Editorial Views

Bits & Pieces

We had a good turnout for the Field Day on July 9. The weather almost cooperated. Windy and cooler than predicted, the last session was interrupted by a brief rain shower. The highlight was the “groundbreaking” ceremony for the new graduate and visiting faculty housing complex. The ceremony was officiated by Dr. Larry Hull and included Deans Dr. Richard Roush and Dr. Gary Thompson, as well as Russell Redding, Secretary of Agriculture and included the obligatory gold shovels. The housing facility will be a great addition to the FREC campus. It will replace the house trailers that were finally ruled uninhabitable. Graduate student housing will be their primary use, however, they might occasionally be used by visiting faculty who might come on sabbaticals. I can remember back when the trailers were first installed and were heralded as a great addition. I even stayed in them a couple of times way back when they first existed. The addition of the housing complex is possible due to generous contributions from growers and industry associates to an on-going funding campaign. If you haven’t made your

Photo from the “groundbreaking” ceremony for the new graduate and visiting faculty housing complex at FREC Field Day. Pictured (L to R): Dr. Richard Roush, Dean of College of Agricultural Science at Penn State University; Phil Baugher, Chairman of the FREC Graduate Housing Project; Katie Epstein, Ag Choice Farm Credit; Dr. Mervyn D’Souza, Knouse Foods Cooperative, Inc.; Dr. Larry Hull, Committee member of the FREC Graduate Housing Project; Dr. Gary Thompson, Associate Dean for Research and Graduate Education in the College of Agricultural Science at Penn State University; Tim Weiser, SHAP President; Dr. James Schupp, Director of Penn State FREC; Will Tallman, PA House of Representatives

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Summer is rapidly progressing and the fruit crops look good across the state. However, I have a lot of flat squatty apples courtesy of the May 23rd frost. This was a very late frost that we did not expect. The malformed apples resulted when the calyx lobes were damaged. On some trees the fruit was damaged only on the lower branches with the top of the tree exhibiting normal fruit. We have also had our share of fire blight this year. We missed one spray of streptomycin because it was too windy to spray and that cost us. The good news is that with all the cultivars I have, it allows me to know which ones are more or less susceptible to fire blight. For those of you interested, I will be putting this information into one issue of Fruit Times in the near future.

Obviously, the biggest story of this growing season has been the rainfall. While May was unusually dry, in June we had nearly 7.5 inches of rain at Rock Springs. Just half way through July we have over 3 inches of rain. This has certainly enhanced our fire blight problems but fortunately we have no apple scab. Japanese beetles have descended upon our orchards with a vengeance. Their favorite first sightings occur on Honeycrisp and Liberty apples and then move to other cultivars.

As a reminder, this is the time of the season to do your foliar analysis of your fruit trees and vineyards. Last winter I talked about the importance of proper nutrition to ensure good fruit quality. One of the most important nutrient elements is calcium. I hope that the new spreadsheets we posted on the PSU Fruit Website are a help to you in incorporating calcium materials into your fertility program. I will be out this month collecting foliar samples from the C.I.G. plantings across the region.
WOLF VETOES BUDGET
Gov. Tom Wolf vetoed a budget coming from the Republican-controlled General Assembly that did not raise taxes, but increased spending in several areas including basic education.

Republicans said the $30.8 billion spending plan addresses critical areas such as human services and education, but Gov. Wolf said he vetoed the plan over concerns about one-time spending to balance the budget, and the fact that it does not address property taxes. Gov. Wolf is also looking for a severance tax on natural gas for education funding.

The Republican budget contained positive news for agriculture, including an increase in funding for the general operations of the Pennsylvania Department of Agriculture and a $3.3 million boost for Penn State Cooperative Extension, which includes $2 million for avian influenza preparedness and response. However, Gov. Wolf’s veto of the full budget bill will require lawmakers to revisit taxes and spending in all areas.

PENSION REFORM BILL ON GOVERNOR’S DESK
Members of the Pennsylvania General Assembly sent Gov. Tom Wolf a bill that would move all new state and school district employees away from the state’s pension system.

Senate Bill 1, introduced by Sen. Jake Corman, would place new employees into a 401-K style system, which is a defined contribution plan versus the completely unsustainable defined benefit plan currently in place for public employees. Although this conversion would not instantly fix the problem, it would be an important step toward reducing the liability on PA taxpayers.

Pennsylvania’s two public pension systems—one for school district and the other for state government employees—is underfunded by at least $53 billion due to poor market performance and prior legislative action. All members of the Pennsylvania General Assembly, upon election or reelection, would be enrolled in a defined contribution plan.

LOCAL TAX BILL PASSES PENNSYLVANIA SENATE
Senate Bill 356, introduced by Sen. Mike Folmer, recently passed the Pennsylvania Senate. It will make the filing of local income taxes consistent with the more simplified methods for reporting and payment of income tax provided under state and federal income tax laws.

Folmer’s bill would give farmers the option of making a single filing and payment of estimated taxes, instead of quarterly filings, and allow for “safe harbor” provisions for payment of estimated taxes, based on income from the prior tax year. It would also make the deadlines for local income tax reporting and payment the same as state and federal deadlines. Senate Bill 356 now heads to the House for consideration.

TPA BILL SIGNED BY PRESIDENT
After an initial defeat last month, the Trade Promotion Authority (TPA) bill has been signed into law by President Obama. USApple members lobbied in favor of the legislation during our March Capitol Hill Day and USApple staff have since played an active role in an agriculture trade coalition working for passage. Every Administration for the past 40 years has had TPA which allows the President’s representatives to fully negotiate trade deals. It is then the responsibility of Congress to ratify or reject the agreements in their entirety.

With an average of 30% of the fresh apple crop exported each year, the health and future of the industry is directly related to trade. TPA will allow the Obama Administration to complete negotiations on the Trans Pacific Partnership (TPP), which will open up trade with a number of countries including Vietnam, offering tremendous growth opportunity. The CAFTA-DR Trade Agreement negotiated by the Bush Administration under TPA is an example of the benefits of free trade agreements for apples. The CAFTA-DR region is now the number one export market for Pennsylvania and Michigan apples. (Diane Kurkle, USApple)

ATTORNEYS GENERAL SUES EPA AND ARMY CORPS
OVER WATER RULE
Attorneys General from more than 20 states, not including Pennsylvania, are suing the Environmental Protection Agency and the U.S. Army Corps of Engineers over the flawed “waters of the U.S.” rule. Led by Wayne Stenehjem, North Dakota attorney general, the lawsuit contends the EPA’s actions violate the Clean Water Act, the National Environmental Policy Act and the Constitution.

The EPA’s “water of the U.S.” rule significantly expands their authority under the Clean Water Act to include ditches and even dry land. The agency contends that these features act as tributaries to “navigable” bodies of water, and therefore fall under federal jurisdiction. The Clean Water Act limits federal oversight to rivers and streams considered navigable.

“This case involves yet another attempt by the federal government to expand its reach and regulatory authority over issues that are primarily reserved to the States,” said Stenehjem.

Farmers are concerned the rule could result in the need
to obtain federal permits for routine tasks such as crop treatment or nutrient application.

**SUPREME COURT RULES ON OBAMACARE**
The Supreme Court ruled recently 6-3 that Affordable Care Act (ACA) health insurance subsidies for individuals can continue for residents of states that are using the federal exchange. Over 6 million people currently receive subsidies through the federal exchange in 34 states. The challenge argued that financial assistance was only allowed in states that operated their own insurance exchanges.

Farm Bureau will continue to advocate for legislation that modifies the ACA to make insurance more affordable and easier to offer to employees.

- **STARS ACT:** H.R. 863 would help large employers (50 full-time workers) comply with the ACA by aligning the definitions of seasonal worker and seasonal employee as a worker who is employed on a seasonal basis for six months or less during the calendar year. The ACA requires large employers to offer insurance to full-time employees.

- **HEALTH INSURANCE TAX (HIT):** H.R. 928 and S. 183 would repeal the premium-based tax on health insurance companies that drives up the cost of insurance for farmers and ranchers because the tax is routinely passed on to policy holders.

- **40 HOUR WORK WEEK:** H.R. 30 would repeal the 30-hour definition of “full-time employment” in the ACA and replace it with the traditional 40-hour definition. The ACA requires large employers (50 full-time workers) to offer insurance to full-time employees.

- **H-2A EXEMPTION:** H.R. 1387 would exclude H-2A workers from the mandate that requires large employers (50 full-time workers) to offer insurance to full-time workers.

**CROP INSURANCE PROGRAMS TO BENEFIT DIVERSIFIED FARMERS**
Producers applying for loans through the Farm Service Agency will have the option of enrolling in a new crop insurance program created for diversified farmers. FSA loan applicants will be eligible to enroll in the Noninsured Crop Disaster Assistance Programs (NAP). The program is tailored for farmers who grow non-insurable crops like some fruits, vegetables and other specialty crops.

“FSA is opening its doors wider so that more specialty farmers know of our array of services,” said Bill Wehry, Pennsylvania FSA executive director. “And new, underserved and limited income specialty growers who apply for farm loans could qualify for basic loss coverage at no cost, or higher coverage for a discounted premium.”

The basic program protects 55 percent of the market price of crop losses exceeding 50 percent of production. Crops covered through the program include vegetables, fruits, mushrooms, aquaculture, honey, maple syrup, grazing and energy crops. FSA will also allow beginning or limited income farmers to get NAP coverage for up to 90 days after the normal application closing date when they apply for FSA credit.

Beginning or limited income producers are also eligible for a 50 percent discount on premiums for higher levels of coverage that can protect up to 65 percent of expected production at 100 percent of the average market price. To learn more, contact your local FSA office.

**NEW SLATE OF FFA OFFICERS SELECTED**
The Pennsylvania FFA Association selected a new slate of State Officers for the 2015-2016 school year. The new officers are: State President—Lily Guthrie, Perry County; State Vice President—Tyler Watkins, Huntingdon County; State Secretary—Rachel Greig, Crawford County; State Treasurer—Elizabeth Winklosky, Westmoreland County; State Reporter—Katie Sharrer, Adams County; State Sentinel—Luke Kerstetter, Snyder County and State Chaplain—Jonathan Noss, Perry County. The new officers were chosen during the 86th PA FFA Convention held recently in State College. Officers give up a year of their post-high school career to travel the state promoting agriculture.

**BILL INTRODUCED TO ADDRESS POST-PRODUCTION COSTS**
A state representative introduced legislation that would require gas companies to pay the state minimum royalty rate to landowners, regardless of the cost of accessing and moving gas to market. House Bill 1391, introduced by Rep. Garth Everett and supported by PFB, would require that gas companies pay 12.5 percent as set by state law. Some natural gas companies are taking out so-called post-production costs, reducing the amount that landowners are receiving.

“Some Pennsylvania farmers with gas wells on their properties have been receiving royalty payments far lower than the state guaranteed rate, because gas well companies have been claiming deductions for costs associated with the capture and transmission of gas from the wells,” said PFB President Rick Ebert.

Everett, who represents portions of Lycoming and Union counties, said the state’s Guaranteed Minimum Royalty Act of 1979 has largely worked throughout its history. However in the past few years with the advent of gas drilling in the Marcellus Shale formation, some companies have charged post-production costs, thereby reducing landowner payments. Many of them were under the impression they were owed the state’s minimum royalty payment, he said.

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FARM BUREAU ENCOURAGES FARM EXEMPTION IN ENERGY GENERATION RULES
Pennsylvania Farm Bureau is asking the Pennsylvania Utility Commission to carve out a specific exemption for farms as the commission crafts regulations on energy generation. The PUC is looking to put limits on the amount of energy that home owners or farmers can generate out of concerns that energy companies might be masquerading as “customer generators.”

However, PFB is concerned the move could seriously hamper a farmers ability to pay for renewable energy projects, such as wind, solar and methane digesters, that allow producers to use marginal lands, barn roofs and manure for electricity production. The PUC has proposed that future energy projects created by “customer generators,” (those not considered a utility company) to be allowed to produce no more than 200 percent of their actual electricity consumption. PUC’s proposed regulations would not place limits on existing farm energy projects. Farms operating manure digesters, or that have placed solar panels on barn roofs, are considered customer generators.

Pennsylvania Farm Bureau believes any cap on what a farm can generate in electricity will significantly curtail the development of renewable energy projects. Installing systems like solar panels or methane digesters are expensive, and being able to sell electricity back to the grid can help a farmer offset their costs. Farmers have also turned to methane digesters as a way to manage nutrients and potential environmental impacts, while also reducing issues of odor or runoff. Farmers have also used solar panels or wind turbines on marginal land, leading to better management of crop land.

PFB is asking the PUC to make a clear exemption for farms operating energy systems, and for those planning to do so in the future.

Yeasts on Plums Have a Plus Side
Some naturally occurring yeasts may be useful for protecting stone fruits against pathogens that attack after harvest. Scientists at the U.S. Department of Agriculture (USDA) looked to the microflora on the surface of the plum to find potential biocontrol agents against brown rot. At the Agricultural Research Service (ARS) Appalachian Fruit Research Station in Kearneysville, WVA, plant pathologist Wojciech Janisiewicz and his colleagues determined that the plum surface harbors several yeast species with excellent potential for use as biological controls against brown rot of stone fruits. Brown rot is caused by the fungus Monilinia fructicola.

Fruit surfaces are naturally colonized by a variety of microbes, including bacteria and yeast. Some of those native microorganisms have been shown to have a beneficial effect on reducing fruit decay after harvest. In previous efforts, Janisiewicz developed a bacterium normally found on apples into a commercial biological control product that can be used instead of fungicides to control pome fruit diseases. The product is also allowed in organic marketing. A lot of information exists about the benefits of natural fruit microflora on grapes and apples, but for plums, the extent of their potential for biological control of fruit decay remains largely unknown.

The research team identified yeasts naturally colonizing plums from early fruit development until harvest and explored their potential for controlling postharvest brown rot, the most destructive disease of stone fruits. Through multiple screenings, Janisiewicz and his colleagues found yeasts with a range of biocontrol activities against M. fructicola, including several isolates that provided complete control on plums from decay caused by this fungus.

Two of the best control candidate species were Aureobasidium pullulans and Rhodotorula phylloplana. Developing these yeasts into commercial products will provide growers with an alternative approach for combating brown rot after harvest, and this approach should be compatible with requirements for the rapidly growing organic market.

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“Are You Crazy” Retail Farm Markets Tour – September 15 & 16, 2015


WHAT:
A bus tour of nine premiere retail farm markets -- with plenty of ideas, education, food, and fun for all. This year we are exploring what Pennsylvania, Virginia and West Virginia have to offer. These farms and markets are major providers of fruits, berries, vegetables, prepared foods, and agri-tourism.

We have something for everyone -- seasonal, year-round, produce, food, tourism, value-added, pick-your-own, entertainment, and educational farm direct-to-consumer marketing at its finest! Not to mention the “classroom-on-wheels” as we travel between markets with opportunities to network and learn from each other.

WHO SHOULD ATTEND:
Any farm market owner, manager, or other personnel interested in seeing and learning from a variety of retail farm market and agri-tourism entrepreneurs.

WHAT YOU WILL SEE:
We will tour each operation and focus on what has made it a success. The emphasis is on seeing what others are doing, peer networking, sharing, and learning.

WE WILL BE TOURING:
Windy Knoll Farm Market & Creamery, Chambersburg, PA

Windy Knoll Farm Market & Creamery have a reputation for spotless cleanliness and good customer service. They offer a daily hot food bar, fresh produce, their famous homemade ice cream, deli meats, cheeses, delicious subs, hoagies, baked goods, homemade soups, salads, and bulk foods. A new Sandwich Shop is now open!

Facebook: https://www.facebook.com/pages/Windy-Knoll-Farm-Market-Creamery/749495641788195

Taylor’s Farm Market, Inwood, WV

Owners Bob Taylor and his son Ryan Taylor farm over 1,350 acres of row crops and orchards. The Taylor’s farm produces over 130,000 bushels of apples, 5,000 bushels of peaches, cherries, plums, and nectarines that are sold in the farm market along with a huge variety of other local produce. They carry an assortment of West Virginia wines, local honey, jams and jellies, apple butter, sauces from Oliverio’s Peppers in Clarksburg, dairy items, organic products, meats, and more. What they don’t raise themselves, they buy from local farmers. A soup and sandwich deli opened in June.

http://taylors-farm-market.myshopify.com/

Orr’s Farm Market, Matinsburg, WV

Orr’s is family owned and operated. Today, George Orr’s children and grandchildren are continuing the agricultural path that he paved for them. The business includes pristine orchards, a state of the art packing facility, and farm market.

From the beginning Orr’s has depended on extended family and close friends to help bring in the harvests. Without such a dedicated staff of employees their farm would not be what it is today. George S. Orr, Jr. would be proud of what the family has accomplished, but there are many goals still on the horizon. Over the years the Orr family has diversified from the farm market into specialty crops, a pick-your-own operation, bison, and agritourism events and activities.

http://www.orrsfarmmarket.com/

Marker Miller Orchards Farm Market and Bakery, Winchester, WV

Marker-Miller Orchards is a Century Farm that is currently being operated by the fourth and fifth generations of the Marker family. John and Carolyn and their daughter Heather are managing the day to day operations on the farm and at the farm market.

Marker-Miller Orchards has learned that they needed...
to diversify in order to survive and continue farming. They are focused on growing the best quality of fruit and vegetables and want to ensure that when people visit their farm they not only have a farm experience, but also a family experience. The business includes a farm market, pick-your-own, bakery, kiddieland, weekend wagon rides, and festivals throughout the season.

www.markermillerorchards.com/

Willowsford Farm, Ashburn, VA
As part of the 2,000 acre Willowsford Conservancy, Willowsford Farm manages over 300 acres of agricultural land, growing more than 150 varieties of vegetables, herbs, fruit, and flowers, and raising several breeds of livestock.

The produce is available through the CSA program and at the Farm Market. Each week there is something happening at the Farm Stand located in their Farm Garden such as vendor visits, cooking demonstrations, garden volunteer hours, and farm tours. The Farm hosts educational activities and events, and supports local area businesses as a distribution point for sustainably raised meat, poultry and dairy products.

Their mission is to grow healthy food right where people live, and to offer the farm as a place to realize their connections to the natural world and to each other. It is an old model, but new to their community.

http://www.willowsfordfarm.com/

Burnside Farms, Haymarket, VA
Burnside Farms is owned and run by a mother and son team. They plant more than five acres of spring flowers for one of the most spectacular pick-your-own events in North America. In fact, it’s now one of the largest pick-your-own flower events in the world! Summer features over 25 varieties of sunflowers. Mid-September marks the opening of the fall market with one of the area’s largest selections of pumpkins and gourds, offering more than 50 varieties along with mums, fall plants, fresh cider, tree ripe apples, produce grown on the farm, straw bales, corn stalks. The Burnside barnyard is open for visitors to meet the furry and feathered residents of the farm. Winter features Virginia grown Christmas trees.

http://www.burnsidefarms.com/

Ticonderoga Farm Market, Chantilly, VA
Ticonderoga Farm is very proud of their bees and the award winning dark honey they produce. The farm market has just been redesigned.

Their theme is “Amazing Farm Fun,” the place where anything is possible. Their goal is to make the community a healthier place to live, work, and play through experience, recreation, social interaction, learning, growth and relaxation. Ticonderoga offers many festivities annually and each one is designed for an “Amazing Farm Fun” time. The staff strives to meet and exceed customers’ expectations. In addition to the planned community events they offer reservations for private events.

http://www.ticonderogama.com/

Stoneybrook Farm and Market, Hillsboro, VA
Stoneybrook is a 45 acre certified organic farm in rural Loudoun County, Virginia. Their mission is to grow quality local organic crops using sustainable practices. They sell their vegetables and fruit through their Farm Market and CSA program. They also sell wholesale to a number of organic produce markets in the greater Washington DC area. Stoneybrook believes in preserving farm land for agriculture and protecting the historical heritage of Northern Virginia. Their soil fertility is maintained through the use of cover crops, compost, and crop rotations. The business includes a farm, farm market and farm festivals.

http://www.stoneybrookfarm.org/

Great Country Farms, Bluemont, VA
Great Country Farms is a 200 acre working farm situated at the base of the Blue Ridge Mountains outside the village of Bluemont, VA. Great Country Farms offers produce, u-pick, fishing, mazes, wagon rides, farm play area, and concession stand as well as the farm experience to its customers. They are also part of the Shenandoah Valley Kids Trail.

The Zurschmeide Family has been farming in Loudoun County for over 35 years and Great Country Farms was
started by the second generation of Zurschmeides in Loudoun in 1994. The farm started with a Community Supported Agriculture Program (CSA) which has grown over the years and delivers produce to homes as far as Alexandria and Arlington. In 1996 and again in 2007, the Loudoun County Chamber of Commerce voted Great Country Farms, “Agribusiness of the Year” for its unique efforts to farm in a difficult climate through innovation, rather than selling out and growing houses.

http://www.greatcountryfarms.com/

Overnight Stay at the Quality Hotel in Historic Harpers Ferry, WV

Lunch on Tuesday & Wednesday will be at the markets we are visiting. Supper on Tuesday will be on your own. Continental breakfast is included with your hotel reservation.

REGISTRATION:
Pre-registration is necessary because of bus and lodging reservation requirements and will be honored on a “first-come, first-served” basis.

Registration Deadline: August 14, 2015. All major credit cards and checks accepted. No refunds after August 14, 2015.

To register, go online to: http://tinyurl.com/aycTour2015

For assistance with registration: 610-391-9840, Monday – Friday, 8:00 a.m. to 4:30 p.m.

The registration fee covers the tour bus transportation, one night at a hotel with continental breakfast (supper on your own), reference materials, refreshments, and lunch on both days.

Your registration fee depends on how many you have sleeping in your hotel room:

One person/room tour fee: $290.00
Two people/room tour fee: $235.00 each
Three people/room tour fee: $220.00 each
Four people/room tour fee: $210.00 each

On September 15th we will board the bus at:
6:30 a.m. at Penn State Extension Lancaster County Farm & Home Center parking lot: 1383 Arcadia Road, Lancaster, PA 17601-3184 Park in the west corner, near Route 30.
8:00 a.m. at Penn State Extension Adams County parking lot: 670 Old Harrisburg Road, Gettysburg, PA 17325-3404

NOTE: The bus will depart promptly. Please be prepared to be on time, or better, a little early.

On September 16th we expect to return to:
Gettysburg around 5:55 p.m.
Lancaster around 7:35 p.m.

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Importance of Hand Hygiene During the Harvesting of Strawberries

By A. Shaw, A. Svoboda, B. Jie, A. Daraba & G. Nonnecke

Foodborne outbreaks linked to poor hygiene indicate a need for education on the importance of hand hygiene during harvesting of fruit. This study simulated two potential scenarios (laboratory and field) that would lead to the transfer of *Escherichia coli* O157:H7 from hands to strawberries (*Fragaria ×ananassa*), harvesters, and field plants. The potential of direct transfer of *E. coli* O157:H7 from contaminated “pig skin” hands to strawberries was shown in Scenario 1. The potential of *E. coli* O157:H7 being transferred from contaminated hands to strawberries during harvesting was shown in all treatments up to the 100th strawberry tested with a transfer rate of 71% (1 berry) to 45% (100 berries) of *E. coli*. Scenario 2 mimicked the “bacteria” transfer from the worker’s contaminated hands to the worker’s clothing and to the field with the use of glowing lotion. It was shown that contaminated hands can transfer “bacteria” to the worker’s clothing, shoes, the picked strawberries, and the strawberry plants, weeds and straw mulch within the field (average spread of 50.25 ft from starting point). The transfer rate varied from worker to worker. Hand hygiene and proper worker training are essential for food-safe harvesting to avoid foodborne outbreak events.

(From HortTechnology 25:380)
Foliar Applied Abscisic Acid Increases ‘Chardonnay’ Grapevine Bud Freezing Tolerance During Autumn Cold Acclimation By I. Dami et al.

Economic loss due to cold weather events is a major constraint to winegrape (Vitis vinifera) production and wine-related industries where extreme and/or fluctuating winter temperatures induce injury and require remedial retraining and replanting increases production costs and lowers yield and fruit quality. The purpose of this study was to determine whether a foliar application of abscisic acid (ABA) could increase the freezing tolerance (FT) of field-grown, ‘Chardonnay’ winegrape and whether its effectiveness can be influenced by the phenological timing of the application. Mature ‘Chardonnay’ grapevines were treated with a foliar application of ABA at a concentration of 500 mg·L⁻¹ at vine phenological stages corresponding to 50% véraison, postvéraison, and postharvest. Results from field trial sites located in four distinct winegrape production regions in the United States (Idaho and Ohio) and Canada (British Columbia and Ontario) showed that foliar application of ABA increased bud FT, primarily during autumn cold acclimation. Foliar ABA application had no consistent influence on bud FT in midwinter or during spring deacclimation, or on percent budburst in spring. Vine phenological stage at the time of ABA foliar application influenced ABA effectiveness, although results were inconsistent among locations. At most locations, applications made at véraison or postvéraison were more effective than applications made postharvest. No phytotoxic response or adverse changes in yield or berry composition were detected in response to ABA application. The consistent increase in bud FT during autumn cold acclimation observed at all trial locations in this study indicates that foliar ABA, applied at véraison or postvéraison, can reduce the risk of economic loss due to cold injury in production regions with frequent early autumn cold weather events.

(From HortTechnology 25:293)
15th Annual Pennsylvania Crop Insurance Conference
For Ag Insurance Industry and Professionals with an Interest in Crop Insurance and Risk Management

Thursday, August 27, 2015
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Brandon Willis, RMA Administrator
Bill Wehry & Rebecca Csutoras, FSA
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Pre-registration deadline is Friday, August 7, 2015.

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If you have questions regarding the conference, please contact Jordan Stasyszyn
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The 2012 Census Shows Change in U.S. Fruit and Tree Nut Sector: Summary

By A. Perez & K. Plattner

The 2012 Census of Agriculture, released in May 2014 by USDA, National Agricultural Statistics Service (NASS), reported the number of U.S. farms growing tree fruit, vine fruit, berries, and tree nuts fell 6 percent to 105,737 farms from the last census in 2007 (results were released in February 2009). Total acreage for these crops, on the other hand, increased 4 percent between 2007 and 2012, reaching 5.49 million acres. Acreage gains in noncitrus fruit, berry, and tree nut production offset the 13 percent reduction in total citrus acreage.

The U.S. farm sales of fruit, tree nuts, and berries in 2012 totaled $25.9 billion, 7 percent of total agricultural sales and the fifth highest of all surveyed agricultural industries. The 2012 value increased 39 percent from the $18.6 billion in farm sales in 2007. Fruit, tree nuts, and berries are only outranked in value by the following agricultural product groupings: grains, oilseeds, dry beans, and dry peas; cattle and calves, poultry and eggs, and dairy milk. California continues to dwarf other States’ fruit, tree nut, and berry production sectors. Of the U.S. totals in 2012, California accounted for 31 percent of the total number of farms and 80 percent of the acreage, far more than those reported in the No. 2 State, Florida, with 10 percent and 17 percent, respectively. Fruit, tree nut, and berry farm’s market value of products sold was $17.6 billion in California, 68 percent of U.S. total value for these crops.

The 2012 Census of Agriculture’s Specialty Crops supplement, issued in February 2015, indicated that roughly 98 percent of land in orchards in California and all of the State’s land dedicated to berries was irrigated in 2012. These irrigated acreage made up more than half of total irrigated land in orchards and almost a quarter of total irrigated land in berries in the United States.

Response of Blackberry Cultivars to Fertilizer Source during Establishment in an Organic Fresh Market Production System By J. Fernandez-Salvador, B. Strik & D. Bryla

Blackberry (Rubus ssp. Rubus) cultivars, three trailing types (Marion, Black Diamond, and Obsidian) and one semierect type (Triple Crown), were studied for their response to different types of fertilizer from 2011–12, at a certified organic, grower collaborator site located in Jefferson, OR. Plants were fertilized at a target rate of 50 lb/acre nitrogen (N) each spring using three different sources: 1) a liquid fish and molasses blend (4N–0P–1.7K); 2) pelletized soy (Glycine max) meal (8N–0.4P–1.7K); and 3) pelletized, processed poultry litter (4N–1.3P–2.5K). Plants were drip irrigated, and weeds were managed using a polypropylene, permeable landscape fabric (weed mat). Plant responses were greatly affected by cultivar, whereas the effects of fertilizer type were relatively minor. ‘Triple Crown’ produced the greatest yield in both years, whereas ‘Black Diamond’ and ‘Marion’ had the lowest yield in 2011 and 2012, respectively. ‘Triple Crown’ fruit had the highest percent soluble solids and were the least firm in 2011, whereas ‘Marion’ fruit were the least firm in 2012. Harvest date, within year, affected the fruit quality variables measured in all cultivars. Most soil nutrient levels were within the recommended range for all fertilizer treatments, except for boron (B), which declined to deficient levels in the second year. Fertilizer type had no effect on soil nutrient levels other than fertilization with the fish and molasses blend product increased soil potassium and sodium. Soil nutrient levels were affected by cultivar but varied by year for many nutrients. Primocane leaf tissue nutrient concentrations were above or within recommended standards for most nutrients, except for magnesium (Mg), calcium (Ca), and B, which, depending on the cultivar, were below standards. Over the 2-year study, the blackberry cultivars responded similarly to the three types of organic fertilizer. However, the cost of N varied from $8.16/lb for the liquid fish and molasses blend, $5.35/lb for the pelletized soy meal, and $2.54/lb for the pelletized, processed poultry litter. Supplemental fertilization with B, Mg, and Ca would be required with each fertilizer studied to maintain recommended soil fertility levels.

(From HortTechnology 25:277)
Development of Pruning and Training Systems for Higher Density Peach Orchards in South Africa

By P. Stassen

Until the early seventies all peach trees were planted using an open vase system with four and more leaders at 45° angles and wide spacings. Subsequently, increasing input costs necessitated the development of higher density planting systems to increase production. Tree training had to accommodate higher densities, while allowing for efficient sunlight interception and penetration within and shoot development at the base on the outside of the canopy. During the late seventies the free standing closed vase system with three upright leaders was introduced to accommodate these principals. During the same period the development of the central leader, supported or free standing, with small lateral branches spaced at fixed distances, according to a hierarchy of wider and stronger branches at the base, decreasing and narrowing towards the top, took place. This system was modified to accommodate only bearing shoots in a spiral orientation around the leader, allowing a tree spacing of 4 x 1.5 m. Advances in summer pruning enabled growing of peach trees at high densities on relatively vigorous rootstocks while managing light optimally. During the nineties the central leader was modified to a two-leaders-in-the-row system, creating more volume and bearing shoots per tree initially. This system is currently favoured by many peach and nectarine growers.

(From Acta Horticulturae 1084:343)

Peach Rootstock Development for the Southeastern United States

By T. Beckman & J. Chaparro

The primary focus of the stone fruit rootstock program at Byron, Georgia has been the development of disease resistant rootstocks for peach. Historically peach tree short life (PTSL), aka ‘Bacterial Canker Complex’, and Armillaria root rot (ARR) have been the two most important causes of premature mortality of commercial peach trees in the southeastern United States. However, following the cooperative release of Guardian rootstock by the USDA-Agricultural Research Service and Clemson University in 1993 the southeastern peach industry has enjoyed a marked decline in incidence of PTSL. Unfortunately, Guardian, like most other peach seedling rootstocks, is very susceptible to ARR. As a result, ARR has now moved to the forefront as the primary cause of premature peach tree death in the Southeast. Since its inception in 1988, the Byron rootstock program has focused on the breeding and development of new peach, plum and plum × peach interspecific hybrid rootstocks with resistance to PTSL, ARR and several species of root-knot nematode including Meloidogyne incognita, M. javanica and M. floridensis. M. floridensis is a recently identified nematode species with demonstrated ability to attack many of the current commercial peach rootstocks with resistance to M. incognita, including Okinawa, Nemared, Nemaguard and Guardian. Our breeding and evaluation work has recently culminated in the release of two clonal rootstocks with broad disease and nematode resistance. ‘Sharpe’, a semi-dwarf, clonal, plum hybrid, was released in 2007 for commercial testing and as a germplasm line. ‘MP-29’, a semi-dwarf, clonal, plum × peach hybrid, was released in 2011 for commercial testing. ‘MP-29’s broad disease and nematode resistance in combination with its dwarfing ability and excellent productivity offers great promise for use in this production area and others worldwide suffering from similar maladies.

(From Acta Horticulturae 1084:171)
Eighteen Prunus rootstocks budded with ‘Redhaven’ peach were planted at 16 locations in North America in 2009. After four years at 14 locations, significant differences among rootstocks and sites were found for survival, root suckers, growth, bloom date, fruit maturity date, fruit size, cumulative yield, and yield efficiency. Tree survival was high (>96%) in the states MA, CA, SC and UT and low (<78%) in MO and NC (bacterial canker). Imperial California had the lowest overall survival (48%) followed by Fortuna and Krymsk®1. Rootstock suckering was excessive on Prunus Americana seedlings with Krymsk®1 a distant second. The largest trees were in CA, NY, MO and SC, while the smallest trees were in CO and UT, both high elevation mountain states with calcareous soils. Tree TCSAs were largest on Bright’s Hybrid #5, Guardian®, Viking, Krymsk®86 and Atlas, whereas TCSAs of trees on Krymsk®1, Controller 5, P. Americana and Fortuna were the smallest. The earliest bloom by 1-2 days in both years occurred on Bright’s Hybrid #5 and KV010127 rootstocks. Trees on P. Americana and Fortuna bloomed 1-3 days later than the average in 2011 and 2012. Fruit maturity dates varied by 59 and 52 days across sites in 2011 and 2012, respectively. Among rootstocks and years, fruit maturity was advanced up to 2.5 days and delayed as much as 3.5 days, when compared to Lovell. Bright’s Hybrid #5 and KV010127 advanced maturity, and Penta and HBOK 32 delayed maturity in both years. Fruit size was largest (192 to 231 g) in SC, UT and CA and smallest (117 to 154 g) in GA and NC for both years. Empyrean®3, Atlas, Empyrean®2, Bright’s Hybrid #5, Guardian® and Viking produced the largest fruit and Fortuna the smallest. Cumulative yields were highest in CA, NY, MO and MA and lowest in CO and IL. The highest yields were on the vigorous peach and peach hybrid rootstocks. Also, rootstocks with the highest yield efficiency were Krymsk®1, HBOK 10, P. Americana, HBOK 32, and Controller®TM 5.

(From Acta Horticulturae 1084:225)
Dear Industry Partner,

In October 2014, discussions between Penn State University and the tree fruit industry in Pennsylvania were initiated to consider opportunities to upgrade the Graduate Housing situation at the Fruit Research and Extension Center (FREC) in Biglerville. Following meetings with the State Horticultural Association and the SHAP Endowment Fund Committee, the purchase of a modular home to be located at the end of Rice Ave in Biglerville was approved by the Endowment Committee at the cost of $252,000. These funds will be available from the Endowment Fund to cover the cost of the project when completed.

The State Horticultural Association has made a promise to the Endowment Committee to conduct a Capital Campaign to restore the amount of their fund to its previous level. This three year campaign is being launched by a committee appointed by the SHAP Board. We are hopeful to reach our goal by December 2015. The attached pledge card provides the information necessary to make a pledge. The Endowment Fund is a charitable organization so all donations are tax deductible. All donors of $1,000 or more will be recognized on a plaque to be located at the Fruit Research and Extension Center.

This is the top priority of the faculty at FREC giving them a competitive edge in attracting graduate students. Graduate education is a significant component of the overall mission of the research center and our committee is very excited to see this project move forward.

Thank you! The Capital Campaign Committee

Phil Baugher                         John Rice                     Dr. Larry Hull                  Dr. Jim Schupp                  Ken Guise
Brad Hollabaugh                    Ed Weaver                     Bob Hodge                      Tim Weiser                     Robert Black
Jim Lott                             Brian Knouse                 John Baugher, Jr.

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Checks should be made payable to SHAP Endowment Fund

Your gift of $1,000 or more will be recognized on a plaque displayed in the FREC building. Please submit your donation by December 31, 2015, to secure your place on the plaque.

Your contribution is tax deductible to the extent allowed by law.
Environmental Effects on Fruit Ripening and Average Fruit Weight for Three Peach Cultivars
By R. Scott Johnson et al.

Three peach cultivars, ‘Crimson Lady’ (early), ‘Redhaven’ (mid-season) and ‘Cresthaven’ (late), were planted at twelve locations within the USA in 2009. All trees were grafted on ‘Lovell’ rootstock and came from the same nursery. Five trees of each cultivar were planted at a spacing of 6 m by 5 m at each location. In 2012, eight locations were able to participate in the study. In order to obtain maximum fruit growth, trees were thinned to about 40-50 fruit within 30-40 days of bloom, were irrigated when needed and kept free of diseases and pests. When fruit started to soften (tree ripe), a first harvest was initiated. The second, and last, harvest occurred about one week later. Individual fruit were weighed and a composite sample per tree was used to measure percent soluble solids content (SSC) with a refractometer. Daily weather parameters of maximum and minimum temperatures, solar radiation, precipitation and average humidity were measured in close proximity to the orchard. Full bloom dates ranged from early March to early May for the different locations. Time from full bloom to harvest varied by about 30 days among locations for all three cultivars. This parameter correlated very well with average temperature (average of daily maximum and minimum) for 60 days after bloom. Correlation coefficients were -0.94, -0.96 and -0.98 for the three cultivars, respectively. Average fruit weight varied among sites from 141 g to 216 g for ‘Crimson Lady’, 159 g to 313 g for ‘Redhaven’ and 152 g to 413 g for ‘Cresthaven’. This parameter correlated well with average solar radiation from bloom to harvest for ‘Redhaven’ (r = 0.87) and ‘Cresthaven’ (r = 0.73), but not ‘Crimson Lady’. The relationship with ‘Cresthaven’ was significantly improved by adding in the factor of average temperature for 20 days after bloom (r₂ = 0.91). Cooler temperatures were associated with larger fruit. No weather parameters correlated well with ‘Crimson Lady’ fruit weight or with SSC for any of the three cultivars. The study will continue for at least 2 more years to obtain more robust relationships.

(From Acta Horticulturae : 453)

Effect of Timing of Caustic Bloom Thinning Sprays During Bloom on Fruit Set, Yield and Fruit Size of Peach By T. Robinson & L. Dominguez

A field study was conducted at Geneva, New York, USA in 2008 where we evaluated the effect of timing of spray application the 2 caustic bloom thinning chemicals, ammonium thiosulfate (ATS) and lime sulfur + fish oil (LS+FO) on ‘Redhaven’ and ‘Babygold 5’ peach trees on Bailey rootstock. The trials were sprayed with an airblast sprayer at 1,200 liter/ha water volume. ATS was sprayed at a concentration of 4 liter / 100 liter water while LS+FO was sprayed at a concentration of 4 liter / 100 liter water of LS and 2 liter / 100 liter water of FO. Trees were treated either on the day of the first open blossom or at one day intervals thereafter for the next 7 days. ATS caused more thinning than LS+FO at each timing except on day 7 when trees were at petal fall. Both blossom-thinning chemicals were less effective on the first day blossoms were open than 2-3 days later. At 4-5 days after the first open blossom both chemicals were less effective while at 6 days after the first open blossom ATS was again effective and at 7 days after first open blossom LS+FO was an effective thinner. Fruit size was greatest and yield was lowest at 2 days after first open blossom. With ‘Redhaven’ this timing resulted in over thinning. The best timing appeared to be when 30-40% of the blossoms were open and when 80% of the blossoms were open.

(From Acta Horticulturae 1084:471)
Predicting Peach Fruit Size Potential from GDD 30 Days Post-Bloom
By G. Reighard & B. Rauh

Early flower bud or fruitlet removal in peach is known to increase peach fruit size at harvest. However, early spring temperatures during and after bloom are not actively tracked to see if they affect future growth potential of peach fruit. Growing degree days or hours (GDD/GDH) have been used previously with a Relative Growth Rate (RGR) Fruit Model to estimate fruit growth potential and to provide a decision making tool for cultural practices such as timing of thinning for specific cultivars. Weather data were converted via the “Averaging Method” to growing degree days base 7°C for 30 days post-bloom for years 2002-2010 at Ridge Spring, South Carolina. Percent packout for number one fruit, 70 mm or greater, was collected from a packing-house for 30 cultivars. Years 2004, 2005 and 2008 were above average years for larger fruit size and 2002, 2009 and 2010 were below average fruit size years. Packout for large fruit sizes in years with GDD of 468 or less 30 days post-bloom were not affected. However, years that GDD were near 700 at 30 days post-bloom had significantly less large (>70 mm) fruit packed. GDD greater than 494 the first 30 days post-bloom resulted in less than 60% packout of large fruit in the years studied suggesting that potential fruit size may be lost unless early flower/fruitlet thinning is initiated under warm post-bloom temperatures.

(From Acta Horticulturae 1084:753)

Non-target Consequences of Insecticides Used in Apple & Pear Orchards on European Earwig
By M. Fountain & A. Harris

The common European earwig, Forficula auricularia L. (Dermaptera), is an important generalist predator in apple and pear orchards, regulating populations of several damaging pest species. Large differences in earwig populations in orchards may be the result of pesticide use and timing of pesticide applications. This study investigated the effects of pesticides on nymph, adult female and adult male earwigs in the laboratory and in the field. In the laboratory earwigs exposed to the residues of chlorpyrifos died within 2 days. Spinosad was also deemed harmful. Abamectin, chlorantraniliprole and flonicamid were considered earwig safe. Spinosad, spiridoclofen, thiacloprid and methoxyfenozide reduced the growth of nymphs. In a small field plot test on pesticide treated apple trees, earwigs were less sensitive to chlorpyrifos than in laboratory studies and thiacloprid and flonicamid reduced numbers foraging in the trees. The final field test compared growers conventional and earwig compatible spray programs. Whilst earwig numbers increased in orchards with the compatible spray program, populations were significantly negatively affected by the conventional spray programs. The data from this and other studies can be incorporated into future integrated pest management programs in apple and pear orchards to control pests whilst maintaining earwig populations and benefiting from the pest control service they provide.

(From Biological Control 91:27)
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