

Northern Michigan FruitNet 2016

Northwest Michigan Horticultural Research Center

Weekly Update

FruitNet Report – March 16, 2016

CALENDAR OF EVENTS

- | | |
|-------------|--|
| 3/17 | All About Apple Bloom: Pollination, Blossom Blight, and PGRs Workshop
Kent County Extension Office, Grand Rapids, MI |
| 3/22 | The Cost of Producing Tart Cherries in Northwest Michigan Workshop
Northwest Michigan Horticultural Research Center |
| 4/6 | First day of Tractor Safety – Registration info below
Northwest Michigan Horticultural Research Center |
| 4/7 | Benzie-Manistee Horticultural Society Equipment Demonstration and Annual Meeting |
| 4/8 | 2016 Northwest Michigan Winegrape Meeting Series Spring Kick-Off
NWMHRC |
| 4/13 | Seasonal Worker Housing for Michigan Agriculture
NWMHRC |
| 4/14 | IPM Kickoff – Time TBD (More information to come)
Northwest Michigan Horticultural Research Center |

Tractor Safety Program

Teens can improve their chances of employment by completing tractor safety training. MSU Extension will host a 4-H Tractor Safety Program for 14 and 15 year old youth on Wednesdays, April 6, 13, 20, 27 from 6-8:30 pm at the NW Michigan Horticultural Research Station. The written and driving test will be held on Saturday, April 30 from 8:30am – 2:30pm. Participants must attend all five sessions to become certified. The cost is \$75 per student and some scholarships are available if finances are an issue. Youth must be 14 years of age by June 1, 2016. Space is limited. The

registration deadline is March 25. Registration forms are available online at www.msue.msu.edu/leelanau and attached.

Call the MSU Extension office for more information at 231-256-9888.

The Cost of Producing Tart Cherries in Northwest Michigan Workshop

Northwest Michigan Horticultural Research Center
March 22, 2016
5:30 – 8:00 PM

We would like to invite tart cherry growers to please join us for dinner and a cost of producing (COP) tart cherries workshop hosted by Mollie Woods, Emily Pochubay, and Nikki Rothwell at the Northwest Michigan Horticultural Research Center (NWMHRC) on March 22nd. This workshop will be a good opportunity for growers who are new or returning to the tart cherry business to learn about the many variables associated with production and how to calculate costs. We also encourage more seasoned growers to join us for an evening to catch up on crunching numbers or those who are looking to compare their COP estimates with an industry average.

The meeting will kickoff at 5:30 PM with a brief introduction to the findings of our 2015 COP study and describe to participants how the study's estimated production costs were generated. Following this presentation, participants will be provided with a current COP worksheet and guided through an exercise to calculate their individual farm business' production costs. We would like to encourage any interested individuals to bring with them any known costs such as chemical input expenses, labor rates, etc. as well as estimated yields on a per acre basis to improve the accuracy of their individual COP calculations. However, industry averages will be provided in the event that the suggested information is not available.

DEADLINE HAS BEEN EXTENDED. Please contact Jenn Goodrich at 231-946-1510 or goodr100@msu.edu to register by March 18th. This meeting is FREE and includes dinner. However, registration by March 18th is required to guarantee your dinner.

Thank you to the Michigan Cherry Committee for funding the cost of production research and this workshop.

Save the Date! April 7th, 2016

Benzie-Manistee Horticultural Society Equipment Demonstration and Annual Meeting

The Benzie-Manistee Horticultural Society and Michigan State University Extension invite you to an educational session on modern equipment for the 21st century orchards where we will feature platform and hedger education and equipment demonstrations. The day will begin on April 7th at 9:15 AM at the Blaine Christian Church (7018 Putney Road, Arcadia, MI 49613) with a morning of presentations by Farm Bureau on transportation laws updates. Phil Schwallier, MSU Extension, will present his research results on farm mechanization using equipment such as hedgers and platforms, and a grower panel will share their experiences of mechanization on the farm. Lunch will be provided at the church, and an afternoon of on-farm platform and hedger demonstrations will follow. At this time, we have over 10 pieces of equipment that will be demonstrated in high-density apple orchard systems. Participants will have the chance to meet with equipment dealers and fabricators at a Social Hour that will be held before dinner.

Registration cost is \$30 per person, which includes lunch and refreshments; a portion of proceeds will be provided to the Boy Scouts of America for their assistance setting up the meeting and dining area for this event. Additional details on dinner and the Benzie Manistee Horticultural Society annual meeting are forthcoming.

The deadline to register is April 1st. Please contact Jennifer Goodrich at 231-946-1510 or goodr100@msu.edu to register.

2016 NORTHWEST MICHIGAN WINEGRAPE MEETING SERIES

Spring Kick-Off

Friday, April 8, 2016

9:00 am – 5:00 p.m.

Northwest Michigan Horticultural Research Center,
6686 S. Center Hwy., Traverse City

\$10 for Parallel 45 members

\$15 for non-members

Pre-registration is required—

see <http://www.p45michigan.com/>

Program:

- 9:00 -- 9:15 Welcome and Parallel 45 update
Brian Hosmer, P45 President
- 9:15 -- 12:00 Vineyard sprayer technology and calibration
John Stone, Pesticide Safety Education Program, MSU
- 12:00 – 1:00 Lunch provided on-site
- 1:00 – 3:00 Grape disease biology and management
Annemiek Schilder, MSU
- 3:00 – 5:00 Comparative tasting of Michigan wines made from
vinifera varieties not commonly grown in the state
Led by a panel of local winemakers

Sponsored by:

Parallel 45 Vines & Wines Inc.
Michigan State University Extension
For more information, contact Duke Elsner at elsner@msu.edu or 231-922-4822

First Friday Meetings

May 6, 3-5 pm

2 Lads Winery

Sprayer rate controllers, drift management, visualizing deposition patterns—
Mark Ledebuhr, Application Insight

June 3, 3-5 pm

L. Mawby Vineyards

Disease scouting, weather influences and fungicide selection—Annemiek
Schilder, MSU

July 1, 3-5 pm

Hawthorn Vineyards

Natural enemies, new insecticide options, perimeter spray programs - Rufus
Isaacs, MSU

August 5, 3-5 pm

Shady Lane Cellars

Compost tea trials and applications

NW Michigan Horticultural Research Center Open House

August 25 (date tentative), 1-5 pm

Variety trial observations & mechanical weed management

Sponsored by:

Parallel 45 Vines & Wines Inc. (<http://www.p45michigan.com/>)

Michigan State University Extension

For more information, contact Duke Elsner at elsner@msu.edu

2016 Blueberry Kickoff Meeting on March 21

Pre-season update for blueberry growers on cultural and pest control strategies for the 2016.

By **Mark Longstroth**, and Carlos Garcia, MSUE News

Airblast tower sprayer applying an early season spray in blueberries.

Michigan State University Extension blueberry team's annual Blueberry Kickoff Meeting will be March 21, 2016, at the MSU Trevor Nichols Research Center, 6237 124th Ave, Fennville, MI 49408. The meeting will start at 1 p.m. and conclude about 5 p.m. Three RUP credits will be available to certified pesticide applicators in Private and Commercial fruit. There is a \$5 registration fee to cover break snacks and handouts.

To attend, please register by calling or emailing me at 269-873-8983 or longstr7@anr.msu.edu, or Mary Frein at 616-994-4540 or frein@anr.msu.edu. Preregistration provides us with information for planning the number of handouts and audience seating.

Topics to be covered at this meeting include:

- Introduction and Updates on 2016 Blueberry Meetings, Mark Longstroth and Carlos Garcia Salazar, MSU Extension small fruit educators for Van Buren and Ottawa counties
- Updates from the Michigan Blueberry Industry, MBBAC and USHBC representatives

- What Does the 2016 Growing Season Look Like? Jeff Andresen, MSU climatologist
- Blueberry Weed Control, Bernie Zandstra, MSU Horticulture professor
- Blueberry Nutrition Update, Eric Hanson, MSU Horticulture professor and Extension specialist
- Enviro-weather Update, Beth Bishop, MSU Enviro-weather coordinator
- Blueberry Irrigation and Spring Freeze Control Options, Mark Longstroth, MSU Extension small fruit educator, Van Buren County
- Update on FSMA (Food Safety Modernization Act), Carlos Garcia Salazar, MSU Extension small fruit educator, Ottawa County
- Blueberry Insect and Insecticide Update, Rufus Isaacs, MSU Entomology - professor
- Early Season Blueberry Disease Control Update, Annemiek Schilder, MSU Plant, Soil and Microbial Sciences professor

Growers with special needs may request assistance by contacting me at 269-873-8983 or longstr7@anr.msu.edu, Mary Frein at 616-994-4540 or frein@anr.msu.edu, or Carlos Garcia at 616-260-0671 or garcias4@msu.edu.

All About Apple Bloom: Pollination, Blossom Blight, and PGRs Workshop

Thursday, March 17, 2016
9 a.m. - 2 p.m.

Kent County Extension Office
775 Ball Ave. NE
Grand Rapids, MI

This workshop designed for apple growers will focus on bloom-time issues including pollination, blossom blight control, and timing of plant growth regulators. Growers will learn about the wild pollinators likely to be found on their farms, how to improve communication with beekeepers providing pollination services, how to draft a pollinator stewardship plan, programs to offset the cost for planting pollinator habitat, strategies for controlling blossom blight, blossom thinning techniques and other bloom-time related plant growth regulator issues. Lunch is included.

Cost:

\$20 per person

Workshop Agenda

8:30 a.m. Check in, coffee provided

9:00 a.m. Welcome, Workshop Overview

9:05 a.m. What is Integrated Crop Pollination?

9:15 a.m. Wild Bees in Michigan Apple Orchards

10:00 a.m. Making the Most of Managed Pollinators

10:45 a.m. Break

11:00 a.m. NRCS Cost-share programs

11:15 a.m. Developing a Pollinator Stewardship Plan

11:45 a.m. Lunch

12:15 p.m. Strategies for Managing Blossom Blight

1:00 p.m. Blossom Time Thinning

Seasonal Worker Housing for Michigan Agriculture

Hosted by: League of Women Voters Leelanau County

Wednesday, April 13, 2016, 7:00 PM

Northwest Michigan Horticultural Research Center

Speakers include:

Connee Canfield, farmer, migrant housing developer and site manager for SunRISE migrant worker apartments in Hartford, MI

Majed Ghussaini, manager for the Migrant Labor Housing Inspection and Licensing Division, MI Department of Agriculture and Rural Development (MDARD)

Meeting is open to the public and is part of the Farm Labor Task Force Forum that the League of Women Voters Leelanau County puts on.

Grape growers spring kickoff meeting held April 4, 2016

This is the first of several in-season integrated pest management meetings for all grape growers and those interested in juice or wine grape production.

Posted on **March 14, 2016** by [Brad Baughman](#), MSUE News

[Michigan State University Extension](#) is hosting the 2016 Spring Kickoff Meeting for grape growers at 3 p.m. on April 4 at the [Southwest Michigan Research and Extension Center](#), 1791 Hillandale Rd, Benton Harbor, MI 49022. Experts on viticulture [Bruce Bordelon](#) of [Purdue University](#) and [Imed Dami](#) of [Ohio State University](#) will be joining us. They will be discussing research results from in-vineyard trials at Purdue University and Ohio State University regarding cold injury and frost management. [Keith Mason](#) from [MSU Department of Entomology](#) will be updating growers on current research on grape insect pests. Discussion will follow each speaker, so growers are encouraged to bring questions. Dinner will be served after the educational presentations at 5 p.m.

Two restricted use pesticide recertification credits have been requested for this meeting. Registration includes dinner and is \$13 per person for pre-registration before March 28 or \$18 at the door. Checks should be made out to Michigan State University and mailed, along with a note of the name and preferred contact information of registrants, to:

Berrien County MSU Extension
1737 Hillandale Rd
Benton Harbor, MI 49022

[View or print meeting registration brochure](#)

MSU's grape integrated pest management meetings are sponsored in part by the [Michigan Wine and Grape Industry Council](#).

Accommodations for persons with disabilities may be requested by contacting MSU Extension at 269-944-4126 by March 17. Requests received after this date will be fulfilled when possible.

More reasons for soil testing

Improper pH and higher than adequate nutrient levels are reasons for regular soil testing.

Posted on **March 11, 2016** by [Ron Goldy](#), MSUE News

There are currently 20 nutrients known to be essential for plant growth (Table 1). Carbon, hydrogen and oxygen are obtained from air or water while others are obtained from the growing media, whether that is soil in the field, a hydroponic system or something in between. Nutrients obtained from air and water are largely beyond producer control, although in greenhouse situations CO₂ levels can be enhanced, but those obtained from the growing media can, in most situations, be adjusted if needed.

Table 1. List of the 17 nutrients essential for plant growth, their Periodic Table symbol and where the nutrient is generally obtained.

Primary	Symbol	Source
Nitrogen	N	Soil
Phosphorous	P	Soil
Potassium	K	Soil
Secondary	Symbol	Source
Calcium	Ca	Soil
Magnesium	Mg	Soil
Sulfur	S	Soil
Micronutrients	Symbol	Source
Boron	B	Soil
Chlorine	Cl	Soil
Cobalt	Co	Soil
Copper	Cu	Soil
Iron	Fe	Soil
Manganese	Mn	Soil
Molybdenum	Mo	Soil
Silicon	Si	Soil
Sodium	Na	Soil
Vanadium	V	Soil
Zinc	Zn	Soil
Others	Symbol	Source
Carbon	C	Air
Hydrogen	H	Water

Oxygen	O	Air/Water
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Most producers are aware soil pH influences nutrient uptake and have seen Figure 1. This figure shows that if soil pH is not within the proper range – 6.2 to 7.2 for most crops – nutrient uptake is inhibited. That doesn't mean the nutrient is not in the soil, it just means the soil chemical environment is not suitable for uptake of that nutrient. This usually takes place in highly alkaline (greater than 7.5) or highly acidic (less than 5.5) situations. If the pH is outside the desired range, recommendations will be made to either add sulfur to lower pH or lime to raise it. High organic soils, however, are well buffered and resistant to pH changes so plants grown in these soils will generally need foliar applications of limiting elements. Outside the desired pH range it is also possible for some non-essential nutrients to become more available, which can lead to nutrient toxicities. Aluminum (Al) is best known for this at lower pH.

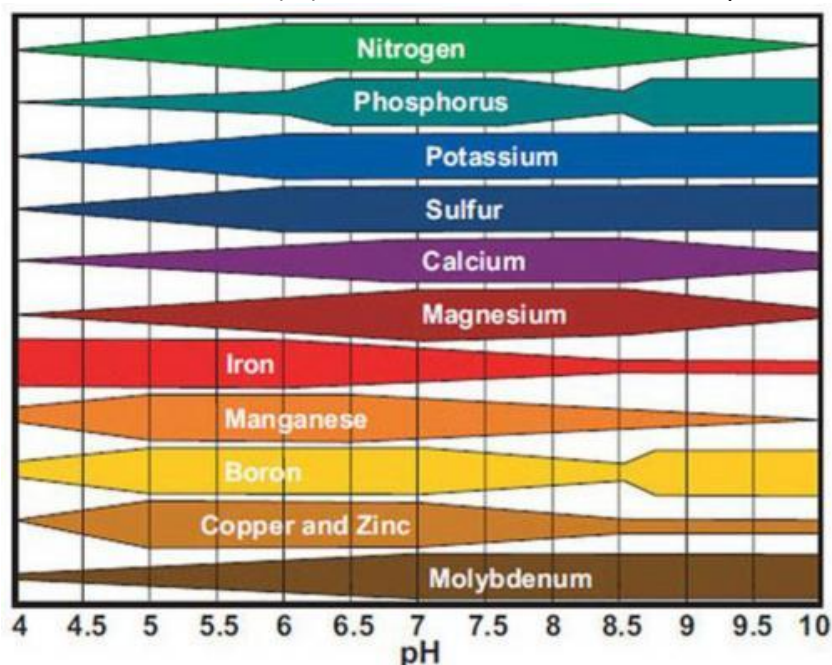


Figure 1. Nutrient availability in relation to pH. The thicker the bar the more available the nutrient.

A lesser known but equally important interaction is the one shown by the Mulder's Chart (Figure 2). The Mulder's chart represents the interaction between 11 of the essential plant elements. Some interactions are positive (synergistic) and others are negative (antagonistic). A synergistic relationship is one where the elements involved help each other by aiding uptake or utilization. In contrast, an antagonistic relationship means the elements hinder each other in uptake or utilization. For example, adequate potassium aids in use of iron and manganese, but if it is too high it will hinder (antagonizes) utilization of magnesium, boron, nitrogen, phosphorous and calcium. An antagonized element may be present in adequate levels, but there is so much potassium present the plant doesn't have access to it. Elements that act as antagonists can do so in

a couple ways. If calcium is in excess it can simply out-compete other elements such as potassium and magnesium for uptake sites on the roots, or it can change soil chemistry by elevating pH to the point iron and boron become unavailable.

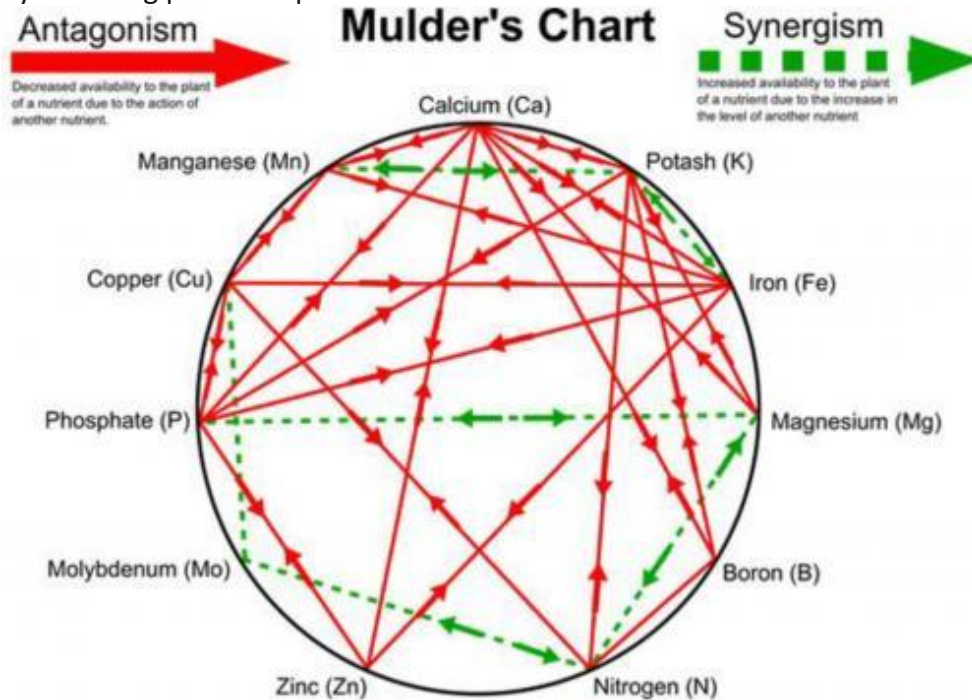


Figure 2. Mulder's chart of antagonistic (solid lines) and synergistic (dashed lines) elements.

Improper pH and higher than adequate nutrient levels provide more reasons for the need for regular soil testing. To apply nutrients without first establishing a base nutrient level is one of the biggest mistakes growers can make. I have known growers who have applied potassium without soil tests only to have their plants show symptoms of magnesium deficiency. Farming is risky enough, so don't ignore the simple and inexpensive step of performing a soil test.

Potential sources of labor: Are these in your future plans?

Farms should think about different strategies to fill their labor needs in 2016 and beyond. Consider any and all of these options and strategies to obtain needed workers in the future.

By **Tom Dudek**, MSUE news

Growers in Michigan should review their current methods for attracting and retaining workers and be flexible to try new methods and strategies to attract workers to the farm. Farms are competing with local manufacturers, construction, retailers, food

service and virtually any other employers for a shrinking labor pool. [Michigan State University Extension](#) suggests the following 15 items that may spark some ideas you may not have thought about in locating employees. They represent sources and management practices that many successful farms are using to maintain their work force in the current tight labor market.

- 1 Visit the [Michigan Works Offices](#) website and see items like Grower Profile and Interstate Job Clearance Order (Form 790).
- 2 Build strategic alliances with other farmers (local, regional, other states) and other hand labor crops.
- 3 Utilize temporary employment services, but be sure they are a licensed farm labor contractor.
- 4 Make trips to the southern states to recruit workers; visit *your* workers in Florida or Texas.
- 5
- 6 Provide licensed housing. Federal and state rules and regulations are involved.
- 7 Contact your Intermediate School District, such as Holland Careerline Tech Center, Kent Skills, Allegan Tech Center, etc., or summer training programs for local youth. Also, local FFA chapters in area high schools can have students available for work experiences.
- 8 Participate in local two-year and four-year college's career nights. There are more students wanting to learn about food and farming systems and work experiences.
- 9 Contact "faith based" groups helping settle refugees. You may need to supply daily transportation.
- 10 Resolve your farms internal issues such as wage scale, benefits, scholarships, management training, inviting back current workers, improving your interview skills and improving your new worker training.
- 11 Add "recruiting workers" as a line item to your farm's annual business plan. It takes time, effort and money to do these items.
- 12 Consider H-2A workers. This involves more paperwork and rules to follow, but more employers are going this route.
- 13 Have a good labor lawyer and consultant, such as Farm Bureau Ag Labor and Safety Services, and others. It is essential to keep in the know on labor rules

and regulations.

- 14 Use employment ads on the web, for example a local farm advertising for workers on a newspaper website with a banner ad across the top.
 - 15 Advertise with agriculture job services. These are mostly for management level and grower level positions.
 - 16 Enhance your farms “word of mouth” success by providing current employees with written job announcements and emails they can forward to perspective employees. Have employees contribute to the wording on these announcements.
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Knowing pest life cycles helps with resistance management

Rotating pesticide chemistries is critical to successful pest management, but knowing insect and disease life cycles also plays a big role.

By **Ron Goldy**, MSUE News

Growers are well aware of the need to rotate pesticide chemistry to minimize the chances of pests developing resistance. However, there is more to resistance management and pest control than just rotating chemistries. Understanding pest life cycles is another important piece to this puzzle. The life cycle characteristic I want to focus on for this article is whether the pest overwinters locally or migrates in each year from other locations.

Whether we appreciate it or not, northern winters are a benefit when it comes to keeping some of our worst pests in check. Some pests simply are unable to survive cold temperatures while others need live tissue to survive and the cold kills the host plant. This is true for some insects and diseases. For migrating pests, the chemistries they are exposed to at their overwintering site and during migration are important factors when it comes to controlling them on your crops.

A good insect comparison is the difference between European corn borer and corn ear worm. European corn borer overwinters locally and the population can be reduced by winter cold, especially in years with little snow cover, but some will still survive to infest subsequent corn plantings. The population of European corn borer that affects your crop this year was primarily exposed to the chemistries you used last year. In contrast, corn ear worm overwinters starting in southern Ohio and a number of generations are exposed to products to which they can develop resistance before they get to your crop. It is possible the products you used last year that worked well may work poorly this year since the population may have developed resistance before reaching your location.

Resistance developed in migratory pest populations may be due to no fault of your own. An example for disease is downy mildew and Alternaria leaf spot of cucumber. Alternaria leaf spot overwinters in plant debris and is in your field waiting for you to plant a susceptible crop. According to [Michigan State University Extension](#) recommendations, the first steps in controlling Alternaria leaf spot is practicing good crop rotation followed with good rotation of pesticide chemistries. Like European corn borer, the Alternaria leaf spot population in your field this year was primarily exposed to the control products you used last year. However, downy mildew is an obligate parasite, which requires live tissue for survival, so it completely dies out on your site and must come back from southern locations or greenhouse situations where it may have been exposed to several applications of a control product. Even if you have not used that particular product at your location to control downy mildew, the pathogen may have already developed resistance through exposure prior to arriving on your farm.

The “take aways” from this article are: Know the lifecycles of your pests, continue chemistry rotation, and don’t expect products that worked last year to work this year on pests that have lengthy migrations.

Preseason fruit IPM meetings March 22 and 24 in southwest Michigan

These preseason meetings are an update for fruit growers on pest and disease control strategies for the 2016 growing season.

By [Mark Longstroth](#), Brad Baughman and Bill Shane, MSUE News

Buds will soon start to swell with warm, spring weather. These apple buds are at green tip.

Fruit growers are invited to the preseason integrated pest management (IPM) update meetings, hosted by [Michigan State University Extension](#) fruit educators [Bill Shane](#), [Brad Baughman](#) and me. Included is a review of important changes in the new 2016 MSU [Michigan Fruit Management](#) Guide (E0154), including management information for fruit insects and diseases. We will discuss useful findings from recent fruit research projects and the proper use of new pesticides. An important part of the meeting is growers sharing their concerns from 2015 as they look forward to 2016.

Two evening meetings are scheduled: a [Berrien County Fruit Update](#) and a [Van Buren County Fruit Update](#). The Berrien County meeting is 6-8 p.m. on Tuesday, March 22, 2016, at the [Southwest Michigan Research and Extension Center](#), 1791 Hillandale Rd, Benton Harbor, MI 49022. The Van Buren County meeting will be 6:30-8:30 p.m. on Thursday, March 24, at the Lawrence Conference Center, 490 S Paw Paw St, Lawrence,

MI 49064.

Each meeting will cover the same material focusing on new and changing pesticide labels, pesticide spray timing and pesticide mode of action, effectiveness and longevity. Pesticide resistance management and insect and disease management models will also be discussed. Other topics will include bee safety during pollination and controlling the new invasive pest spotted wing Drosophila. Shane, a tree fruit educator, will concentrate on tree fruits. As a small fruit educator, I will cover small fruits such as blueberries, raspberries and strawberries. Baughman, the Berrien County small fruit educator, will cover grapes. Two RUP Private, Commercial or 1C credits will be available. All fruit growers are invited to attend and participate. Registration is free and available online (visit the Berrien County Fruit Update and Van Buren County Fruit Update registration pages). Growers can also register at the door before the beginning of the meeting.

A limited number of Michigan Fruit Management guides will be available for \$25 at the meeting, cash or check only. They can also be ordered at the MSU Extension Bookstore.

MSU Extension programs and material are open to all without regard to race, color, national origin, gender, gender identity, religion, age, height, weight, disability, political beliefs, sexual orientation, marital status, family status, or veteran status. Michigan State University is committed to providing equal opportunity for participation in all programs, services and activities.

WEB SITES OF INTEREST:

Insect and disease predictive information is available at:

<http://enviroweather.msu.edu/homeMap.php>

This issue and past issues of the weekly FruitNet report are posted on our website:

<http://agbioresearch.msu.edu/nwmihort/faxnet.htm>

60 Hour Forecast:

<http://www.agweather.geo.msu.edu/agwx/forecasts/fcst.asp?fileid=fous46ktvc>

Information on cherries is available at the new cherry website:

<http://www.cherries.msu.edu/>

Information on apples:

<http://apples.msu.edu/>

[Information on grapes:](#)

<http://grapes.msu.edu>

Fruit CAT Alert Reports:

<http://news.msue.msu.edu>