



INDEX

State Budget
New Web Resource for Fruit Diseases
Getting the Most Out of Gyphosate and Other Sprays
Apple Diseases
Fire Blight Warning
Planting to Avoid Fire Blight
Apple Scab
Brown Rot of Stone Fruits
Cornell Proposal Modified
HACCP Workshop
Bulletin on Concentrate vs Dilute Spraying
Health Fact
Twilight Meeting Cancelled
Upcoming Meetings

FFF02-03
April 12, 2002

Cool conditions continued across the state over the past two weeks. This has delayed the development of fruit crops. Warm temperatures have finally arrived recently and the forecast is for continued mild temperatures. This should get the growing season into full swing quickly. In the southern part of the state peaches are in bloom, grapes are just starting to swell, and apples are at silver tip. Despite the warming temperatures, several frosts have occurred over the past two weeks so it is likely that we have additional damage to brambles, strawberries and peaches.

State Budget: As most of you are aware, the state budget situation is not a happy one. As the budget currently stands, many state programs will be affected, including higher education and agriculture programs at Purdue. Purdue University President Martin Jischke said "The entire public education system has taken a very serious hit." State mandated cuts of 7% will be across the board, but two line items in Purdue's budget are particularly at risk, the Cooperative Extension Service and Animal Disease Diagnostic Laboratory (ADDL). Dr Victor Lechtenberg, dean of Purdue's School of Agriculture said "We could lose as many as 20 to 25 Extension educators across the state. The ADDL also expects to reduce staff significantly." Dr. Lechtenberg also said "At a time when Indiana faces greater concerns over biosecurity and a need for increased economic development and youth services, we need our state leaders to know these cuts will hurt the citizens of Indiana. We'll try to meet the Extension reduction through staff attrition and the elimination of some programs, but we can't rule out the possibility of layoffs or office closings. Such drastic cuts will mean we can't meet our responsibilities."

The 7 percent reduction in state-funded line items ordered by the Governor directly affects county offices and field staff in Extension and the ADDL on campus. The ADDL is the primary laboratory safeguard for animal health in Indiana.

County Extension offices and staff are funded through a combination of state and county funds, a cooperative effort that ensures university expertise addresses local priorities. Purdue Extension director Dr. David Petritz said county funding pays for about 60% of the field staff budget. "County governments made Extension support a priority over the last five years and the reduction in state funding could undo a lot of their work," Petritz said.

The Governor has called lawmakers back for a special session to address the state budget, starting May 14. If you have views on what action you think should be taken during this special session, now is the time to contact your elected officials and make those views known. From those of us at Purdue, we appreciate your support.

New Web Resource for Fruit Diseases: The latest edition of the fruit newsletter, 'Scaffolds', announced a new online source of information for diseases affecting tree fruit and berry crops in New York (diseases act pretty much the same, be it New York or Indiana). The address of the page is: www.nysaes.cornell.edu/pp/extension/tfabp/. Once at the website, you'll find a number of excellent links to disease fact sheets, extension presentations, and other newsletters. We highly recommend you check it out; it's an excellent site for disease information. (Pecknold)

Getting the Most Out of Glyphosate and Other Sprays:

Fruit growers often apply a post-emergent herbicide beneath the tree or vine row in spring to control winter annuals and other weeds. Often a pre-emergent herbicide is included in this application. Glyphosate (Roundup) is a post emergent systemic herbicide that is widely used for this first weed spray. In order for glyphosate to be effective, it needs to be absorbed into the plant. In soft water glyphosate has no problems in being absorbed. However in hard water glyphosate will be 'tied up' and not absorbed as readily. Hard water, common in many parts of Indiana, contains high concentrations of soluble salts, calcium and magnesium. When these cations are present they react with the negatively charged glyphosate to form compounds that are not readily absorbed by plants. This results in poor uptake and poor weed control.

The solution to the hard water problem is to add ammonium sulfate to the spray water **before** mixing with glyphosate. Ammonium sulfate ions tie up the calcium and magnesium ions forming conjugate salts. Additionally, some of the glyphosate reacts with ammonium to form a compound that some weeds preferentially absorb. Follow the Roundup label recommendations on the amount of ammonium sulfate to add.

Another problem associated with spray water quality is that many fungicides and insecticides break down quickly in high pH water. Captan, Cygon, Imidan, Kelthane, malathion, and Omite are examples of compounds that are especially vulnerable to alkaline hydrolysis. Both the Commercial Tree Fruit and Small Fruit and Grape Spray Guides have a discussion of spray tank pH. Briefly, addition of about 2 ounces of food grade citric acid per 100 gallons of water will lower the pH from about 8.0 to about 5.5. (Bordelon)

Apple Diseases: Tight cluster to pink is a time for maximum disease control efforts. During this period primary scab spores often reach their peak; powdery mildew infection is occurring on new growth; cedar apple rust is discharging spores with each rain; and fire blight is building, ready to be carried to opening apple and pear blossoms. It's not a pretty picture!

1. ***Apple scab:*** The potential for severe scab infection is ALWAYS high. The amount of scab is directly dependent on the frequency AND DURATION of spring rainfall. If we have a wet April, scab pressure will be high, if it turns dry, scab pressure will be low, spray accordingly.

2. ***Rust:*** The pink stage of apple growth generally coincides with the time rust spores begin to infect apple foliage and fruit. If rust is a chronic problem consider the use of a sterol-inhibiting fungicide such as Nova or Rubigan.

3. ***Powdery mildew:*** If mildew has been a chronic

problem in certain blocks (Jonathan, Rome, Ida Red) the above mentioned sterol-inhibiting fungicides are also excellent in helping to control mildew.

4. ***Fire Blight:*** BE CONCERNED... see warning on fire blight. (Pecknold)

Fire Blight Warning: The late spring and increased occurrence of fire blight last year has increased the potential for this to be a bad fire blight year. Odds are now even higher that **prebloom & bloom will coincide with warm temperatures**, and as you know, warm temperatures (daily average temperatures above 65°F) accompanied by rain can result in severe blossom blight. The best prevention for fire blight is the application of streptomycin during bloom. Apply streptomycin just as blossoms begin opening and repeat every 3-4 days if weather favorable for blossom blight infection persists. The "MARYBLYT" computer software program will help you in determining when and if an infection event occurred as well as predict the risk for future infection periods. (Pecknold)

Planting to Avoid Fire Blight: When establishing new orchard blocks, consider varietal susceptibility to fire blight. Blight control is easier if plantings of susceptible trees can be isolated. Avoid interplanting susceptible apple varieties (Gala, Fuji, Ida red, Jonathan, Lodi, Rome, etc.) with pears or in fields adjacent to pear plantings. In mixed variety plantings, set varieties susceptible to blight in solid rows for ease of spraying with blight control chemicals. Also, most of the more severe fire blight problems have occurred in orchards planted on poor sites. These sites can be characterized as having heavy, poorly drained, and/or highly acid soils. Planting trees on poor soil invites fire blight damage and poor fruit production. (Pecknold)

Apple Scab: The most important time of year for scab control is from green tip to petal fall. If you don't control scab during this period it's an uphill struggle the remainder of the season. Be sure sprayers are properly calibrated; thoroughly read the label of all pesticides you will be applying; use sufficient water to provide good coverage; choose calm, good drying conditions for spraying (Good luck on this suggestion); prune trees so they have an open canopy allowing for good spray penetration; and maintain a tight schedule if wet weather persists during the primary scab period. (Pecknold)

Brown Rot Of Stone Fruits: Management of brown rot began last year after harvest...with the removal of all fruit, mummies and blighted twigs. It continues this year at pink with early season

fungicide sprays. We fortunately have an abundance of fungicides for use in control of brown rot. See ID-168, "2002 Indiana Commercial Tree Fruit Spray Guide", for a complete listing of suggested fungicides. (Pecknold)

Cornell Proposal Modified: In the last issue we reported on Cornell's proposed licensing plan for its new grape varieties. After input from New York growers, Cornell has decided to modify its original proposal. They now plan to 1) charge a royalty of 75 cents/vine in New York state, more outside the state, 2) offer a choice of the above vs. approximately 35 cents/vine in years 4, 5, and 6 (this offer will probably only be for New York growers), and 3) Cornell will still protect the varieties via property rights.

Comments welcome: This modified plan is subject to further modification. The breeding program along with CRF ask for your ideas and input to help develop a workable plan that will provide benefits both for the industry and the breeding program. It would also provide a means by which out-of-state growers benefiting from NY varieties could support the program. Comments may be addressed to the following contacts: Grape Breeding Program, Bruce Reisch, 204 Hedrick hall, Agr. Exp. Sta Geneva, Geneva, NY 14456-0462, phone: 315-787-2239 email b.reisch@cornell.edu.

Cornell Research Foundation, Richard S. Cahoon, Vice President, Cornell Research Foundation, 20 Thornwood Drive Suite 105, Ithaca, NY 14850 phone: 607-257-1081, email: rsc5@cornell.edu

HACCP Workshop: If you are producing cider, then this is an opportunity you won't want to miss. Like it or not, soon all cider makers in the state will have to develop and implement a HACCP plan for their operation by 2004. Even if you are pasteurizing, HACCP will still be required.

An intensive 3 day course on HACCP for juice products will be held July 17-19. This course will focus on providing participants with a better understanding of how to develop and implement HACCP programs for juice products. Discussion of pre-requisite programs, such as sanitation and Good Manufacturing Practices, will also be highlighted. After completion of the workshop, participants will have the ability to develop food safety programs for their establishments and products. This program would also benefit growers who provide fruit to processors.

This is probably the only time this workshop will be offered in Indiana, so write the dates on your calendar now, July 17-19. The location has not yet been finalized – watch this space for more details. For further information, please contact Dr. Richard Linton, Purdue University,

(765) 494-6481 or Dr. Les Bourquin, Michigan State University, (517) 353-9664.

Bulletin on Concentrate vs Dilute Spraying: I have received a number of inquiries about this new publication from Ohio State. It is available on the internet at: <http://ohioline.osu.edu/b892/index.html> I will also bring copies of it to the various extension meetings around the state over the next month or two. If you would like a copy mailed to you, please send me a check for \$3.00 (made out to Purdue University) and I'll get one in the mail to you. (Hirst)

Health Fact: Small increases in vitamin C intake each day – equal to about one serving of fruits and vegetables – can reduce your risk of premature death by about 20%.
(from Hope Health Newsletter)

Twilight Meeting Cancelled: The LaPorte Fruit Growers Meeting scheduled for Wednesday, April 17 has been cancelled. Growers are encouraged to join in the Lake County fruit meeting on Tuesday, April 16 (see "Upcoming meetings" below for more details).

Upcoming Meetings:

- April 16 -** Lake County twilight meeting. County Line Orchard, 5:30 pm. For directions see <http://www.countylineorchard.com>
- April 24 -** North East Indiana twilight meeting. Bruick Bros. Orchard, New Haven, IN. For more information contact Ricky Kemery, Ph 219-481-6826.
- April 27 -** Grape Planting Day. Madison Vineyards. Contact Steve Palmer 812-273-6500
- May 8 -** Eastern Indiana Horticultural Society. Twilight meeting. Grabow Orchard. More details to come.
- May 14 -** LaPorte fruitgrowers twilight meeting. More details to come.

Department of Horticulture &
Landscape Architecture
Purdue University
1165 Horticulture Bldg.
West Lafayette, IN 47907-1165

Bruce Bordelon
1165 Dept. of Horticulture &
Landscape Architecture
Purdue University
West Lafayette, IN 47907-1165
765/494-1301
e-mail: bordelon@hort.purdue.edu

Paul Pecknold
1155 Dept. of Botany & Plant Path.
Purdue University
West Lafayette, IN 47907-1155
765/494-4628
e-mail: Pecknold@btny.purdue.edu

Peter Hirst
1165 Dept. of Horticulture &
Landscape Architecture
Purdue University
West Lafayette, IN 47907-1165
765/494-1323
e-mail: hirst@hort.purdue.edu

Rick Foster
1158 Dept. of Entomology
Purdue University
West Lafayette, IN 47907-1158
765/494-9572
e-mail: Rick_Foster@entm.purdue.edu

Disclaimer: Reference to products in this publication is not an endorsement to the exclusion of others that may be similar. Any person using products listed in this newsletter assumes full responsibility for their use in accordance with current label directions of the manufacturer.

It is the policy of Purdue University that all persons shall have equal opportunity and access to its programs and facilities without regard to race, color, sex, religion, national origin, age, marital status, parental status, sexual orientation, or disability. Purdue University is an Affirmative Action employer. This material may be available in alternative forms.