) Evaluation of 20 new apple varieties under Indiana conditions

As you can imagine, these plantings take time and money, both of which are in short supply. Your support through the return bloom fund certainly helps us in performing research that otherwise would not be possible. We appreciate your support over the past year.
-Hirst

Paul Wilson Steiner (1942-2000): Dr. Paul Wilson Steiner, 58, of University Park, MD, died early on October 28, 2000 at his home after a long illness. He worked on his plant pathology course lecture notes until about a week before his death.

He was born October 13, 1942, in Gettysburg, the son of the late Harold Metzler and Virginia Wilson Steiner. His wife of 35 years, Leila (Tharp) Steiner, also of Gettysburg, survives him, along with two sons, Adam John Steiner, of SilverSpring, MD, and Matthew James Steiner of Baltimore.

Dr. Steiner was Professor of Natural Resources and Landscape Architecture (Plant Pathology) at the University of Maryland. He joined the Department of Entomology staff at Cornell University where he earned his Master's Degree in Entomology in 1971 and his PhD in Plant Pathology in 1975. He served in the Department of Plant Pathology at the University of Missouri, Columbia, from 1975-1980. In 1980, he joined the

Department of Botany at Maryland and soon advanced to full professor. Dr. Steiner was more recently known in for his research in fire blight. With computer expert Gary Lightner, he created Maryblyt, a computer program to determine the most likely symptom outbreak of fire blight. This program is used by fruit growers and academics in 31 states and 26 countries. He was an invited visiting professor in several European countries and chaired sessions at national and international congresses to discuss forecasting methods to improve detection of plant diseases. He has been a frequent area visitor at the Penn State University Fruit Research Laboratory in Biglerville, where his father, Harold, was once an associate professor of entomology from 1938 through 1946 when the Lab was located in Arendtsville. On his birthday, Dr. Steiner was honored at home by members of the Maryland Fruit Growers Association who named him Maryland Fruit Grower of the Year 2000 in recognition of his 20 years of service to area fruit growers.

I'm sure that all in the Indiana fruit industry join us at Purdue in extending our sympathies to Paul's family and friends.

Small Farm Conference: The 2000 Midwest Small Farm Conference and Trade Show will be held on November 17 - 18 at the 4-H Exhibition Center in Noblesville, Indiana (northeast Indianapolis). The theme is Small Is Beautiful. The conference purpose is to present reliable information that can help family farm become sustainable; that is: profitable, contributing to the health of ecosystems and being a key part of their community.

The speakers include some nationally known authors and some university researchers, but most are farmers involved in organic or reduced chemical production. Jerry Brunetti will be present the Keynotes of Livestock Health, and Holistic Livestock Nutrition. Rex Spray has farmed 550 acres organically since 1972 and will offer his insights to maintaining long-term organic production. Art Biggert supplies organic vegetables, small fruits and chicken to 55 family subscribers to his CSA on Bainbridge Island, Washington- all from 1 1/2 acres. He will present Small Farm Business Plans (economies of integration). A second seminar will cover Compost Tea: How to Make It, How To Use It. Richard DeWilde has built a sustainable farming system with 55 acres of organic production in Wisconsin. He will tell all about Controlling Weeds and Other Pests With Soil Fertility. When Sandie Shores wrote the book, Growing and Selling Fresh-Cut Herbs, she had built a successful business based on the title. She will explain how it can be done.

Other of the twenty four seminar presentations will cover topics such as building soils for better crops, beneficial insects, buying rural property, sustainable

community energy systems, the importance of farm biodiversity, sources of information for sustainable agriculture and on-farm distillation of essential oils. Many of the seminars will focus on production, adding value and marketing for farm enterprise topics such as meatgoats, fancy mushrooms, cheesemaking, sheep, a portable poultry processing facility, selling to restaurants, and more.

Keynotes for the conference are The Importance of Local Economies by Michael Shuman, author of Going Local; and John Ikerd, retired agricultural economist (Univ. Missouri) presenting Economics as If People Mattered.

For a conference brochure, contact Sustainable Earth at 100 Georgeton Ct., W. Lafayette, IN 47906, (765) 463-9366, or email sbonney@iquest.net

Indiana Horticultural Congress: Planning is currently underway for next year's Hort Congress which will be held on January 29-31, 2001 at the Adams Mark Hotel in Indianapolis. This year we will have several programs on Monday including the Beginning Commercial Apple Grower's Workshop, Beginners Grape Growing and Winemaking workshops, Commercial Grape, Wine, and Wine Marketing workshops and a workshop on Risk Management. Tuesday will be the main day for the Winegrape, Fruit, Vegetable, and Organic sessions and the Raw Products Conference. We will have a joint session on Tuesday morning to discuss Crop Insurance, Food Safety, and Pesticide Certification changes. Wednesday will continue the fruit, vegetable, and organic sessions and the New Crops Symposium. The trade show should be bigger than ever as we've had a lot of interest from exhibitors.

We will again have a silent auction this year to benefit the Tree Fruit and Vegetable Extension and Research funds. If you have something you would like to donate to the silent auction, please contact Dick Hayden (765-463-6587), Liz Maynard (219-785-5673), or Tom Roney (317-326-2278).

We have a lot of topics developed, but could always use more input. If you have a burning issue you would like us to address, please let us know soon. Remember, the congress is for the participants, not the organizers, so let us know what you want. Check the Indiana Horticultural Congress website for updates and complete programming as it is developed. Click on <http://www.hort.purdue.edu> and follow the link for Indiana Horticultural Congress or go directly to <http://www.hort.purdue.edu/hort/ext/hortcongress/>

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, 29 January at the Adams Mark Hotel in Indianapolis. 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. -Hirst

New Zealand Fruit Tour Fully Subscribed: There has been a good response to the tour and I am pleased to say all spots are filled. We have 31 people signed up. If you would like to go but haven't sent your name in, you are welcome to be wait listed in case someone cancels. Those who have registered should have received an information packet in the mail. If you have any questions, call Peter Hirst (765-494-1323).

Subscribing electronically: To subscribe (or unsubscribe) to Facts for Fancy Fruit, send a message to fff@lists.hort.purdue.edu with the subject or body "subscribe" (or "unsubscribe"). You can also use the form at the web site <http://www.hort.purdue.edu/fff/maillinglist.html> to submit your subscription. Electronic access is free of charge.

Coming Meetings:

November 17-18, 2000 - 2000 Midwest Small Farm Conference and Trade Show. 4-H Exhibition Center in Noblesville, Indiana (northeast Indianapolis). For a conference brochure, contact Sustainable Earth at 100 Georton Ct., W. Lafayette, IN 47906, (765) 463-9366, or email sbonney@iquest.net

January 8-9, 2001 - Kentucky State Horticultural Meeting. For more info contact John Strang, University of Kentucky, 606-257-5685

January 16-18, 2001 - Heartland Grape and Wine Coalition Short Course: Vineyard and Winery Establishment. Battlecreek, Michigan. Contact Tom Zabadal, MSU Southwest Michigan Research & Extension Center, Benton, Harbor MI 49022, 616-944-1477 ext 206, fax: 616-944-3106, email: zabadal@msue.msu.edu See the website <http://www.msue.msu.edu/swmrec/>

January 29-31, 2001 - Indiana Horticultural Congress. Adam's Mark Hotel, Indianapolis. Check the website often for updates: <http://www.hort.purdue.edu> and follow the link for Indiana Horticultural Congress.

February 18-20, 2001 - Ohio Grape-Wine Short Course. Columbus, OH For more information call 440-466-4417 or 800-227-6972 or visit www.ohiowines.org



***Have a Safe
and Happy
Winter!***

**FACTS FOR FANCY FRUIT
SUBSCRIPTION NOTICE FOR 2000**

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 2001, 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 e-mail. 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 2001, 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 2001 season. Enclosed is my check for \$15.00 (tax included). Make checks payable to PURDUE UNIVERSITY.

Name		Please Check:
Address		___ Grower
City		___ Sales
State	Zip	___ Other
Phone#	County	I would like to see information on the following fruit crops:
		___ Apple
		___ Peaches
		___ Pears
		___ Blueberries
		___ Strawberries
		___ Grapes
		___ Raspberries
		___ Cider
		___ Other

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