

Northern Michigan FruitNet 2014

Northwest Michigan Horticultural Research Center

Weekly Update

April 22, 2014

CALENDAR OF EVENTS

- | | |
|-------------|---|
| 4/24 | Tractor Safety Class #3
NWMHRC |
| 5/1 | Tractor Safety Class #4
NWMHRC |
| 5/2 | First Friday Wine Grape Meeting
NWMHRC |
| 5/3 | Tractor Safety Test
NWMHRC |
| 5/6 | IPM Update – Leelanau Co.
Bardenhagen Farm, 12:00-2:00 p.m. |
| 5/6 | IPM Update – Grand Traverse Co.
Wunsch Farms, 3:00- 5:00 p.m. |
| 5/7 | IPM Update – Antrim Co.
Jack White Farm, 10:00-Noon |
| 5/7 | IPM Update – Benzie Co.
Loy Putney Farm, 2:00-4:00 p.m. |
| 7/2 | IPM Updates End |

Growth Stages at NWMHRC (April 21, 2014, 2:00 p.m.)

Apple: Red Delicious – Dormant
Gala – Dormant
Yellow Delicious – Dormant
Pear: Bartlett: Dormant
Sweet Cherry: Hedelfingen: Late bud swell
Napoleon: Late bud swell
Gold: Early side green
Tart Cherry: Dormant
Balaton: Late bud swell
Apricot: Bud swell
Grapes: Early scale crack

Wine Grapes

No bud swell has been seen on Chardonnay and Riesling vines in the research vineyards. It is still too early and cool for insect and disease activity. There is still a good period of opportunity for dormant sprays against powdery mildew.

Many vineyards have not yet been pruned, with growers waiting to see some signs of bud swell to determine the overall condition of vines following our severely cold winter temperatures. At the research center our plan is to prune the Rieslings and Chardonnay in a fairly typical manner, but attempting to leave behind 15-20% more nodes than normal to account for winter bud mortality. If there is an excess of shoots once growth begins, the numbers can be readily reduced to target levels.

For cultivars that exhibited around 50% mortality of primary buds (typical of Pinot Noir, P. Gris, P. Blanc and many others) our plans are to do the best we can to double the number of nodes left at pruning. For vines which have sufficient long canes for renewal, two canes will be tied out in each direction from the trunk. If useable long canes are not available, the alternative choice will be “long spur” pruning, leaving spurs about twice the usual length.

There are a few cultivars in the research vineyard that have a very low percentage of live buds on canes that were above the snow cover. For these vines, it will be very important to leave as many nodes as possible at pruning- which could mean no pruning at all this spring. The small portion of the buds that are alive may then still provide enough shoots to distribute the vigor of the vine, avoiding the serious problem of having only a few shoots that would all become bull canes by the end of the season. The severe bud injury that occurred in March of 2003 was very successfully handled with this approach, resulting in a full recovery of vines and a normal crop load in 2004.

There will be a meeting at the Northwest Michigan Horticultural Research Center vineyard on **Friday, May 2, at 3-5 p.m.** to observe the results of winter injury to numerous cultivars and to discuss recovery strategies.

CIAB REFERENDUM RESULTS

We are able to report that tabulation of the referendum to determine continuation of the order is complete.

Producers and processors of tart cherries have approved continuation of the order regulating the handling of tart cherries grown in the States of Michigan, New York, Pennsylvania, Oregon, Utah, Washington, and Wisconsin. In the referendum that took place from March 10, 2014, to March 28, 2014, 76 percent of eligible producers who voted, representing 85 percent of the participating volume, favored continuing the order. Additionally, 74 percent of eligible processors who voted, representing 74 percent of the participating volume also favored continuance.

These results are well about the fifty percent threshold needed to continue the order. The next continuance referendum will take place in 2020.

Jennie M. Varela
Marketing Specialist
USDA AMS Fruit & Vegetable Program

TREE FRUIT IPM UPDATE SERIES – 2014

Emily Pochubay and Nikki Rothwell
Michigan State University Extension

After a one-year break, Michigan State University is back to offering on-farm IPM workshops in Leelanau, Grand Traverse, Antrim, and Benzie counties in northwest Michigan for the 2014 season. Workshops begin the first week of May in hopes of providing commercial tree fruit growers with a review of good practices for developing sustainable pest management programs as well as key information on early season disease protection. Workshops through the first week of July will highlight management of the season's current potential pest challenges dictated by weather and pest biology. Attendees are encouraged to bring examples of pests and damage found on the farm to these workshops for identification and discussion. These IPM workshops are free and do not require registration. Certified crop advisor continued education credits and pesticide recertification credits will be available. Tree fruit growers are welcome to attend meetings at any location and time that is most convenient. We are looking forward to

interacting with you all at these meetings. For more information, please contact Emily Pochubay at pochubay@msu.edu or (231) 946-1510.

IPM Update Locations

Leelanau County

Location: Jim and Jan Bardenhagen, 7881 Pertner Rd, Suttons Bay
Dates: May: 6, 13, 20, 27; June: 3, 10, 17, 24; July: 1
Time: 12PM – 2PM

Grand Traverse County

Location: Wunsch Farms, Phelps Road Packing Shed, Old Mission
Dates: May: 6, 13, 20, 27; June: 3, 10, 17, 24; July: 1
Time: 3PM – 5PM

Antrim County

Location: Jack White Farms, 10877 US-31, Williamsburg
(south of Elk Rapids on the southeast side of US-31)
May: 7, 21; June: 4, 18; July: 2
Time: 10AM – 12PM

Benzie County

Location: Loy Putney Farms, 4286 Raymond Rd, Frankfort
May: 7, 21; June: 4, 18; July: 2
Time: 2PM – 4PM

USDA FARM SERVICE AGENCY ANNOUNCES TREE ASSISTANCE PROGRAM SIGN-UP

Can I use the Tree Assistance Program (TAP) for my rodent-damaged fruit trees?

Posted on **April 15, 2014**, **MSUE News**, by [Amy Irish-Brown](#), and Phil Schwallier, Michigan State University Extension

With the new [Farm Bill](#), the [USDA Michigan Farm Service Agency](#) (FSA) has announced that orchardists and nursery tree growers who experienced losses from natural disasters that occurred on or after Oct. 1, 2011, can sign up for the [Tree Assistance Program](#) (TAP) beginning Tuesday, April 15, 2014. TAP was authorized by the Agricultural Act of 2014 as a permanent disaster program. You can read the [TAP press release](#) online for more information.

The high winter snow accumulation and little open ground for good predation has forced mice and rabbits to eat the exposed bark of many fruit trees because no other food was available.

Many reports are coming in from all of Michigan's fruit growing regions of high levels of rodent damage to tree fruits. Many growers are asking if TAP can be used to cover these tree losses. The short answer today is no. According to the [TAP press release](#), "TAP provides financial assistance to qualifying orchardists and nursery tree growers to replant or rehabilitate eligible trees, bushes and vines damaged by natural disasters."

The more complicated answer is that the final answer is not in yet. The heavy snowfall can be viewed as a natural disaster that precipitated the rodent damage. Different groups and agencies are working on this issue. There could be a change in how a long-term snowpack is viewed.

In the meantime, if you have tree losses or expect you might, you should contact your [local FSA office](#) to report it so it is documented. Make the effort even if they tell you that the program does not cover rodent damage. Multiple reports will give the FSA a good picture of the extent of the problem more than hearing that a lot of growers say there is damage.

Either way, there are things you should do to document the damage. [Michigan State University Extension](#) advises growers to take pictures and make notes with dates documenting the damage. To qualify for TAP, orchardists must suffer a qualifying tree, bush or vine loss in excess of 15 percent mortality from an eligible natural disaster.

For more information, producers are encouraged to review the [2014 Farm Bill fact sheet](#) and the [TAP fact sheet](#), or contact a [local FSA county office](#) or [USDA Service Center](#).

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SELECTING AND STORING SCION WOOD FOR GRAFTING

This is the time of year to begin collecting scion wood if you are thinking you may need to perform some grafting this late winter or early spring.

Posted on **April 11, 2014, MSUE News**, by [Ron Perry](#), Michigan State University Extension, Department of Horticulture

Top working, or changing varieties in the field, can be accomplished now using the dormant scion wood and inserting into cut scaffolds using the traditional cleft graft method. This approach can yield success, but often requires a little more grafting skill in making the slope cuts on scion wood. Secondly, the cleft graft limits numbers of scions per scaffold to two. Therefore, many delay the work until spring to use the bark graft method where more than two scions can be inserted on a scaffold (more insurance) depending on the diameter of the scaffold (one scion stick per 2-inch in circumference).

The skill needed to make slope cuts on scions requires less practice and skill than the cleft graft scion preparation. The best time is when the cambium is active or bark is slipping for bark grafts, [bridge grafts](#) and inarching. Inarching is a practice where suckers that have sprouting from the rootstock can be brought up to bridge a damaged or injured union. It also refers to planting a bare root tree or rootstock adjacent to a tree and grafting the top of the tree into the bark of the target tree.

Once the season progresses and trees experience a drought stress in summer, the cambium slows in activity and so does the opportunity to graft. For this reason, scion wood needs to be collected now while dormant and stored for use some four to seven weeks later. Techniques such as [bridge grafting](#) and inarching are used to overcome severe damage to trunks caused by mice and rabbits or bypass dying unions, often caused by viruses such as brown line in plum and black line in walnuts.

Selection of scion wood

Select scion wood from healthy, virus-free plants. Try to avoid trees older than eight to 10 years of age as they have likely bloomed for at least five to seven years or more and possibly contracted pollen-borne virus diseases. Commercial nurseries prune “mother-block” trees back each year to avoid bloom and generate vigorous scion wood. This wood can also be purchased for grafting.

Limit wood to one-year-old wood. Avoid any wood or portion of wood that is older. Wood should be straight and have a lot of vegetative buds (narrow buds). This varies among species. Avoid any wood with spurs (fruit/blossom). Wood should be between 0.25 and 0.5 inches in diameter.



Good candidate for scion wood



(Left) Mature apple bud at basal end of shoot on the left and immature portion at distal end on the right. (Right) Close up of mature apple bud.

While some grafters like to use watersprouts, [Michigan State University Extension](#) recommends avoiding excessively vegetative shoots. If it is the only healthy, straight wood available, discard the terminal ends where there are less carbohydrates stored and where buds lack maturity.

Avoid suckers that arise from the rootstock, below the union. One of the problems with using watersprouts is that the tissue often lacks in stored carbohydrates, which is important in the wound healing and callusing process.



(Left) Candidate watersprout growth for scion wood (center). (Right) Avoid excessively vigorous watersprout growth with vegetative spurs. Section above spurs may be satisfactory.

Storage of scion wood

Bundle pieces of scion wood and place into a polyethylene bag. I like to bundle the wood in 14-18-inch lengths if possible to insure adequate length, especially if bridge grafting is anticipated. The longer pieces gives the grafter the option to remove ends that, after storage, have dried and allows for flexibility in bridging long portions, around 8-10 inches, of damage by rabbits or equipment.

Place **lightly** moistened paper towels or wood shavings in with the scion wood. Be sure not to over-wet the paper towels or shavings as this can attract mold after four to eight weeks in storage. Some grafters like to dip cut ends in wax prior to storage to reduce desiccation.



(Left) Remove distal end where wood and buds are less mature. (Right) Cut to 12-18 inches in length.

See also:

- [Bridge grafting girdled fruit tree trunks](#)

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SECTION 18 SPECIFIC EXEMPTION GRANTED FOR KASUMIN FOR FIRE BLIGHT CONTROL IN 2014

EPA has granted a Section 18 Specific Exemption for use of Kasumin 2L (kasugamycin) on apples for control of the blossom blight phase of fire blight in 2014.

Posted on **April 14, 2014**, **MSUE News**, by [George Sundin](#), Michigan State University Extension, Department of Plant, Soil, and Microbial Sciences

A **Section 18 Specific Exemption** has been granted by EPA for the use of Kasumin 2L (kasugamycin) for the control of the blossom blight phase of fire blight on apples in 2014. This use is for orchards where streptomycin-resistant fire blight bacteria are present. The Section 18 exemption is applicable to Antrim, Berrien, Cass, Grand Traverse, Ionia, Kent, Leelanau, Montcalm, Newaygo, Oceana, Ottawa and Van Buren counties.

This Section 18 exemption **only applies** to counties where we have detected streptomycin-resistant isolates of the fire blight pathogen *Erwinia amylovora*. We currently have not detected any streptomycin resistance in eastern Michigan, for example.

Kasumin 2L should be available in each region this year in time for bloom sprays. [Michigan State University Extension](#) advises growers to make sure you have the Section 18 label in hand when you are applying Kasumin 2L. Do not apply Kasumin through any irrigation system.

Conditions and restrictions of the Section 18 specific exemption

- Apply Kasumin only when the pathogen is resistant to streptomycin. We have documented streptomycin resistance in all of the counties listed in the first paragraph above.
- Do not apply Kasumin as the first spray of the season. It can only be used after a first spray of a registered alternative. These can include copper, oxytetracycline, Serenade MAX, or other biological control agents.
- **Kasumin 2L may only be applied when the following condition is met:** Only when the disease forecasting model or fire blight state expert determine that the weather conditions favor a disease epidemic.

This condition is similar to previous years. We have typically utilized the [MaryBlyt fire blight prediction model](#) and have called for Kasumin applications when the Epiphytic Infection Potential (EIP) number from the MaryBlyt model **reaches or exceeds 100**. This model is available on the [MSU Enviro-weather](#) website; use the weather station closest to your orchard location to get local conditions. Make sure to document the MaryBlyt EIP prediction by printout or screen capture to include in your spray records. Also, make sure you document the EIP number when you make the decision to spray – since this number is predicted for the next few days out, the number can change as current conditions and predictions change.

In summary, the use of Kasumin 2L is limited to potential epidemic conditions; if these conditions are not present this year, other fire blight control materials such as oxytetracycline should be used.

- A maximum of **two sequential applications** of Kasumin can be made at a rate of 2 quarts (64 fluid ounces) per acre. Applications are restricted to ground equipment and cannot be made through any type of irrigation system.
- A maximum of **three applications** of Kasumin can be used (64 fluid ounces per acre) if authorized. Treatments can be made no later than petal fall.
- **Alternate row applications are not allowed.** This requirement of the Section 18 exemption is for resistance management and was instituted in 2012.
- Do not apply Kasumin as the first spray of the season. It should be applied only after the first spray of registered alternatives.
- Do not use in orchards in which the soil has been fertilized with animal manure. This restriction addresses concerns that kasugamycin resistance could be transferred to *E. coli* bacteria present in animal manure.
- Upon expiration of the exemption on May 31, 2014, all unopened and unused product must be returned to the dealer where purchased or to the manufacturer or disposed of in

accordance with [Resource Conservation and Recovery Act](#) regulations following the expiration of the Section 18 exemption.

Kasumin 2L (kasugamycin) from [Arysta](#) is an alternative antibiotic for fire blight management. Kasumin 2L will work equally on streptomycin-resistant and streptomycin-sensitive strains. The label rate is 2 quarts per acre.

Please note that my lab will also be conducting resistance monitoring in selected orchards this year that use Kasumin. This is to satisfy an EPA directive that we monitor for the occurrence of kasugamycin resistance, and also the potential for resistance to other related antibiotics. We will be taking leaf and soil samples from approximately 10 orchards throughout the state. These monitoring experiments will be conducted after petal fall. We have conducted these monitoring studies for the past three years in support of the Section 18 application. Our results have shown no risk of an increase in antibiotic resistance because of the Kasumin applications.

As always, I want to thank Brian Verhougstraete, pesticide registration manager of the [Michigan Department of Agriculture](#), for his support of this Section 18 request. Verhougstraete submits our request each year and serves as our liaison to EPA.

Dr. Sundin's work is funded in part by [MSU's AgBioResearch](#).

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DORMANT OIL FOR SAN JOSE SCALE MANAGEMENT 2014

[Considerations for effective and safe use of dormant oil on San Jose scale in apples.](#)

Posted on **April 15, 2014**, **MSUE News**, by [Amy Irish-Brown](#), and Phil Schwallier, Michigan State University Extension

[Michigan State University Extension](#) educators and growers around the state reported higher than normal San Jose scale numbers on apple fruit in bins in 2013. Dormant oil is an effective method to control San Jose scale and should be considered for use in 2014 if the weather and growth stages are right.

The term “dormant” in dormant oil can be a little misleading as the more commonly used timing is delayed dormant, or as close to green tip as possible and up until the pink stage. Keep in mind that oil and green tissue are not very compatible. Phytotoxic damage to buds, blossoms and fruitlets is possible, thus care must be taken to avoid weather extremes. Do not use oil sprays 48 hours before and after a frost event. Avoid using oils in very hot (over 85 degrees Fahrenheit) and humid conditions.

Good coverage is important for all spray applications and especially when using oil to target San Jose scale where the treatment target is on and under bark scales where the overwintering scales are. A common way to use dormant oil is 2 gallons/100 at 100 gallons of water per acre at green tip with copper. Some growers will break up their oil applications into two sprays: once at green tip with copper and another at 1 gallon/100 at tight cluster with Lorsban.

Rates need to be reduced as the oil is applied closer to pink. Spur and bud damage is a high risk at pink and should be down to no more than 1 gallon oil/100. Late applications will offer the best help to control scale and mites and adding Lorsban or another insecticide will help control rosy aphids.

Different crop protection retailers have different products and they all work similarly. Be sure to work closely with your spray salesperson for the best recommendation and use of their products. Dormant oil needs to be applied with care and attention to the weather conditions before and after the application.

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CLARKSVILLE RESEARCH CENTER ASSISTANT FARM MANAGER POSITION

The posting number for this position is 9272.

It can be accessed here:

<https://jobs.msu.edu/applicants/jsp/shared/frameset/Frameset.jsp?time=1397663982494>

Minimum Requirements: Knowledge equivalent to that which normally would be acquired by completing a four-year college degree program in horticulture or plant science with courses in pomology and pest management; one to three years of related and progressively more responsible or expansive work and supervisory experience in daily orchard management with knowledge of tree fruit crops and associated equipment; or an equivalent combination of education and experience; knowledge of basic personal computer terminology and operations, and the ability to use e-mail and the internet; possession of a valid vehicle operator's license; possession of commercial pesticide applicator's certification in appropriate categories within six months of hire.

Desired Qualifications: A working knowledge of experimental design and data collection; working knowledge of Microsoft Office® software; experience in orchard pest scouting and integrated management strategies; five or more years of experience successfully managing intensive, high density fruit production systems; extensive knowledge of modern tree fruit

horticultural practices; ability to creatively solve problems and manage support staff; excellent communication skills.

Job Summary: Assists with day-to-day tree fruit and other specialty crop research-related farming operations at the Clarksville Research Center; will work closely with the research coordinator to create a positive center environment that supports world-class research and extension activities. Responsibilities include assisting with implementation, management and maintenance of all projects; assists with supervision of maintenance of land use, operational records and databases; assists with the oversight of maintenance and repair of buildings and equipment, fabrication of special equipment, preparation of research plots and facilities for field days, tours and workshops; assists with planning and coordination of harvest of excess crops; and assists with interviewing, hiring and supervision of support staff. The candidate will be expected to interact with MSU administration personnel, the center research coordinator, faculty, extension educators, research technicians, graduate students, clerical staff, vendors and Michigan fruit growers. The opportunity for advancement exists at the Clarksville Research Center; may require 24-hour on-call status and occasional working situations during nights and adverse weather conditions. This is an off-campus position located in Clarksville, Michigan.

The position closes on April 28, 2014. We are looking for someone that can grow with the station and has a strong background in modern tree fruit production.

ARMILLARIA ROOT ROT IN THE GREAK LAKES REGION

Armillaria root rot affects hundreds of plant species throughout Michigan. Learn more about the biology, symptoms and control of this devastating fungus.

Posted on **April 17, 2014, MSUE News**, by [Erin Lizotte](#), and Jill O'Donnell, Michigan State University



Cluster of tart cherry trees dead or dying from *Armillaria* root rot infection. Photo credit: Erin Lizotte, MSU Extension

Armillaria root rot occurs naturally in the majority of the United States and the Great Lakes region and is caused by a number of fungi in the genus *Armillaria*. These include *A. ostoyae*, *A. mellea*, *A. gallica*, *A. calvescens* and *A. sinapina*, all of which have been documented in the Great Lakes region. Common names for these fungi and their associated disease include honey stumper, honey agaric, oak fungus, honey mushroom, shoestring root rot, mushroom root rot, resin glut, and toadstool disease.

The host range of the fungi is vast with hundreds of vines, shrubs, shade and forest trees, as well as horticultural crops affected. Some of the Great Lakes plants and crops that are susceptible include maple, oak, white pine, red pine, aspen, peach, cherry and potato.

Armillaria root rot eventually girdles and kills host plants. The loss of agricultural crops is most notable on sites where forested land has been cleared and the fungi are already present when the crop is planted. Unfortunately, the *Armillaria* fungus can remain latent in the soil for many years, making infested land unsuitable for agricultural production of susceptible hosts for many years.

Biology

Armillaria root rot overwinters in the same fungal form present during the growing season (rhizomorphs or mycelium) on diseased or decaying plant materials and roots. *Armillaria* root rot may also overwinter as basidiospores – the sexual spores of the fungi – produced by honey-colored mushrooms that form at the base on infected plants in the fall. The principal method of spread of the fungus is root-to-root through rhizomorphs, or root-like structures, or direct root contact during which mycelium invades healthy roots directly.

Rhizomorphs grow from infected plants or decaying material to healthy trees in the surrounding area. Basidiospores typically colonize decaying materials or compromised host tissue with the subsequent rhizomorphs infecting healthy hosts. *Armillaria* root rot is capable of attacking healthy hosts, but the greatest mortality occurs in stressed trees. In cultivated settings, infected debris and basidiospores can be spread through cultivation.

Symptoms

Affected plants may exhibit reduced growth, small chlorotic leaves, branch dieback and the slow or abrupt death of the plant. Symptomatic plants may appear random spatially, but over time a pattern of circular expansion often becomes evident. Symptomatic trees have decaying bark at the soil line and on the roots.



Tart cherry trunk with bark removed, showing the white fungal body of Armillaria root rot that girdled the tree. Photo credit: Erin Lizotte, MSU Extension

The key diagnostic sign of Armillaria root rot is a white mycelial mat, or spongy fungal sheet, between the bark and wood in the cambial layer. The mycelial fans appear veined and may extend up the trunk of the tree several feet. Rhizomorphs are another distinct sign of Armillaria root rot. Rhizomorphs are brown-black “shoestring” structures, 0.01 inch in diameter with an outer black mycelium and a white core. Rhizomorphs have the same growth pattern as roots and may form under the bark or spread into the soil surrounding the root zone of host plants.



Cross section of tart cherry trunk showing ring of white mycelium in the cambial region, just below the bark. Photo credit: Erin Lizotte, MSU Extension

If the cambium has been invaded, resin or gum is often exuded into the soil surrounding the trunk and roots. At the base of dead or dying trees, speckled mushrooms 3 inches tall with 6-inch diameter caps grow in clusters. These mushrooms appear in the fall and have pronounced gills that produce basidiospores.

Control

According to [Michigan State University Extension](http://www.msue.msu.edu), there is no known control for Armillaria root rot. Control has been attempted via root excavation, trenching and fumigation with little to no effect. Current areas of treatment research include biological control and innate resistance screening of host plants.

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ENERGY EFFICIENCY GRANT OPPORTUNITY FOR FARMS AND SMALL BUSINESSES NOW AVAILABLE

Michigan Energy Office has issued a Request for Proposals (RFP) and has matching grants available for energy efficiency projects for farms and small business in Michigan. Here is an overview of what is required for a submission.

Posted on **April 18, 2014, MSUE News**, by [Tom Dudek](#), Michigan State University Extension

A total of \$150,000 is available from the [Michigan Energy Office](#) in matching grants for energy efficiency projects to retrofit existing buildings on all types of farms including greenhouses or small businesses in Michigan according to [Michigan State University Extension](#). The main purpose behind this effort is to encourage cost effective energy upgrades that reduce operating costs for the owner, support local jobs and free up capital to re-invest in these businesses over the long term.

Grants can range from \$5,000 to \$20,000 per application. All applicants must provide a minimum cash match equal to 100 percent of their grant's final request. Cash match's in excess of the minimum is highly encouraged.

To be eligible to apply, farms or small businesses must employ fewer than 100 people, own the facility that they are requesting the project for and must be located in Michigan. To apply, use the [application form cited in the Request for Proposals](#) (RFP). Projects need to show that they will improve energy efficiency by 20 percent or more and promote economic development and job creation as a result of the energy savings that are gained from the project.

Working with a MSU trained energy auditor to conduct an "energy audit" on the project intended for submission for funding would be helpful. Also, look at additional incentives to carry out the project from electric and natural gas utility providers through energy optimization programs. "Michigan Saves" is another source of funds as they offer loans to finance energy efficiency projects. Applicants need to look at all sources of available funds when developing any energy efficiency project.

The deadline for submitting proposals is Aug. 31, 2014, or until grant funds are exhausted.

For further information, contact Terri Novak, Michigan Energy Office, [Michigan Economic Development Corporation](#), at 517-930-3170 or novakt@michigan.org.

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WHAT COULD AN EMPLOYEE HANDBOOK DO FOR YOUR FARM?

Employers who look to employee handbooks as policy manuals meant to keep them out of trouble are missing other opportunities.

Posted on **April 10, 2014, MSUE News**, by [Stan Moore](#), Michigan State University Extension

Producers often express an interest in developing employee handbooks for their farms to add some protection to their human resource management. The thought is that if the policies are in writing, employees can't say "I didn't know" or "you didn't tell me that", thus giving some back-up if the employer needs to let someone go.

Employee handbooks should not be simply about keeping employers out of trouble. In fact, handbooks may actually create problems if employers are not prepared to follow through on what they put in their handbook.

Using an employee handbook is an excellent opportunity to improve communication. Employers can share their farm's vision, history and policies with their employees. It is also a means to share how the farm provides orientation and training for employees, employee pay and benefit information, and leave of absence information.

Farmers should be careful in how they include sections on employee discipline and job performance within their farm's employee handbook. Michigan is an "At Will" employment state, and many individuals would like to maintain that status. Wording on discipline that shows a progressive disciplinary action, including "if/then" statements, should be avoided unless the employer is truly committed to do this with every employee. Indeed, anything written in the employee handbook should pass the test "Am I going to follow through on this with each and every employee, every time?"

With those precautions in mind, an employee handbook is still a great opportunity to help employees understand the business and should help increase their opportunity to succeed on the farm. Putting together a handbook also helps owners and managers develop consistency in how they plan to treat employees. It forces you to think through how you want your business to function.

[Michigan State University Extension](#) recently developed an [Employee Handbook Template](#) for use by Michigan farms. The template is designed to help an employer begin the process of developing a handbook for their farm. The handbook template uses features of Word to allow producers to not only insert their farm name throughout the document, but also to update the table of contents once the template is modified for their particular farm. Template content contains example verbiage by section, and also directs producers to additional resources important to labor management.

The template is for education purposes only, and producers should have their draft Employee Handbook reviewed by their farm's attorney. In addition, employers of migrant or seasonal workers must comply with additional duties and responsibilities under the Migrant and Seasonal Worker Protection Act.

Other resources available on the MSU [Farm Information Resource Management](#) website include publications on "Labor Laws and Michigan Agriculture", and an "Agricultural Employer Checklist". There are also links to labor forms and reporting sites.

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WEBSITES 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/>

Fruit CAT Alert Reports has moved to MSU News

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