

Ohio Fruit ICM News

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Comments from the Editor

We are finally receiving some rain in southern Ohio, but along with those we are noticing more emergence of Japanese beetles. Blueberry and black raspberry harvest is under way. Our blueberry growers south of I-70 are reporting frost rings on the blueberries. For some growers this is the first time in more than 20 years that they have seen this. Summer red raspberry harvest is also under way. While all brambles were effected by the unusual winter weather, red raspberries are more winter hardy than either blackberries or black raspberries. Matted row strawberry harvest is complete and renovation is under way. We have our everbearing strawberries on white plastic with irrigation, but have been unable to set any additional crop with the warm weather. The National Weather Service reported that the month of May in Ohio ranked #100 out of 113 years of record keeping, with 1 being the coldest and 113 being the warmest.

Fruit Observations and Trap Reports Trap reports for Columbus are posted at least once per week on the internet at <http://bugs.osu.edu/welty/tree-traps.html>

Waterman Lab Apple Orchards, Columbus, 6/14/07 to 6/20/07

Redbanded leafroller:	29 (down from 38 last week)
Spotted tentiform leafminer:	69 (up from 57 last week)
San José scale (mean of 2):	0.5 (up from 0 last week)
Codling moth (mean of 3):	11.6 (down from 17.6 last week)
Lesser appleworm (mean of 2):	8 (down from 11.5 last week)

Tufted apple budmoth: 0(down from 4 last week)
Oblique-banded leafroller: 1(up from 0 last week)
Variegated leafroller: 0 (same as last week)
Apple maggot (mean of 3): 1.6 (up from 0.6 last week)

North Central Tree Fruit IPM Program

Report Prepared by Zachary Rinkes (Erie County Extension Educator)

Jim Mutchler East District IPM Scout (Erie and Lorain Counties)

6/25/07-6/26/07

Apples

Spotted tentiform leafminer 205 (down from 225)
San Jose Scale 0 (same as last week)
Redbanded leafroller 9.8 (up from 7.6)
Codling Moth (average of 3) 2.9 (down from 5.0)
Oriental Fruit Moth 5.3 (down from 9.4)
Apple Maggot - set

Peaches

Redbanded leafroller- 18.0 (up from 8.7)
Oriental Fruit Moth 3.3 (down from 4.3)
Lesser peachtree borer 19.3 (down from 35.7)
Peachtree borer 3.0 (up from 2.7)

6/18/07-6/19/07

Apples

Spotted tentiform leafminer 225 (up from 27.3)
San Jose Scale 0 (same as last week)
Redbanded leafroller 7.6 (up from 0.2)
Codling Moth (average of 3) 5.0 (down from 5.5)
Oriental Fruit Moth 9.4 (same as last week)

Peaches

Redbanded leafroller- 8.7 (up from 0.3)
Oriental Fruit Moth 4.3 (up from 3.0)
Lesser peachtree borer 35.7 (up from 29.3)
Peachtree borer 2.7 (up from 1.0)

Ted Gastier West District IPM Scout (Sandusky, Ottawa, Huron and Richland Counties)

6/25/07

Apples

Spotted tentiform leafminer 507 (up from 457)
San Jose Scale 0 (same as last week)
Redbanded leafroller 34.7 (up from 28.2)
Codling Moth (average of 3) 2.3 (down from 3.1)
Oriental Fruit Moth 6.4 (up from 4.8)
Lesser appleworm 27.5 (down from 30.5)
Apple Maggot 0 (First report)

Peaches

Redbanded leafroller- 36.2 (up from 22.5)
Oriental Fruit Moth 5.9 (up from 3.3)

Lesser peachtree borer 7.9 (down from 11.9)
Peachtree borer 1.5 (down from 1.8)

6/18/07

Apples

Spotted tentiform leafminer 457.8 (down from 701.1)
San Jose Scale 0 (same as last week)
Redbanded leafroller 28.2 (up from 0.8)
Codling Moth (average of 3) 3.1 (up from 2.9)
Oriental Fruit Moth 4.8 (up from 2.7)
Lesser appleworm 30.5 (up from 18.4)
Apple Maggot - set

Peaches

Redbanded leafroller- 22.5 (up from 2.4)
Oriental Fruit Moth 3.3 (down from 3.4)
Lesser peachtree borer 11.9 (down from 12.5)
Peachtree borer 1.8 (up from 0.3)

Ron Becker (Wayne, Holmes, Medina County) 6/22/07

Fire blight is getting worse in most blocks of apples with the bacterial ooze being commonly found. Scab is also being found on some of the newer leaves, indicating the continued need for fungicide applications. European red mites are light in both apples and peaches this week. Like last week, the die back from the cold injury continues to get worse on raspberries as they get closer to harvest. We have started to harvest blueberries and red raspberries. The black raspberry harvest should start early next week. Trap reports are as follows:

Wayne:

Codling moth - 1.4 (down from 2.1)
Oriental Fruit Moth - 7 (up from 1)
Lesser peachtree borer - 4 (up from 2)
Peachtree borer - 0 (same as last week)

Holmes:

Codling moth - 1.8 (down from 2.2)
Oriental Fruit Moth - 4.5 (down from 5)
Lesser peachtree borer - 17 (up from 15.5)
Peachtree borer - .5 (up from 0)

Medina:

Codling moth - 2.75 (up from 1.6)
Oriental Fruit Moth -1.5 (up from 0)
Lesser peachtree borer - 0 (down from last week)
Peachtree borer - 0 (same as last week)

Plant and Pest Development - (Based on Scaffolds Fruit Newsletter, Coming Events (D. Kain & A. Agnello), NYSAES, Geneva)

Greater Peach tree borer adult emergence	775
Oriental fruit moth 2nd flight begins	784-1020
Codling moth 1st flight subsides	808-1252
Pandemis leafroller flight subsides	861-1053
Spotted tentiform leafminer 2nd flight peak	861-1217
Lesser appleworm 2nd flight begins	889-1305
Comstock mealybug 1st flight peak	931-1143
Redbanded leafroller 2nd flight peak	965-1353
San Jose scale 2nd flight begins	1013-1309
American plum borer 2nd flight begins	1020-1232
American plum borer 2nd flight peak	1310-1676
Spotted tentiform leafminer 2nd flight subsides	1328-1672
Codling moth 2nd flight peak	1337-1977
Rose-of-Sharon first bloom	1347
San Jose scale 2nd flight peak	1432-1790
Apple maggot flight peak	1455-1763
Redbanded leafroller 2nd flight subsides	1469-1855
Lesser appleworm 2nd flight peak	1473-2263

2007 Ohio Plasticulture Strawberry Season in Review by Brad Begrefurd,
OSU Extension Educator South Centers

The 2007 Ohio plasticulture strawberry season was another very interesting one for growers from Lake Erie to the Ohio River and everywhere in between.

The season started off in July 2006 with excellent quality tips coming out of the Canadian nurseries. Very little anthracnose or other disease or plant quality issues were brought to my attention by growers, however some shipments of tips seemed to be somewhat on the smaller side in regards to tip size, however the reports I received were that these smaller tips did end up rooting well for growers. Some tip ship dates were delayed by a few days due to slower plant growth in Canadian nurseries. Tips rooted very fast and plugs grew well the month of August 2006.

By the end of August plug plants were coming out of the production yards in very good shape with little incidence of disease reported. Some growers had quality problems with shipped in plug plants that did not survive the delivery trip very well where many packages of plug plants had been overturned or smashed resulting in severely damaged plug plants. Plug producers did make these damaged plants right with growers however, these growers dates of planting were pushed back. The rains did begin to fall and fields began to stay muddy, just in time for growers to begin their end of August to mid September bed preparation, plowing, field work and fumigation. This excessively wet weather continued throughout the field preparation and field planting season, the month

of September, with many growers having just a few hours of dry field time to finish up field and bed preparation and planting operations between rain storms.

The rainy fall season continued throughout September, October and November with cooler than normal temperatures, many cloudy days and very rainy and wet weather. Row covers went on around the end of October and early November as usual although temperatures were somewhat above normal for the month. Growers reported somewhat smaller plants and slower branch crown development through the end of December 2006 compared to previous seasons. The weather did stay somewhat mild through December resulting in late season plant growth and continued branch crown development into mid January 2007. The January weather also remained very wet and warm with some areas receiving some rainfall for 13 of the first 15 days of January with highs in the mid 60's and low in the low 40's to high 30's.

Then on the second day of the Ohio Growers Congress, January 17, temperatures began to plummet with reported lows in the mid to lower teens and highs barely making it to 30. With low temperatures in the teens and negative digits and continued snowfall through February 20th this halted any further plant growth or branch crown development during this time. Temperatures began to warm and the snow began to thaw through mid March and then spring sprung early with daytime highs in the mid 60's to high 70's through the end of March. Many southern Ohio plasticulture fields began showing several open blooms by March 29 and due to the high temperatures and blooms growers began removing row covers from fields. These higher than normal March temperatures also resulted in some continued late winter branch crown development.

Things were really shaping up by April 3 with sweet Charlie variety at 50 to 70% bloom with many small fruit set and Chandler variety showing upwards to 30% bloom when thunderstorms rolled into the area and the winds began to gust. By 3 am on April 5 temperatures had dropped from 80 degrees 48 hours earlier to a nighttime low of 27 degrees at 3 am on April 5th. Growers began to scramble on April 4th and 5th to pull row covers and also dug out old row covers stored in barns and attempted to apply a second layer of row cover in 50 to 55 mph wind gusts in an attempt to save the bloom from the forecasted approaching freeze. Many growers even attempted to blow an additional straw layer on top of the already doubled up row covers to provide more insulation to the blooming strawberry crop, which was very difficult to apply in 60 mph wind gusts. Growers also began to fire up overhead irrigation systems and began making ice on April 5 where daytime highs were in the mid 30's and low were in the mid to lower 20's with wind chills in the mid to low teens. This overhead irrigation freeze protection continued through 4/8 with hard freeze each night from April 5 through April 8 with lows in the mid to high teens. Following this "Easter Freeze" event many blooms and small green fruit and plant top growth completely frozen off. Sweet Charlie sustained the worse damage.

Growers removed row covers and freeze blankets and began fertigation programs in an attempt to supply nutrients to help the severely freeze damaged plants shoot some new

plant growth and to renew the lost plant canopy. The end of April and May turned and stayed dry throughout the harvest season.

Harvest began on Sweet Charlie and Chandler by the end of April and lasted until the 2nd week of June for southern Ohio growers and through the middle of June for Northern growers. Very hot and drought conditions prevailed from Mid May throughout the harvest season resulting in berries ripening very quickly and an overall smaller fruit size. Post harvest yield estimates from plasticulture strawberry growers throughout Ohio indicate smaller than average fruit size and reduced yields ranging from 30% to 90% loss of crop from the winter and spring freeze events.

Overall plasticulture strawberry growers are happy with the 2007 crop yield and quality although their pockets are a little lighter in terms of income for the season due to the freeze, drought and high temperatures experienced throughout the growing season.

Many plasticulture strawberry have already placed their runner tip and plug plant orders with first tips to begin being shipped out of Canada in 4 weeks to start the 2007-2008 Ohio plasticulture strawberry growing season!!

Peel May be at the Core of Apple's Apparent Ability to Fight Cancer

(Source: USApple Association and Apple Products Research & Education Council Press release, June 6, 2007)

It's no secret that apples have historically played an important role in maintaining a healthful lifestyle. But what is it about the apple that "...keeps the doctor away"? Scientists in the Department of Food Science at Cornell University have concluded that the peel may, in large part, account for the potential cancer-fighting capabilities of apples. Numerous studies have previously linked the apple's antioxidant properties to reduce the risk of cancer, as well as a positive impact on heart disease, stroke, Alzheimer Disease, and symptoms of asthma. These findings have shown that whole apples and apple products exhibit high antioxidant activity. Researchers are now looking to determine exactly which part of the apple is the most responsible for the activity.

Dr. Rui Hai Liu and his research team at Cornell looked at the chemical composition of apples and identified a group of phytochemicals that are more abundant in the peel and appear to kill or inhibit the growth of at least three different types of human cancer cells: colon, breast and liver.

In the study, recently published in the Journal of Agricultural and Food Chemistry, researchers processed 230 pounds of apples and extracted the chemical content of the apple peel. Liu and co-author Xiangjiu He then isolated the phytochemical compounds in the peels and tested them on each of the 3 different types of cancer cells. Of the 12 compounds tested, most exhibited potent anti-cancer activity against all 3 cancer cells. In previous studies, Liu identified apple compounds that appeared to inhibit mammary tumor growth in rats. In this study compounds called triterpenoids were effective against breast, liver and colon cancer cells.

Apples contain a large concentration of various phytochemical compounds, including flavonoids, which act as powerful antioxidants. Liu suggests that, based on his research, apples are one of the largest sources of flavonoids in the American diet. According to the researchers, apples with peels "...may impart health benefits when consumed and should be regarded as a valuable source of natural antioxidants or bioactive compounds."

Source: R.H. Liu, X "Triterpenoids Isolated from Apple Peels Have Potent Antiproliferative Activity and May Be Partially Responsible for Apple's Anticancer Activity," *Journal of Agricultural and Food Chemistry*, 30 May 2007, Volume 55, Issue 11, Pages 4366 - 4370. For more information contact [Stacie Haaga](#)

Small Fruit in High Tunnels at PSU – What Have We Learned? by Kathy Demchak, Dept. of Horticulture (Source: *Fruit Times* Vol. 26, #6)

A few weeks ago, we removed the single-bay high tunnel raspberry and blackberry plants from the first tunnel that we had planted in 2000. What finally was responsible? It appeared to be a viral problem in the end – blistered, crinkled leaves in the spring, vigor going downhill, and crumbly fruit. I didn't submit a sample for a virus test, but I was certain the plants had a virus of some sort. Apparently, the somewhat constant travels of aphids, whiteflies, thrips, bees, and other assorted insects between the raspberries in the woods nearby, and our planting finally got to them. In the tunnels, we were using biocontrols only for the crops (part of a pesticide-free growing attempt), but as we always tell growers, when you're protecting a crop from viruses, the threshold for insect vectors is low, and we apparently exceeded it.

So, what did we learn from it all, besides the fact that we needed to protect the plants from insects? For primocane-bearing raspberries, the yield increase can be tremendous, along with almost no gray mold. If managed only for the fall crop, I'm comfortable saying that a yield increase of at least double the yields from the field can be expected. If also managed with a summer crop also, 2.5 – 3 times as much yield is reasonable, though the plants are likely to shift the majority of their yield to the summer without serious floricanes thinning in the spring, down to 2-3 floricanes per foot. For blackberries, tunnels made the difference between no crop in central PA, and the equivalent of 25,000 lb per acre of marketable fruit on average. Keeping the rows far enough apart – preferably 7' to 8' at least, is important in keeping the foliage dry, and in decreasing the disease incidence. We tried them closer together, and pulled that planting out in a little over a year. Some growers tell me that 7' to 8' apart is minimum, and if anything, we should be recommending keeping the rows further apart than that. At this point, we're attributing the yield increases to 2 things: 1) a decrease in stress and photosynthesis shutdown from wind, and 2) with adding 3-4 weeks of frost-free growing season onto each end of the season, you've increased frost-free growing time by 50% in central PA. The plants can do a lot with that.

We grew both raspberries and blackberries similarly to how we did in the field, and it worked pretty well. However, there are a few things I would have changed if I had it to do over again. I would have used a fertilizer balanced in nitrogen and potassium from the start, or maybe slightly higher in potassium as compared to nitrogen, instead of starting

out following our usual recommendation of applying only nitrogen after initial fertilizer adjustments. I think it would have helped to remove the cover from the tunnel at least once every 3-4 years over the winter. This would have helped with leaching of salts from fertilizer, and allowing the soil to freeze over the winter, which would have helped with management of some soil-dwelling insects. We were building up a nice population of ants our raspberry/blackberry tunnel, and had sowbugs and earwigs in our strawberries. The blackberries grew quite a crop of crown borers – so many that we dug out the blackberries three years ago. This was one way to get rid of the crown borers, but the blackberries came back with a vengeance, though we didn't produce any fruit for a year. This is one instance where a tunnel that has the plastic removed for the winter, like a Haygrove tunnel, would have its advantages. We also had two-spotted spider mites, which I expected to see in high numbers. Management of two-spotted spider mites on brambles was easier than I thought it would be (it was a different story with strawberries), with only two releases of predatory mites needed during life of the planting.

As far as varieties go, from what I could see both in our high tunnels and on growers' farms, I never saw a red raspberry variety that didn't work well in a tunnel, so if you like the characteristics of a particular variety in the field, you'll probably like it in a tunnel. Berry size does increase in tunnels somewhat. It still makes sense to me to grow a cultivar that has a long harvest season, like a primocane-bearer, as long as you have a market for the fruit in the fall.

In strawberries, a plasticulture system in the tunnel worked well. We managed the plants just like we did our field plasticulture field plantings, with a couple of differences. For one, plugs could be planted later – for us, mid-September instead of mid-August. This made the frequent late availability of plug plants less of an issue. The other was that narrower beds of plastic were used, and beds only 18" wide at the top, and 4 rows in a 17'-wide tunnel. With strawberries, management of spider mites was more problematic than with brambles, so we planted the double rows on the plastic closer together (8" apart), and plants within each row further apart, at 18". We planted in the fall, but didn't release predatory mites until the spring after we took the row covers off. Closer scouting during the fall, and possibly any scouting during the winter, might have inspired us to release predatory mites sooner, when we still could have gotten them under control (maybe). A miticide could have been used, as long as the label didn't restrict the use from protected culture. Strawberries also were the crop where sowbugs and earwigs moved in (never saw THAT before...), but the tunnel had stayed closed over the previous winter, and had numerous other crops in it before the strawberries were planted. After trying an assortment of strawberry cultivars, 'Chandler' was still my favorite. 'Sweet Charlie' didn't work at all, blooming in January. There's a day-neutral, that is expected to be released from Jim Ballington's breeding program at NC State in the next year or two, which worked well for us, and I'm looking forward to that one being on the market also. While we saw yield increases as compared to field production (1.25 lb per plant, as opposed to slightly under 1 lb per plant in the field), they weren't as large as the yield increases we saw with brambles, but as growers point out, you never lose a crop because of rain when you're in a high tunnel. The crop also ripens about three weeks earlier than in field production, giving you the early-season advantage.

For frost protection, we'd roll down the sides in late afternoon, and apply either one layer or two of a 1.25 oz/sq. yd. row cover, depending on expected lows. We used supplemental heat one year, but the row cover was a much easier option, so we never used the supplemental heat again.

So, where to from here? Folks have always asked about black raspberries in tunnels, and I always thought the harvest season was too short to make it worth growing them in a tunnel. But, we're giving them a try, comparing the performance of 'Jewel' to a primocane-bearing black raspberry from Pete Tallman, a private breeder, in Colorado. I'll let you know how it goes.

Penn State University Grower Field Day – July 12, 2007

- Discover New Fruit Research Information at the 2007 FIELD DAY, at the Penn State Fruit Center. Field tours will feature:
- High Density Apple and Rootstock Plantings
- Traditional and Alternative Management of Internal Fruit Worms
- Organic Apple Production and Pest Management Practices
- Transitioning into Wine Grape Production
- Rotational crops and mulch for weed and pest control
- Colony Collapse Disorder in Honey Bees
- And more...

The Grower Field Day is on July 12, 2007 and will start at noon and conclude with a dinner at 5:00 PM. Concurrent research and educational sessions will be held throughout the day. Tours of facilities and research field plots will be offered and participants will have the opportunity to ask the scientists questions regarding their research.

The cost of registration for the PSU Fruit Grower Field Day is \$15/person and includes educational handouts, drinks during breaks, and a BBQ dinner. Registration deadline is June 30, 2007. The registration forms are also available at the PSU FREC web site at: <http://frec.cas.psu.edu/>.

For more information please contact Dr. Greg Krawczyk at 717-677-6116 ext.5 or e-mail: gxk13@psu.edu.

Closing In on Methyl Bromide Alternatives by Rob Welker, Methyl Bromide Alternative Project Coordinator, NCSU, and Frank Louws, Dept. of Plant Pathology, NCSU (Source: The Strawberry Grower, North Carolina Strawberry Association, Vol. 13, #6)

For many years the loss of methyl bromide has loomed on the horizon. Actually, it has been out there on the horizon for so long that some people believed that it would never become an issue for them. Last fall the Critical Use Exemption material granted to the U.S. for production and import was larger than expected for 2008 (about 25% of the 1991 baseline amount, and about the same as our 2007 exemption amount).

Great news, right? Well, if you have not shopped for methyl bromide this spring you might be in for a surprise. Last fall most growers were buying the 67% methyl bromide and 33% chloropicrin mixture for around \$3 a pound. This formulation is no longer being offered by the suppliers I have contacted. The current formulated product is now a 50:50 mixture of methyl bromide and chloropicrin with a price of \$3.60 a pound. Twenty-five percent less methyl bromide for 17% more cost. Why?

It all goes back to the methyl bromide that was in the reserve stocks – methyl bromide manufactured prior to 2005 and maintained by the suppliers. This chemical has been sold for the past two years and prevented a fast drop in supply. Those reserves are being depleted, and soon the only chemical available will be the new chemicals produced for critical use exemption crops (like strawberries). There will be no reserve chemical to help fill in the gap between the chemical produced and the chemical desired by the growers. A year from now \$3.60 a pound for 50:50 could seem like the good ol' days. So what is the moral of this story? The end of methyl bromide is closer than you might think, and I hope you have a plan.

If you have not tried alternatives on your farm, this year looks like one of your last chances to try an alternative before you are forced into using something other than methyl bromide. As you consider the use of alternative fumigants and integrated pest management plans, a key question to ask is “Why do I fumigate?” Since the alternative fumigants do not have the same broad spectrum activity as methyl bromide, it is important to know what the current and potential problems are on each farm or field. The chemicals that are currently available for use all have their strengths and weaknesses, but you can find a chemical or a combination of chemicals that will work for your farm.

Virtually Impenetrable Films (VIF) are another factor that seem to be emerging as an important part of fumigation in the future. The original VIF products were manufactured overseas, were difficult to work with, and were expensive. New products are being produced in the U.S. that are more affordable and are becoming more available. Some of these products are also easy to work with and do not require special care to lay the plastic. Fumigants do not easily move through these tarps, so the chemical stays in contact with the soil in the bed for a longer period of time. This has allowed reduced application rates of fumigant with equivalent pathogen control. Current prices put VIF costs about 80% more than standard tarping, or approximately \$240 a roll vs. \$133 a roll for standard LDPE tarping. This cost can be offset, at least in part, by reduced chemical cost. Some data also indicates that better pathogen control can be obtained using reduced chemical rates and VIF versus using full rates and standard tarps. More research is needed to fully explore the benefits of VIF tarping, but it might be something you want to explore for your farm.

What about cost? That is another big question that all growers have on their minds. One acre of strawberries only has approximately one-half acre of treated soil under plastic, so a treated acre would be two acres of berries on plastic. Remember that this is for CHEMICAL only, and does not reflect all potential costs associated with the treatment.

Inline, for example, would probably require an additional drip line to obtain adequate coverage of the bed. Additional costs could also be additional weeding requirements or reduced yields, but if you are saving between \$700 and \$1000 an acre on chemical cost, you need to determine if any additional costs would be more than that.

Chemical cost to fumigate one acre of land

Methyl Bromide - 400 lb/A @ \$3.60/lb = \$1,440

Telone C-35 - 35 gal/A @ \$20/gal = \$700

Inline - 26 gal/A @ \$22/gal = \$572

Chloropicrin - 150 lb/A @ \$2.70/lb = \$405

Vapam - 75 gal/A @ \$5/gal = \$375

MIDAS 150 lb/A(+ VIF) @ \$10/lb = \$1500 + VIF cost

What about MIDAS? Currently it is not labeled for use, but it is in the final stages of that process. There is currently an Experimental Use Permit for MIDAS in several states, including NC, which allows a certain number of acres to be treated with the chemical with no crop destruction required. There are going to be several large scale trials on tomatoes in NC this year, and there will be strawberry acres treated this fall. The cost of MIDAS has always been a big question, and the current price puts MIDAS at around \$10/lb for the 50:50 formulation. The rates that have been used in the past have been in the 300 lb/A range on standard plastics, but all the current work by Arysta LifeScience is focusing on cutting that rate in half and using MIDAS in conjunction with VIF. Some of the research indicates that reduced rates and VIF provides better pathogen control than the higher rates of MIDAS on standard plastic. These changes would put the per acre cost of MIDAS just slightly above where methyl bromide is now, and the efficacy is potentially quite good on these VIF tarps.

Which product or combinations of products will work best for you? Now is the time to figure that out. Switching chemicals will not be as simple as taking the methyl bromide tank off and putting a Product X tank on. Even if you switch to a fumigant that you will be shank applying, there will be changes to your application rig (orifice and pressure changes), changes in Personal Protective Equipment requirements (please pay close attention to the label requirements), possible buffer zone changes, changes in your cultural practices (two drip tapes for drip-applied chemicals) and changes in your plant-back times. It's time to act. This year is potentially your last chance to set aside part of your field this year and try some alternatives. See firsthand how to work with these chemicals and look at how they perform on YOUR FARM. Do not wait to try something new until you cannot get Methyl Bromide – start your transition to alternatives now.

Calendar - Newly added in ***Bold***

June 28, OSU Extension Honey Bee Field Day, OARDC - Wooster. 3:00-8:00, Fisher Auditorium. For more information please contact: Sherry Ferrell 330-263-3684 or by email at ferrel.6@osu.edu

July 7, Viticultural Field Day, University of Kentucky Horticultural Research Farm, Lexington. 10:00 a.m. - 5:00 p.m. Registration \$25 for KVS members; \$50 non KVS members, includes lunch and KVS wine glass. Contact Kate Edwards 859-527-6635.

July 10, Western Research Station Agronomy Field Day, South Charleston, Ohio. (937) 484-1526

July 12, PSU Grower Field Day, Biglerville, PA 17307. The field day starts at noon and conclude with a dinner at 5:00 PM. Concurrent research and educational sessions will be held throughout the day. Cost is \$15/person. Registration deadline is June 30, 2007. For more information please contact Dr. Greg Krawczyk at 717-677-6116 ext.5 or e-mail: gxk13@psu.edu

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

July 14 -- Kentucky Nut Growers Association Summer Grafting Meeting, Don Compton's Farm, 387 W. Short St, Marengo, IN 47140; 812-365- 2278.

July 19, Crop, Soil, and Water Field Night, OSU South Centers, Piketon. For more information contact Dr. Rafiq Islam, 740-289-2071.

July 24, Farm Focus Field Day 2007, 8 a.m to 3 p.m Van Wert, Ohio. Rain date if needed- Thursday, July 26, 2007. Topics include GPS guidance and autosteering demonstrations, One pass fall tillage equipment demonstrations, OSU Entomology specialists covering corn rootworm scouting and root rating, plus other pests! There will be no charge for admission. For more information phone (419) 238-1214.

July 26, Beekeeping Workshop, OSU South Centers, Piketon. 3:00-8:00. More information to follow.

August 9, OSU South Centers Horticulture Field Night.

August 14-15, 2007. NASGA Summer Tour, Niagara Falls Canada and Niagara region of New York.

August 16, Ohio Grape & Wine Day, Ashtabula Agricultural Research Station, Kingsville. For more information contact Greg Johns (440/224-0273).

August 23, Northwest Michigan Horticultural Research Station Open House and Equipment Show, Traverse City, Michigan. For more information phone (231) 946-1510 or www.maes.msu.edu/nwmihort.

September 15 -16, Ninth Annual Ohio Pawpaw Festival, Lake Snowden. The Pawpaw will be celebrated with music, vendors, tastings, a cook-off, contests, kid's activities, and

more for the whole family. To find out more visit www.pawpawfest.com or email info@pawpawfest.com.

October 5-6, US Highbush Blueberry Council Fall Meeting, Crowne Plaza Northstar Hotel, Minneapolis, Minnesota. For more information: <http://www.blueberry.org/calendar.htm>.

Oct. 27 -- Kentucky Nut Growers Association Fall Meeting, UK Research and Education Center, Princeton. Contact Joe Masabni 270-365-7541 ext 247; e-mail jmasabni@uky.edu.

Jan. 7-8, 2008 -- Kentucky Fruit and Vegetable Conference, Embassy Suites, Lexington, KY. Contact John Strang 859-257-5685; e-mail: jstrang@uky.edu

Jan 14-16, 2008. Ohio Produce Growers and Marketers Association Congress, Kalahari Resort & Conference Center, Sandusky Ohio

NOTE: Disclaimer - This publication may contain pesticide recommendations that are subject to change at any time. These recommendations are provided only as a guide. It is always the pesticide applicator's responsibility, by law, to read and follow all current label directions for the specific pesticide being used. Due to constantly changing labels and product registrations, some of the recommendations given in this writing may no longer be legal by the time you read them. If any information in these recommendations disagrees with the label, the recommendation must be disregarded. No endorsement is intended for products mentioned, nor is criticism meant for products not mentioned. The author and Ohio State University Extension assume no liability resulting from the use of these recommendations.

Ohio Poison Control Number

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