Northern Michigan FruitNet 2017
Northwest Michigan Horticultural Research Center

Weekly Update

FruitNet Report – July 31, 2017

CALENDAR OF EVENTS

8/24	**NWMHRC Open House, Equipment Demo and Leelanau Hort Society Annual Meeting and Dinner**

What's New?

- **Over the Row Harvest at the NW Station – Public Invited**

NEW ARTICLES

Over the Row Harvest at the NW Station – Public Invited

On Tuesday, August 1, we will be harvesting high-density tart cherries planted in a research block at the Northwest Michigan Horticulture Research Center, near Traverse City. The plot was established in 2011 with the support of the GREEEN project and the Michigan Cherry Committee. We are experimenting with treatments to maintain trees in a compact canopy to accommodate an over the row harvester designed for cherry harvest. This work began in 2008 to determine the feasibility of this approach to growing and producing tart cherries in high density systems. We invite growers to view harvesting at the Northwest Michigan Horticulture Research Center (6686 S CENTER HWY, TRAVERSE CITY, MI 49684) starting at 11:00 AM on Tuesday, August 1, 2017.

With the support of the Michigan Tree Fruit Commission, Michigan State Horticulture Society and the International Fruit Tree Association, we will be harvesting the research plot on August 1, at 11AM using a modified Littau TF (Tree Fruit) harvester. Previous work with the Twin-Tower Rotating-Tine harvester mechanism has been found to be efficient and effective in fruit removal of cherries.

Dr. Ron Perry, Professor of Horticulture, MSU, Project PI
Dr. Todd Einhorn, Professor of Horticulture, MSU, Project PI
Dr. Nikki Rothwell, NWHRC Director and Extension Educator, MSU, team cooperator

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ARTICLES FEATURED IN PAST FRUITNET REPORTS

An update from the NWMHRC on 2017 spotted wing drosophila

Diligent SWD management is necessary to prevent infestations until blocks are harvested.

N. Rothwell, E. Pochubay, K. Powers

Spotted wing drosophila (SWD) numbers continue to rise across the region. We are catching high numbers of females but very few male flies. This finding is a reminder to scouts to be sure to count both male and female flies as the vast majority of flies caught this season have been females. Trap catch numbers are listed in the table below, and again, growers should remember that the NWMRHC traps are higher than commercial orchards because we have many unsprayed trees. However, our concerns about SWD are mounting with the increased trap counts, and we have heard reports of infested fruit

from orchards and berry crops across the state. It is critical that growers maintain tight intervals, slow down sprayers, and apply *excellent* materials over *good* materials when this is an option for SWD control; *good* materials can and should be used if coverage is needed and *excellent* materials are no longer an option.

In addition to increased SWD pressure, the region received significant rainfall today (26 July). The rainfall came in two waves and was more intense than expected. Rainfall totals were variable across the region, and Old Mission received the most rain at 1.16" (so far today) and Eastport received just less than one inch. Most other Enviroweather stations received ~0.5" of rain, but the Benzonia and Bear Lake stations recorded less rain: ~0.25". Although growers will consider the amount of rainfall, when they last sprayed, and the efficacy of the material, we are recommending most orchards will need to be covered again to prevent SWD infestation. As populations rise, SWD becomes more challenging to control, and growers do not want to take the risk of infestation with too little residue on fruit. At this time of year, we need to have the most efficacious insecticides with the best coverage possible—we cannot afford to have worked so hard this season to have SWD infest orchards at harvest. To maintain excellent coverage and minimize the risk of infested fruit, some growers have applied an insecticide to the rows that will be harvested last in a block as long as the PHI requirements can be met.

Additionally, we are sampling for SWD larvae in research blocks, and the numbers are unnervingly high. This situation is another reminder for growers to maintain tight spray programs as some blocks at the NWMRHC are close to 100% infested. Interesting, but preliminary, results show that we have higher numbers of SWD larvae in older trees with bigger canopies. This finding is not unexpected, but our data shows that older tart cherry trees that were *not* pruned this season had a total of 450 larvae in three gallons of fruit, but trees where we pruned *25% more* had only 95 larvae in three gallons of fruit. The number of larvae is very high because we did not spray insecticide in this trial, but there are significant differences in the number of larvae with different levels of pruning.

These results are also supported by the number of larvae we found in our efficacy trial conducted in trees planted in 2011—these trees are small and less dense or more open canopies. We found a total of 22 larvae in the untreated check (UTC) in this trial. The number of larvae from the UTC from a trial conducted in an orchard planted in 2004 had over 400 larvae. Again, although preliminary data, we believe that growers with large trees and dense canopies need to be even more diligent about SWD control. Although we recommend that growers use full covers for SWD, these observations suggest that full covers are especially important in larger trees and blocks with dense canopies.

Lastly, growers should not stretch their intervals, especially with the increases in SWD numbers. We have heard reports of SWD infested sweet cherries where the intervals had been stretched. This situation is particularly evident when growers stretch out intervals with pyrethroids. Under high pressure, we recommend to keep pyrethroid intervals to 5 days or less – even less under hot and sunny conditions (pyrethroids are susceptible to UV degradation), which are in the forecast for the remainder of the week. Mustang Max is a pyrethroid that just received a section 18, which has a PHI of 3 days in

tart cherries. However, growers cannot apply more than two applications between 14 and 3 days of harvest, and these two applications must be spaced at least 7 days apart.

We will continue to keep growers informed of SWD numbers, and we are available for help throughout the harvest season.

CIAB Newsletter – Reminder for Growers

Please view the attached document Grower Diversions Reference Chart

CROP ESTIMATES AND MARKET CONDITIONS-On June 22, 2017 the CIAB met to discuss crop size and market conditions for the 2016/17 crop year. Sales, inventories and compliance activities were also discussed by the board along with carryout needs. Information from the meeting is presented below:

Crop Estimates (million lbs):

District	USDA-NASS	CIAB
NW Michigan		130
WC Michigan		26
SW Michigan		28
Subtotal, MI	164.5	184
Washington	25.3	26
New York	9	8
Wisconsin	10.4	9
Utah	29	25
Oregon		2
Pennsylvania		5
TOTAL	238.2	259

USDA-NASS reported their estimate based on surveys in late May and early June. Surveys were not conducted in Oregon and Pennsylvania. The board voted unanimously to adopt the CIAB estimate for the preliminary calculation of the optimum supply formula (OSF) for June. Unregulated districts for the preliminary restriction are Oregon and Pennsylvania.

OSF CALCULATION AND RESTRICTION- Free and restricted inventories are used, along with the crop estimate and sales, in the calculation of the OSF. The inventory breakdown is included below:

Inventory Type	Million lbs
Free	**110.5**
Restricted	**65.9**
Total	**176.4**

Inventory by type (as of May 31, 2017):

Product Type	Million lbs	Percent of Total
Frozen, General use	93.2	53%
Frozen, Dryer stock	42.6	24%
Waterpack	2.1	1.2%
Piefill	9.3	5.3%
Puree	0.6	0.3%
Juice	24.1	13.7%
Dried	2.4	1.4%
Other	1.7	1.0%
Total Carry-in	**176.4**	**100%**

Demand- 3 Year Average Sales- Sales for the marketing year ended May 31, 2017 are 260.8 million lbs. For calculation of the OSF, three year average sales are used to determine demand, plus a market growth factor (10% of 3 yr avg or 37.6 mm lbs). Average sales for the calculation are (in million lbs):

	Gross sales	Exports	USDA-Bonus Sales	Free Sales
2014	235	12	21.9	201.1
2015	257	12	46.8	198.2
2016	260	15	41.3	203.7
3 yr Avg.	**250.6**	**13**	**36.7**	**201**

OSF and Preliminary Restriction Percentage-The following table lays out the preliminary OSF calculation as approved by the CIAB on June 22, 2017. The adjusted surplus amount is divided by the amount of regulated tonnage available to calculate the restricted percentage amount (63.4/240 = 26%). The regulated tonnage number is smaller than the total crop estimate since Oregon and Pennsylvania are not included and also because the CIAB included an estimate for in-orchard diversion of 12 million lbs.

PRELIMINARY OSF CALCULATION-

Supply	
U.S. Crop	**259**
+ Carry In	**110.5**
=TOTAL SUPPLY	**369.5**
3 year sales avg	**201**
+ Target Carryout	**45**
+USDA Adjustment	**36**
=OPTIMUM SUPPLY	**282**
SURPLUS (TOTAL – OPTIMUM)	**87**
-Market Growth Factor	**23.7**
=Adjusted Surplus	**63.4**

Please note: Growers should contact their processor(s) directly about plans for compliance with the restriction percentage.

In-Orchard Diversion- In contrast to last year, the CIAB chose to include an estimate for in-orchard diversions for calculation of the OSF in June. Including this estimate in June increases the preliminary restriction percentage, but also helps to lessen the impact of changes in September when the CIAB sets the final restriction percentage.

SWD- A subcommittee of the CIAB worked this Spring to address concerns about in-orchard diversion practices and growers dealing with SWD (Spotted Wind Drosophila). The subcommittee recommended a proposal to amend in-orchard diversion practices and the proposal was adopted unanimously by the CIAB at its May 3 meeting in Grand Rapids, MI. Since we do not anticipate the proposal to be in place this season, the CIAB has moved ahead with retraining in-field compliance staff so that marketability for diversion is consistent with the FDA tolerance for canned and brined cherries. In practice, this means tart cherries will be rejected for in-orchard diversion only if they contain more than 5 tart cherries with worms, or 7 tart cherries with rot from a sample of 100. If growers have any questions about this inspection process, please feel free to contact the CIAB office directly.

MARKET EXPANSION- In January the CIAB tasked the Executive Committee with developing a proposal to address competition from non-domestic tart cherries. The committee met several times by conference call and in person to develop a proposal that was both workable and acceptable to as many in the industry as possible. The committee invited guests for input from sectors most impacted by non- domestic competition. Ultimately, a proposal was presented to the full CIAB on May 3, 2017 and it passed unanimously. USDA has agreed to allow the CIAB to adopt the provisions of the proposal in practice while it works its way through the informal rule making process. The most significant changes from the proposal are:

1. Market expansion projects will be eligible to earn diversion credits for 5 years

2. Projects that target non-domestic competition can be approved through the existing NPNM process, or through an expedited process by providing a statement of intent to use domestic tart cherries in place of non-domestic

3. Projects that target non-domestic product can be supplied by more than one handler and multiple handlers can receive credit for that project

CALENDAR of Events July – October, 2017

July 10, 17, 24, 31 – Form #1 Weekly Raw Product

July 10	Form #3 Sales/Inventory Report (for the period ending June 30)
July 17	Export and Market Expansion Documentation – June 1 through June 30
Aug.	7, 14, 21, 28 - Form #1 Weekly Raw Product
Sept. 1	Form 2 Cherries Acquired from Producers
Sept. 14	CIAB meeting, Fairport, NY
Oct. 2	Form 4 Handler
	Reserve Plan and Final Pack Report
	Form 5A Inventory Reserve Summary
	Form 5B Inventory Location Report

Soil Health Field Day – Antrim County

Presented by the Antrim Conservation District

Friday, August 11, 2017 from 10 AM – 3PM

Shooks Farm, 5833 Shooks Rd. Central Lake, MI 49622

$10 per person. Registration includes a local foods lunch. Registration begins at 9:15AM. MAEAP Phase one credit for attending.

Topics include:

- Up to date science and demos on soil health
- Soil heath to weather the weather extremes
- Beyond the basics with Mycorrhizal Fungi
- Benefits of no-till, cover cropping and strip cropping

Only pre-registration guarantees lunch. For more information and to register, visit www.antrimcd.com or call 231-533-8363

Soil Health Field Day – Kalkaska

Presented by the Kalkaska Conservation District

Thursday, August 10, 2017 from 10AM – 2:30PM

Birgy Farms, 1723 Birgy Rd SW, Fife Lake, MI 49633 (Enter on Puffer Road, SW of house)

$10 per person. Registration includes a local foods lunch with grass-fed beef. Registration begins at 9:15AM. MAEAP Phase one credit for attending.

Topics include:

Soil health to weather the weather extremes
Beyond the basics with Mycorrhizal Fungi
Grazing to improve soil health

Only pre-registration guarantees lunch. For more information and to register, visit www.Kalkaskaconservation.org or 231-258-3307

Black Stem Borer Information Needed

The black stem borer, *Xylosandrus germanus,* is a small (2mm) ambrosia beetle that has been causing more problems in apple plantings than in past years. In fact, we have seen more issues with this pest in 2017 than other years combined. Black stem borer adults most commonly attack stressed trees, and growers may not notice these small beetles/infestations until the trees start to collapse. These beetles often attack trees on the orchard edge, commonly near woodlots; however, this spring, we have detected infested trees in the orchard middles or far from the orchard perimeter.

Signs of black stem borer infestation is initially difficult to detect, but growers can look for tiny entrance holes (1mm in diameter), sawdust "toothpicks" protruding from the holes, dark discoloration on the bark, oozing sap and dry, blistery bark. The dark bark is the most visible sign, and once this discoloration is detected, growers can examine the trees more carefully to look for the small entrance holes.

Additionally, there is a monitoring protocol that some consultants have been using to detect black stem borer emergence and activity. We remind those who are trapping for the beetles that the traps baited with ethanol or spirits are not specific to black stem borer and that many different beetles including black stem borer look-a-likes could be

present in the traps. Because the beetles are so small, positive identification can be difficult. Hence, scouting orchards for symptoms such as entry holes, toothpicks, etc. as well as the beetles inside of the tree should be used in conjunction with monitoring devices to determine the level of trees infested with black stem borer.

There are many hypotheses as to why we are seeing a higher number of infested orchards this season than in past years. First, ash trees have been declining due to emerald ash borer, and once these trees die, opportunistic insects that infest stressed trees may be looking for new hosts. We have had a few hard winters in recent years, and trees may be stressed as a result of these prolonged cold temperatures. Additionally, any type of tree stress seems to increase stem borer activity: drought stress, too much water, less than optimal fertilization programs, or a combination of many of these stresses. Lastly, we are planting more high-density apple blocks today than in the past, and perhaps, we are just noticing an increased numbers of stem borer simply because there are more trees planted on dwarfing rootstocks, which are more susceptible to mortality due to their size.

We are trying to learn more about this pest and its impacts across the region. If your farm has had problems with black stem borer, please contact Nikki, Emily, and/or Jenn at the NWMHRC (231-946-1510. rothwel3@msu.edu, pochubay@msu.edu, or goodr100@anr.msu.edu). We would like to know the age of the trees, the age when the trees became infested, the nursery, location of the block(s), rootstock, and variety. We will compile this information to see if there are areas of overlap between infested sites. Thank you for your help!

Clarifications on Worker Protection Standards: Central Posting for Pesticide Application Information versus Decontamination Station Requirements for Agricultural Workers

Eric McCumber, MDARD
Emily Pochubay and Nikki Rothwell, MSU Extension

Both MDARD and MSU have received recent questions about the requirements to display pesticide application information at a central posting area. Growers also have questions about what should be included at designated decontamination stations. This article is intended to clarify such questions because we have heard misinformation that pesticide application information should be posted within a ¼ mile of where agricultural workers are working in a treated block—this type of posting is *not* required to meet WPS regulations. This confusion may be related to regulations for decontamination stations; according to WPS, **decontamination stations** are required with ¼ mile from where agricultural workers will be working during the REI or for 30 days thereafter of the application of a WPS-labeled pesticide. Although we will cover the key points for these

two issues in this article, more detailed information can be found in the How To Comply Manual (HTCM) at www.pesticideresources.org. In the HTCM, central posting location information is on page 21 and decontamination station information can be found on page 48. The information presented below is relevant to agricultural employers of agricultural workers. Supplies needed for handlers' decontamination sites are different and we encourage employers and handlers to review this information as needed (page 74-75 of the HTCM).

Central Posting

Central posting locations serve as the hub for pesticide application information, and this central posting location is the *only* location on the farm that is required to contain the information outlined below. *According to MDARD, central posting locations* are areas where all farm employees can find any information related to pesticide applications. If a WPS-labeled pesticide has been applied, or if a restricted-entry interval (REI) has been in effect within the past 30 days, then the agricultural employer must display the required information (see below) at a central posting location whenever any agricultural worker is on the agricultural establishment. The location of the central posting is determined by the agricultural employer, but it should be placed in a location where employees congregate such as the workshop, office, break room, or an area where they check in for work. Agricultural workers must be informed where the designated central posting location is located and must be allowed unrestricted access to the posted information during employment hours.

Agricultural producers are required to display at the central posting area the following information. Again, agricultural workers must have unimpeded access to the information during work hours.

- **Pesticide application information including:**

  - ✓ Brand name of the pesticide(s) applied.
  - ✓ Active ingredient(s).
  - ✓ EPA Reg. No.
  - ✓ REI.
  - ✓ Crop/site treated.
  - ✓ Location and description of treated area(s).
  - ✓ Date(s) and time(s) application started and ended.

- **Safety Data Sheets** (SDS) for each pesticide product.

- **Pesticide Safety Information**. Prior to the updated WPS, this information was required to be displayed in a poster format (known as pesticide safety poster). Agricultural employers are no longer required to display a poster, but must provide information about certain WPS safety concepts about preventing pesticides from entering the body. The required 7 safety concepts include:

- ✓ Avoid getting pesticides on your skin or into your body. Pesticides may be on plants, soil, irrigation water, equipment, or may drift from nearby applications.
- ✓ Wash before eating, drinking, using chewing gum or tobacco, or using the toilet.
- ✓ Wear work clothing that protects your body from pesticides, such as long-sleeved shirts, long pants, shoes, socks, and a hat or scarf.
- ✓ Wash or shower with soap and water, shampoo hair and put on clean clothes after work.
- ✓ Wash work clothes separately from other clothes before wearing them again.
- ✓ If your body is contaminated by pesticides wash immediately, and as soon as possible, wash or shower with soap and water and change into clean clothing.
- ✓ Follow directions about keeping out of treated or restricted areas.

In addition, the updated safety information that will be required in the future must include:

- ✓ Instructions for seeking medical attention as soon as possible after being poisoned, injured or made ill by pesticides.
- ✓ Name, address and telephone number of state or tribal pesticide regulatory authority. In Michigan, the agency is the Michigan Department of Agriculture and Rural Development, 525 West Allegan Street, P.O. Box 30017, Lansing, MI. The phone number is 800-292-3939.
- ✓ If pesticides are spilled or sprayed on the body use decontamination supplies to wash immediately, or rinse off in the nearest clean water, including springs, streams, lakes or other sources if more readily available than decontamination supplies, and as soon as possible, wash or shower with soap and water, shampoo hair, and change into clean clothes.
- ✓ Follow directions about keeping out of treated areas and application exclusion zones.
- ✓ The term “emergency medical facility” should be revised to “a nearby operating medical care facility.” Include name, address, and telephone number for the medical facility. This information should be clearly identified as emergency medical contact information on the display.
- ✓ The point that there are federal rules to protect workers and handlers is self-evident and is no longer required to be part of the safety information

NOTE: The updated pesticide safety information content is not required until 1/4/18, but employers can begin using the updated version immediately. Details are shown on page 23 of the How To Comply Manual. The EPA is in the process of developing a poster version of the pesticide safety information.

Agricultural producers are only required to have *one central posting area*, but must provide unrestricted access to agricultural workers during work hours. It can be impractical for farms that are many miles apart to give unrestricted access, so agricultural producers may set up different central posting areas for distinctly different farm locations at their discretion. Agricultural employers may also provide the central posting information electronically, as long as content, accessibility, display, legibility, location, and retention requirements are met. Employers would need to ensure that agricultural workers have access to the information, such as through a smart phone or dedicated computer, and are instructed in how to access the information.

Decontamination sites

Agricultural employers must make sure that decontamination supplies are provided to workers doing tasks that involved contact with anything that has been treated with the pesticide including soil, water, or plants in a pesticide-treated area where, within the last 30 days, a WPS-labeled pesticide product has been used or a REI for such pesticide has been in effect.

Decontamination supplies that must be provided include:

- ✓ Water – the employer must provide at least 1 gal of water per worker at the beginning of the work period and at a quality and temperature that will not cause injury or illness if it contacts skin or eyes, or is swallowed.
- ✓ An adequate supply of soap and single use towels. Hand sanitizers or wet towelettes *do not* meet the requirement for soap or towels.

Duration of the Decontamination Site

If the REI of an applied pesticide is greater than 4 hours, decontamination supplies must be provided until 30 days after the end of the REI expires. If the REI is less than 4 hours, decontamination supplies must be provided until 7 days after the REI expires.

Location of Decontamination Sites

All decontamination supplies for agricultural workers must be located together and be reasonably accessible to where the workers are working (generally within ¼ miles of the workers) and be outside of any treated area or an area under a REI. For worker tasks performed more than ¼ mile from the nearest point reachable by vehicles or more than ¼ mile from a non-treated area, the decontamination supplies may be at the nearest vehicular access point outside any treated area or area under REI (page 48 of the HTCM).

Remember that in addition, the Pesticide Safety Information (formerly referred to as the Pesticide Safety Poster) must be displayed at any permanent decontamination site, or any decontamination site that services 11 or more workers (page 21, HTCM).

In summary, central posting locations are the main hub for pesticide application information, and the information that must be displayed at the central posting locations is not required in other agricultural areas (i.e. ¼ mile from workers working in treated fields, or at decontamination stations). It is the responsibility of the employer to train employees on how and where to access the central posting information. Although not required, some growers may choose to provide additional pesticide application information to their workers by having additional posting sites or virtual access to this information. Potable water, and an adequate supply of soap and single use towels, and possibly pesticide safety information (if the decontamination site is a permanent location or services more than 11 workers) must be provided at decontamination

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Respirator Guidelines to Meet New Worker Protection Standards

Growers will need a medical evaluation and respirator fit test to handle and apply some pesticides this season.

Emily Pochubay and Amy Irish-Brown, MSU Extension

Requirements for a medical evaluation, fit testing, and specific training for use of respirators and the associated record keeping became effective on January 2, 2017. At this time, most growers are aware of this revision to the Worker Protection Standard (WPS) regulation that requires pesticide handlers and applicators to wear a respirator during mixing/handling, spray applications, and potential other uses as outlined on pesticide labels. Additionally, those who use pesticides with respirator requirements must receive documentation from a physician or licensed health care professional (PLHCP) that has 'respirator evaluation' as part of his/her license to ensure that the pesticide handler is medically able to use a respirator. Not all PLHCPs are qualified to provide the respirator evaluation, but primary care physicians should be able to refer patients to appropriate medical personnel. Alternatively, growers can contact local occupation and environmental health professionals who are more likely to have the credentials needed to provide the appropriate respirator medical evaluation and documentation. Please review the following guidelines to help address some of the recent questions we have received from growers.

Who needs to receive a medical evaluation and how often?

Employees that could be exposed to hazardous airborne contaminants may be required to wear a respirator; respirators and respirator use requirements will be outlined on individual pesticide labels. Some pesticides may require respirators for employees that mix spray material and/or require applicators to wear a respirator during applications of certain pesticides. Employers are responsible for ensuring that employees receive the appropriate equipment, evaluation, respirator fit test, training, and record keeping that conforms to OSHA standards.

According to the EPA, the medical evaluation is required one time per employee unless another evaluation is required due to one of the following reasons:

- The medical determination is only good for a specified length of time.
- The employee reports medical signs or symptoms related to respirator use.
- The PLHCP, supervisor, or program administrator recommends a re-evaluation.
- Fit-test or other program information indicates a need for re-evaluation.
- When changes in the workplace increase respirator stress on an employee.
- The initial medical examination demonstrates the need for a follow-up medical examination.

Who provides the evaluation? What kind of evaluation and documentation are needed?

A physician or licensed health care professional (PLHCP) with respirator evaluation as part of their license will provide the appropriate evaluation using a medical questionnaire or exam that conforms to the OSHA standard. Contact the PLHCP to determine whether a questionnaire or exam will be used and to receive appropriate paperwork. Prior to completing the questionnaire or exam, employers must provide employees with:

- The type and weight of the respirator that the handler will use.
- How long and how frequently the handler will use the respirator.
- How much physical work the handler will do while using the respirator.
- Other PPE the handler will use.
- The temperature and humidity extremes of the working environment.

Contact a primary care physician to receive a referral for a licensed professional, if necessary. Another low-cost (~$25) and fast alternative for a medical evaluation is OshaMedCert (http://www.oshamedcert.com/Default.aspx), an online service that involves filling out a form and sending it for approval or denial by a PLHCP; individual's health information remains confidential throughout the process. A respirator fit test (see below) will be needed after receiving the medical determination from OshaMedCert.

A written medical determination of the respirator evaluation for each employee is required before the employee can use the respirator. The employer must keep the medical determination documentation for two years. According to the EPA, the required written information to be provided by the PLCHP to the employer must only include:

- Whether or not the employee is medically able to use a respirator.
- Any limitations on respirator use in relation to the medical conditions (if any) of the employee or workplace conditions.
- Need for any follow-up medical evaluations.
- A statement that PLCHP provided the employee with written recommendation; in some cases, this recommendations may simply state that the applicator/person that will use the respirator is capable of wearing a respirator.

Again, the information outlined above is the *only* information that should be provided in the PLHCP's recommendation to the employer to protect the employee's private medical information and avoid violation of HIPAA laws.

What's Next? Respirator Fit Tests.

After receiving a medical evaluation, a fit test is needed to ensure that the respirator forms an adequate seal with an employee's face to provide appropriate inhalation exposure protection. A new fit test is required annually or whenever there is a change to the respirator or a physiological change to the employee that could affect the seal between the respirator and the user's face. Furthermore, fit tests are required for each type of respirator that will be used as indicated by pesticide labels. Finally, employees must undergo the fit test using a respirator with the exact specifications of the respirator that will be used on the job.

Fit tests must follow OSHA protocols, and there are two methods for fit testing. The quantitative fit test (QNFT) requires special equipment and a trained person to conduct the testing. Fit test kits are also available to perform qualitative fit tests (QLFT) by a person that can accurately prepare test solutions, calibrate equipment, perform the test properly, recognize invalid tests and ensure test equipment is working properly. Sources for fit tests include pesticide suppliers or companies such as Gempler's or Grainger.

A primary care physician may be able to provide additional options and referrals for fit test providers in the area. We confirmed that Munson Medical Center's Occupational Health and Medicine Clinic (550 Munson Ave. Traverse City, MI 49686; Ph: 231-935-8590) is equipped to perform the appropriate respirator exam (~$80.00) and the fit test (~$25.00) in one visit by appointment only. Spectrum Health Services in other areas of Michigan provide similar services. Patients that wish to only receive a fit test need to provide appropriate respirator exam result documentation prior to the test.

Additional information regarding respirator requirements and other WPS revisions can be found in the EPA's *How to Comply with the 2015 Revised Worker Protection Standards for Agricultural Pesticides* (https://www.epa.gov/sites/production/files/2016-10/documents/htcmanual-oct16.pdf).

WEB SITES OF INTEREST:

Farmer to Farmer - Connecting Farmers, Cultivating Community
http://www.f2fmi.com

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://www.canr.msu.edu/nwmihort/nwmihort_northern_michigan_fruit_net

60-Hour Forecast:
http://www.agweather.geo.msu.edu/agwx/forecasts/fcst.asp?fileid=fous46ktvc

Information on cherries:
http://www.cherries.msu.edu/

Information on apples:
http://apples.msu.edu/

Information on grapes:
http://grapes.msu.edu