Northern Michigan FruitNet 2014
Northwest Michigan Horticultural Research Center

Weekly Update

April 1, 2014

CALENDAR OF EVENTS

4/3	**Michigan Farm to Institution Network Launch Event** Crowne Plaza Lansing West
4/10	**IPM Fruit Tree Kick-off** NWMHRC
4/10	**Tractor Safety Class #1** Leelanau Co. Government Center's Community Room
4/11	**MDARD Specialty Crop Grant Deadline**
4/12	**Healthy Forests – Caring for our Trees** GT Conservation District
4/17	**Vineyard Weed Identification and Management Meeting** NWMHRC
4/17	**Tractor Safety Class #2** NWMHRC
4/22	**Responding to an S.O.S. from the Commercial Bee Industry – Webinar**
4/24	**Tractor Safety Class #3** NWMHRC
5/1	**Tractor Safety Class #4** NWMHRC
5/3	**Tractor Safety Test** NWMHRC

NORTHWEST REGIONAL REPORT

Nikki Rothwell, Emily Pochubay, and Duke Elsner

The northwest region has had one warm day so far this season, and we still have lots of snow in the orchards and vineyards.

Weather and Crop Report. We are accumulating degree-days very slowly here in the northwest, where warm days have been a rarity. We have accumulated 9.3GDD base 42F and 0.7GDD base 50F. There has been variability in cold temperatures across the region. Some areas of NW Michigan sustained cold overnight temperatures into the mid-20s F while in other areas, temperatures only fell to -11F. We suspect that the variability in overnight temperatures as well as the duration of the cold events will result in varying degrees of potential damage. However, we have substantial snow cover in the region, which has helped insulate trees and buds throughout this winter. We did not have our 'typical' January thaw this season, and the Leelanau County snow gauge is reporting just over 250" of snowfall so far this year. Snow has caused some damage in high-density apple orchards where some of the lower branches have been broken off by drifting and heavy snow. Growers are optimistic about the amount of ice in Lake Michigan and our surrounding bays. Grand Traverse Bay has frozen over for the first time in many years, and because this body of water will take significant time to warm, spring frost events are less likely to cause damage to trees coming out of dormancy slowly. Many growers have commented that this winter has been like 'the old days', and we saw far fewer spring frost events in the 60s and 70s compared to the last decade.

Trees and vines remain dormant at this time. We have cut some branches and buds from the NWMHRC, and although we have some damage in peaches and apricots, blossoms were evident when we forced them in the lab. Some growers have been reporting damage in peaches where they were only able to force vegetative buds and no flowers were visible. Sample sizes have been relatively small, and we will obviously know more as the temperatures warm. Little damage was observed in sweet and tart cherries from samples at the NWMHRC. However, we have had reports of damage in sweet cherries in younger orchards, 2-4 years old, but we have no numbers to report as of yet. Apples appear to be in good shape for this spring.

Rodent damage is the primary concern for growers at this time. We have observed significant rabbit damage where these animals have been able to feed at or above the snow line all winter. We have not quantified damage from mice because we still have too much snow in the orchards to see any damage at or near the graft union. Based on some initial grower reports, where snow has melted in their orchards, mouse damage is evident, even in orchards that used bait. Again, when the snow melts, we will have a better idea of overall rodent damage.

VINEYARD WEED IDENTIFICATION AND MANAGEMENT MEETING

Duke Elsner, Small Fruit Extension Educator, NW Michigan

Thursday, April 17, 1-4 p.m. in Traverse City and Benton Harbor

Weed control is one of the most critical issues in vineyard establishment, and weeds remain as an issue throughout the lifetime of the vineyard. In addition to competition for water and nutrients, weeds harbor insect pests, serve as hosts for viruses, and interfere with vineyard operations related to culture and harvest. Certain weeds, such as horsenettle, produce berries that can taint harvested grapes.

Although numerous herbicides are available for use in vineyards, they aren't equally effective on all weeds. Application timing is important to get optimum results. This workshop will help you identify problem weeds and understand their lifecycles– the key to choosing effective management strategies– whether they are cultural or chemical.

Plan now to attend the Vineyard Weed Identification and Management Meeting on Thursday afternoon, April 17, to get answers on how to manage troublesome weeds in your vineyard. Via a teleconference connection, Dr. Wayne Mitchem, a weed scientist at North Carolina State University will discuss herbicide selections and other management practices. Eric Hanson from the Department of Horticulture at Michigan State University will handle the weed identification topic. Dr. Hanson will speak in person at the Benton Harbor site and appear in Traverse City through a teleconference connection. Participants will be able to have interactive discussions with the speakers.

Growers have a choice of two locations for the workshop, either the Southwest Michigan Research & Extension Center in Benton Harbor, or the Northwest Michigan Horticultural Research Center near Traverse City. Contact Duke Elsner elsner@anr.msu.edu 1-231-922-4822 for additional information. See http://events.anr.msu.edu/2014vineyardweedmanagement/ for registration information and the meeting agenda. The registration fee for the workshop is $25 per person and includes handouts and refreshments. Three RUP credits have been requested for the workshop. Attendance is limited. Please register by April 11.

WINE GRAPE BUDS INJURED BY FEBRUARY – MARCH COLD TEMPERATURES

Duke Elsner, Small Fruit Extension Educator

Thirty-two varieties of wine grapes in the NWMHRC experimental vineyard were sampled on March 18 by collecting a minimum of ten one year old canes per variety. Each node (compound bud) of the sampled canes was carefully sectioned with a razor blade and examined under magnification to look for injured tissues. Grape have a unique three-part compound bud, with a primary bud that can bear the greatest amount of fruit, a secondary bud that has a bit more

cold-hardiness than the primary bud but bears less fruit, and a tertiary bud that bears no fruit but is typically the most cold-hardy of the buds. Some bud mortality is seen every winter from a variety of reasons. The loss of a large portion of the primary buds can be tolerated if a sufficient portion of the secondary buds remain alive, or if pruning practices can be adjusted to leave a greater number of total buds on the vine to grow and bear fruit in the coming season. See MSUE Extension Bulleting E-2930, "Winter Injury to Grapevines and Methods of Protection" for further details on the structure of grape buds and techniques for assessing injury).

The results revealed good news and bad news, depending on the variety. Riesling showed a solid 84% primary bud survival rate, with Chardonnay not far behind at 74%. Each had over 90% of their secondary buds alive and well. Pinot Gris and Gewurztraminer did not do as well, with just over 50% survival of primary buds; Pinot Noir and Cabernet Franc both came in at under 50% live primary buds. Pinot Blanc had only 37% and 45% survival of primary and secondary buds, respectively. Each of these varieties showed decent survival rates for the secondary buds, so it should be possible to adjust pruning practices to achieve a typical crop load for the 2014 season.

A number of other varieties exhibited much greater bud mortality. In the NE 1020 wine grape cultivar trial, Gruner Veltliner and Semillon had under 5% of live primary buds. Eight promising *Vitis vinifera* wine varieties in the NE 1020 trial came in at under 30% primary bud survival. As would be expected, hybrid varieties fared much better, as cold-hardiness is one of the characteristics typically selected for in breeding programs. Several hybrid varieties showed greater than 80% survival of primary buds.

Based on these results, it is highly recommended that growers carefully assess bud condition before proceeding with pruning. This would be especially important on Old Mission Peninsula, which experienced much colder temperatures than the research center where these survival figures were obtained. Significant adjustments to vine bud counts may have be made to keep crop loads at desired levels.

	% live buds by category		
Cultivar	Primary	Secondary	Tertiary
NE 1020 block vinifera:			
Gruner Veltliner	3	4	8
Semillon	7	17	24
Rkatsetelli	15	33	43
Friulano	28	46	62
Albarino	37	48	51
Toreldego	16	32	47

Lagrein	18	77	87
Dornfelder	23	58	72
Zweigelt	25	55	69
Cinsault	28	46	56
Cabernet Franc	41	89	94
Pinot Noir	49	62	71
NE 1020 Block Hybrids:			
NY 81	27	31	31
Aromella	67	81	83
Vidal	72	75	75
Brianna	73	73	73
Lacrescent	84	91	91
Corot Noir	47	53	54
Chambourcin	58	69	69
Frontenac	84	86	86
St. Croix	88	90	90
Noiret	88	92	92
“Other”:			
Riesling	84	96	96
Chardonnay	72	93	93
Gewurztraminer	51	85	91
Pinot Gris	57	77	86
Pinot Blanc	37	45	49
Siegerrebe	40	52	55
Muscats:			

Muscat Giallo	1	6	19
Muscat Canelli	5	37	65
Orange Muscat	27	45	46
Muscat Ottonel	43	63	69

SWEET CHERRY PRUNING AND APPLE PRECISION ORCHARD MANAGEMENT WORKSHOP

N.L. Rothwell, E. Pochubay, and P. Schwallier, MSUE

A day-long workshop on high density sweet cherry pruning and apple precision management will be held on 9 April, 2014 in northwest Michigan.

Michigan State University Extension and AgBioResearch will be teaming up with the Benzie-Manistee Horticultural Society to host a Precision Orchard Management and High Density Sweet Cherry Pruning workshop on April 9, 2014 from 9:00 AM – 3:00 PM. At this interactive workshop, Michigan State University Tree Fruit Horticulturalist and Physiologist, Dr. Greg Lang, will demonstrate pruning techniques for high-density sweet cherries. The tour will begin at Greg Williams' high-density sweet cherry orchard where he has sweet cherries planted on Gisela 5 and trained to a super slender axe. We will discuss pruning strategies on very vigorous trees, particularly in light of potential impacts of this extremely cold winter.

In the afternoon, we will also prune trees at the Northwest Michigan Horticultural Research Center (NWMHRC) on four different training systems: tall spindle axe (TSA), slender spindle axe (SSA), Kym Green bush (KGB), and the upright fruiting offshoots (UFO) in Gisela 5 and Gisela 12. The goal of this planting is to study the influence of training system, rootstock vigor, and growing conditions (site) on annual fruiting unit growth, yield, and fruit quality. The principles that are common between the training systems are as follows: 1) establish pedestrian orchards to optimize training/harvest/maintenance labor efficiency, 2) create a tree structure with minimal permanent wood with renewable simplified fruiting structures (~20% annual renewal), and 3) facilitate crop load estimation (Leaf area:fruit ratio) and management to optimize fruit quality. From Dr. Lang's work, the key to Gisela success is high frequency / low duration irrigation and high frequency / low rate fertilization, minimal weed competition, and pruning to minimize the potential for these precocious rootstocks to over-produce.

In addition to sweet cherry pruning, MSU Extension Tree Fruit Educator, Phil Schwallier will present precision orchard management information and demonstrate precision management techniques in high-density apple. This management strategy was developed at Cornell

University and was intended to increase apple farm profitability by precisely managing fruit size and fruit quality. Precision management includes several management practices, such as pruning, thinning, fertilizing, irrigating, and harvest timing, as all of these decisions will affect fruit size and crop value. Preliminary data from New York has shown that more precise management of crop load, fertilization, irrigation and harvest timing will produce high yields of the optimum fruit size and fruit color—hence, this strategy could increase crop value by 50-100%. Phil Schwallier has been working with the New York researchers to develop this program, and this year, he will help Michigan growers implement these strategies. This workshop will introduce growers to this precision management concept and set the stage for implementing these strategies this season.

The cost of this workshop is $20 and includes lunch. Payment for the workshop can be made the day of the tour and should be made payable to the *Benzie-Manistee Hort Society*. Please contact Jackie Baase at 231-946-1510 by **April 7th** to register for this event.

AGENDA

9:00-10:30	**High-density sweet cherry pruning demonstration** **Greg Williams' orchards, Novotny Road, Cedar, MI 49621** *Dr. Greg Lang, Dept. of Horticulture, MSU*
10:30-11:00	**Travel to the Leelanau County Government Center** 8527 E. Government Center Dr., Suttons Bay MI 49682
11:00-12:00	**Introduction to precision management in high-density apple systems** *Phil Schwallier, Fruit Educator, MSUE*
12:00-12:45	**LUNCH**
1:00-2:00	**How growers can use precision management in apple orchards this spring** *Phil Schwallier, Fruit Educator, MSUE*
2:00-2:20	**Travel to the Northwest Michigan Horticultural Research Center** 6686 S. Center Highway, Traverse City, MI 49682
2:20-3:00	**Sweet cherry pruning demonstration on four training systems: tall slender axe (TSA), super spindle axe (SSA), Kym Green bush (KGB), and the upright fruit offshoots (UFO)** *Dr. Greg Lang, Dept. of Horticulture, MSU*
5:00	**Benzie-Manistee Horticultural Society annual meeting and dinner** *Location to be determined*

TREE FRUIT INTEGRATED PEST MANAGEMENT KICKOFF
Emily Pochubay, Fruit IPM Educator

Please join Michigan State University Extension at the Northwest Michigan Horticultural Research Center on **Thursday, April 10** from 6-9 PM for the annual Tree Fruit IPM Kickoff! This year's meeting will cover pesticide label and pest management changes for cherries and apples in the 2014 season. Michigan State University's Tree Fruit Integrator, Dr. Julianna Wilson, will outline current Oblique Banded Leafroller pesticide efficacy and management recommendations. Dr. Nikki Rothwell will present Spotted Wing Drosophila and European Brown Rot pesticide efficacy trials and management recommendations. This event is ***free*** and no registration is required. *Three* CCA credits and *three* Pesticide Recertification Credits have been approved for this meeting. For more information, please call 231-946-1510.

4-H TRACTOR SAFETY PROGRAM BEGINS IN APRIL

MSU Extension is once again hosting tractor safety training for fourteen and fifteen-year-old youth. Youth must be 14 by June 1st, 2014. Sixteen to nineteen-year-old youth are also encouraged to participate, but priority will be given to 14-15 year-olds. Classes will be held on Thursdays beginning **April 10** and ending **May 1** and will be held at the NW Michigan Horticultural Research Center from 6:00-9:00 p.m., except for the first class to be held at the Leelanau County Government Center's Community Room. To become certified, participants must attend all five sessions, pass a written, and a tractor driving test, which will be held Saturday, May 3, 8:30 a.m. to 2:30 p.m.

Cost is $75 per person and includes: classes, handouts and manual. Some scholarships are available if finances are an issue.

To register, call the Leelanau County MSU Extension office at 231-256-9888 for a registration and medical form or go to www.msue.edu/leelanau. Registration deadline is April 4. Checks should be made payable to *4-H Youth Association.*

JOIN US TO LAUNCH THE MICHIGAN FARM TO INSTITUTION NETWORK!

Event Details:

Date: Thursday, April 3, 2014
Time: 10:00 AM - 4:30 PM, Michigan Farm to Institution Network Launch Event
4:30 PM, Farm to Institution Marketplace Reception
Location: Crowne Plaza Lansing West, 925 S. Creyts Road, Lansing, MI 48917
Fee: The fee for the launch event is $25 and includes admission to the reception. The fee is $10 to attend only the reception.

Join us to celebrate Michigan's rich history of Farm to Institution programs to date and to contribute to developing strategic solutions to the challenges that remain to take local food

purchasing at institutions to the next level! MFIN will unveil Cultivate Michigan, a local food purchasing initiative to help institutions ramp up local food purchases to meet the 20% by 2020 goal.

Immediately following the event, we will be hosting a Farm to Institution Marketplace reception. The Marketplace reception will provide a place to network and connect with fellow chefs, food service directors, farmers, distributors and community organizations all interested in supporting local farm to institution efforts.

Guest rooms will be available at the Crowne Plaza Lansing West for the nights of April 2-3. To receive the group rate, you must identify yourself as a member of the Michigan Farm to Institution Network. To reserve a room, call (877) 322-5544 or visit www.crowneplaza.com/lansingwest and enter group code MFI.

For more information and to register for the event, please visit: http://bit.ly/mfinlaunch.

If you have questions, please contact Alyson Oslin at alyson@ecocenter.org or (734) 369-9273.

We look forward to seeing you in April!

Hillary Bisnett and Colleen Matts
Michigan Farm to Institution Network

RESPONDING TO AN S.O.S. FROM THE COMMERCIAL BEEKEEPING INDUSTRY

Date: April 22, 2014
Time: 1 p.m.
Location: Webinar
Contact: Rosa Soliz, soliz@msu.edu

Webinar URL: http://connect.msu.edu/newtech

Mala Spivak (University of Minnesota) - Given the chronic health problems facing honey bees and the increasing demand for pollination services from almond, blueberry, cranberry, apple, vine crops and many other growers, commercial beekeepers and breeders have requested assistance in maintaining healthy colonies. To this end, we began a novel “Bee Tech Transfer Team” program through the Bee Informed Partnership, a 5-year grant funded by USDA-NIFA. These teams consist of independent beekeepers that provide on-the-ground services to commercial beekeepers to assess and record colony health information; survey beekeepers

about management; test for bee diseases and parasites and assist in breeding bees that are more resistant to diseases and parasites.

There is demand for this program nationwide and we are exploring ways to ensure that the Tech Team services are economically sustainable after the funding ends in 2016. As bees are directly or indirectly responsible for 35% of our diet through their pollination services, it is critical to increase effort to keep bees healthy and to provide hands-on assistance to the beleaguered beekeeping industry throughout the U.S. Marla Spivak is a MacArthur Fellow and McKnight Distinguished Professor in Entomology at the University of Minnesota. She has bred a line of honey bees, the Minnesota Hygienic line, to defend themselves against diseases and parasitic mites. Current studies include the benefits of propolis to honey bees, and the effects of agricultural landscapes and pesticides on honey bee and native bee health.

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

MICHIGAN STATE UNIVERSITY | Extension

OIL & GAS NEWSLETTER

Issue Date: March, 2014
Editor: Curtis Talley Jr., MSU Extension Farm Management Educator, Hart, MI 231-873-2129; talleycu@anr.msu.edu.

Information in this Issue

MICHIGAN OIL AND GAS DEVELOPMENT: 2013 IN REVIEW

Dean Solomon, Senior Extension Educator

Michigan oil and gas drilling activity last year was still well-below pre-recession levels, and industry experts predict more of the same in 2014.

Relatively low natural gas and oil prices continued to slow oil and gas exploration in Michigan, according to the Michigan Oil and Gas News. The publication projects that final totals will show seven percent fewer wells drilled in 2013 from the previous year. Activity in the state is still much below the most recent peak in 2008.

The clear winner in 2013 was oil exploration in the Trenton-Black River formation in Jackson, Lenawee and Washtenaw Counties. Through mid-November of last year, 46 of 125 wells drilled in the state were located in those three counties. This is a huge change from 15 years ago, when a vast majority of activity was in northern Michigan's Antrim Shale formation.

Michigan oil and gas development was still in the news, despite relatively modest drilling activity. High-volume hydraulic fracturing (often called "fracking") continues to cause concern in some parts of the state, although four wells were completed this year in the Utica-Collingwood formation where this technique is used. To help address concerns and information needs, the University of Michigan Graham Sustainability Institute published a series set of technical reports about hydraulic fracturing in September that are excellent resources for local leaders, landowners and residents wishing to better understand hydraulic fracturing issues and the policy framework. These technical reports are the first part of a project to identify key strategies and policy options for managing hydraulic fracturing in Michigan. The final integrated assessment will be published in mid-2014.

Also during 2013, the Michigan Department of Environmental Quality proposed additional rules to increase water use and quality monitoring and reporting, require water withdrawal impact assessment prior to drilling, and require disclosure of chemical additives used in the hydraulic fracturing process.

Oil and gas leasing on private and public land continued, despite modest drilling in the state. Leasing companies are still seeking landowner agreements in many areas of Michigan. So, what will 2014 bring for this industry in Michigan? The Michigan Oil and Gas News predicts that 150 wells will be drilled in the state – the same as their prediction for 2013. The authors also comment that drilling in the Utica-Collingwood may "expand significantly" based on the number of drilling permits that were issued in 2013, but where actual drilling has yet to begin. Michigan State University Extension and partner organizations will continue to sponsor educational workshops during 2014 to help Michigan residents understand oil and gas leasing and other issues. Additional information is available on the MSU Extension oil and gas information web page.

Southeast Michigan Continues to Draw Mineral Interest

Curtis Talley Jr. Michigan State University Extension

Southeast Michigan, including Sanilac, Lapeer and Monroe counties are all experiencing interest from the oil and gas industry to lease or purchase mineral rights. *The author made presentations at four different educational meetings from January through March with total attendance of 593.* Speakers include Michigan State University educators, private attorneys with an expertise on oil and gas leasing, the Michigan Department of Oil, Gas and Minerals and the oil and gas industry. The article in this newsletter titled "Offers to Sell Mineral Rights Should be Considered Carefully" was written as a result of the author's educational presentation at Sanilac County in late January.

Survey of Oil and Gas Attorneys Indicates Significant Positive Results from Post Production Costs Lease Negotiations

Curtis Talley Jr. Farm Management Educator Michigan State University

During the summer of 2013, a survey was mailed to oil and gas attorneys that represent private landowners. The survey measured oil and gas lease terms "before negotiations" and "after negotiations" to determine what, if any financial or environmentally related lease terms were negotiated to benefit their clients. This is the third in a series of articles that discusses the survey results.

Each oil and gas lease contains clauses that allow the Lessee to calculate and charge what are known as post production costs from the mineral owner's royalty. Examples of some of the

costs listed in most oil and gas lease are: "(f) sales charges, commissions and fees paid to third parties (whether or not affiliated) in connection with the sale of the gas"; "(g) any and all other costs and expenses of any kind or nature incurred in regard to the gas, or the handling thereof, between the wellhead and the point of sale". [1]

Pennsylvania mineral owners brought forth evidence of post-production costs deductions at a Senate Environmental Resources and Energy committee hearing on June 27, 2013. Bradford County Commissioners Chairman Dough McLinko said, "Our constituents have shown us evidence of extraordinary post-production costs in Bradford County, with deductions of 40 and 50% all the way up to as much as 90%." "….we have seen checks come with zero payment. We have seen retroactive charges being billed to landowners for tens of thousands of dollars where the property owners actually have a bill sent to them and they have to go without any royalty payments until it is paid in full." [2]

The article "Acting to Protect Royalty Payments" stated that five different Bradford County residents had a 12 1/2 percent royalty rate written on their lease, but, due to deductions for post-production costs, their most recent royalty payments actually ranged from 1.47 percent to 3.11 percent, according to Bradford County Commissioner Doug McLinko.[3] A paid royalty of 3.11% is a reduction of 75%.

In the article "Survey of Oil and Gas Attorneys Indicates Significant Positive Financial Results from Lease Royalty Negotiations"[4] a sample oil and gas well was used to demonstrate the royalty. For that sample well we assumed the landowner was the sole owner of 40 acres and a successful well was drilled that produced 25 barrels/day. It operated for 200 days during the year and the oil sold for $90/barrel. This well will produce $450,000 in gross income (25 barrels/day x 200 days x $90/barrel = $450,000) in the first year.
If the royalty was .167 (1/6) the leaseholder would receive $75,150 in the first year of production ($450,000 x .167 = $75,150) prior to post-production cost deductions.

The post production costs portion of the survey found that 56% of the attorneys surveyed reduced potential royalty deductions from post production costs by at least 75%. Seventy eight percent negotiated at least a 50% potential reduction and Eighty nine percent negotiated a potential reduction of at least 25%.

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[1] Oil and gas Lease Producers 88 2000 P-F Form Revised 8-2001

[2] Pennsylvania House of Representatives House Co-Sponsorship Memoranda, Representative Jesse White, June 28, 2013

[3] "Acting to Protect Royalty Payments," *The Daily Review,* 5 May 2013

[4] Curtis Talley "Survey of Oil and Gas Attorneys Indicates Significant Positive Financial Results from Lease Royalty Negotiations", Michigan State University News, October 17, 2013

Using the sample well, if lease negotations reduced post-production costs charges by 50%, the savings would be $37,525(50% of $75,150) in the first year of production and would continue proportionally each year thereafter.

Offers to Sell Mineral Rights Should be Considered Carefully

Curtis Talley Jr., Farm Management Educator Michigan State University Extension
Trent Hilding Attorney, Hilding Ag Services

Landowners and mineral owners in southeast and eastern Michigan are receiving offers to sell rather than lease their mineral rights. There are many things a seller should consider both short term and long term when evaluating the sale mineral rights.

For many landowners that also own the mineral rights (mineral property), consideration of the value of the minerals is an afterthought, particularly if there is no current mineral income. For those fortunate enough to live in an area of valuable mineral deposits, they have learned that mineral income can exceed the income from the surface if it is managed as a business enterprise.

Recently, mineral owners in parts of Michigan have been receiving offers to **purchase** rather than **lease** non-producing mineral property. These offers come in areas where oil and gas development is also beginning to occur. This article does not discuss valuation of producing mineral rights.

Defining Mineral Property

"Mineral property is real property that can have several different forms. Mineral property includes hydrocarbons (oil, gas, and coal); hard rock minerals (gold, silver, copper, and other metals); and other types of minerals (talc, bentonite, uranium, and others)". [5] Mineral property can also include Potassium and commercial gases and can vary from state to state.

Potential sellers may be assuming they are only selling the oil and gas rights (hydrocarbons), which could be a mistaken assumption. If the sale contract does not state only the oil and gas rights, it could include every type of mineral or gas that is considered a mineral and encompassed in the definition "all".

There are many considerations when evaluating the sale of mineral rights. Some of these are listed below:

- Be cognizant of what "partnering together" might mean in a mineral purchase offer. It might mean the buyer plans to purchase an **undivided** interest. When you split an 80-

[5] *Mineral Rights,* State of Michigan Department of Environmental Quality Office of Geological Survey

acre tract into two 40-acre tracts, you are dividing the property. When you sell an undivided interest you are selling a portion of the whole. The offer might be to purchase a 50% undivided interest in all mineral rights for $125/acre. This means that entity would receive 50% of all mineral income from 100% of the acres, potentially for eternity. To go one step further, in the sales contract the seller may unwittingly be assigning the legal authority to negotiate all mineral leases to the buyer.

- In the article "Survey of Oil and Gas Attorneys Indicates Significant Positive Financial Results from Lease Royalty Negotiations"[6] the sample well produced $450,000 in gross income (25 barrels/day x 200 days x $90/barrel = $450,000) in the first year. A .125 (1/8) royalty based on gross income produced $56,250 ($450,000 x .125 = $56,250) for the landowner from the 40-acre tract, or $1,506.25 per acre. This indicates that if the mineral owner is fortunate enough to eventually negotiate and receive royalties that income can be substantial.
- Splitting the mineral estate from the surface estate provides no incentive for the new mineral owner to consider future mineral extraction impacts to the surface owner. Oil and gas companies often prefer dealing with a mineral owner that is also the surface owner because it reduces the number of owners they are working with.
- When a surface owner sells the mineral ownership, any control over the siting of future roads, drilling sites, tank batteries and other related facilities is lost.
- A sale is usually a "forever" transaction; once sold they are gone. A mineral lease can be long term if there is mineral production, or shorter if the acreage is not part of a drilling unit that produces royalties. Continual ownership may provide the opportunity to lease multiple times and receive multiple bonuses.
- An exception to "forever" is the Michigan Dormant Minerals Act. Under this act, severed oil or gas rights revert to the surface owner after twenty years, unless certain actions have occurred within the 20-year period since the deed was recorded. [7] A mineral owner in Michigan should be aware of this law as it may provide an opportunity to reclaim the mineral rights if the buyer does not comply with this law.
- Who can legally sign a sales contract? How the ownership deed is structured determines who has the right to sign the sales contract.[8] For example, if the land is held as joint tenants, all joint tenants must sign the contract. If one is unwilling to sign, no agreement can be consummated.
- Offers to purchase frequently tout the sale is "reducing" risk. It might reduce the risk of receiving no royalty income in the future, but what about the future sale of the surface without mineral rights? Will a sale of mineral rights affect future marketability of the

[6] Curtis Talley Jr., "Survey of Oil and Gas Attorneys Indicates Significant Positive Financial Results from Lease Royalty Negotiations", Michigan State University News (October 18, 2013)

[7] *Mineral Rights*, State of Michigan Department of Environmental Quality Geological Survey

[8] Curtis Talley Jr. and Trent Hilding, "Who Can Sign an Oil and Gas Lease,"? *Michigan State University Extension Fact Sheet* (February 2013).

surface? If mineral production, such as oil and gas wells are present but the surface owner is not receiving royalties, the marketability of the surface may be negatively impacted. On the other hand, intact minerals with royalty income can be attractive to certain surface buyers, as it provides additional cash flow.

- The buyer is not obligated to continue ownership after a purchase is made. As with the oil and gas lease market, whatever is purchased can be re-sold to another buyer for potentially more than the purchase price.
- Outright sale vs. a lease bonus. Mineral purchase offers may advertise that a sale produces immediate cash income. The bonus (up-front cash payment) for signing an oil and gas lease also provides immediate income. Lease bonuses can range from $15 per acre to as much as $6,000 per acre, depending on location and lease demand.
- Income taxes. Purchase offers may advertise that the sale proceeds will be taxed as long-term capital gains (2013 tax rates are 0% to 20% depending on taxable income vs. 10% to 39.6% for earned income.), if the property has been owned for at least one year. Taxation can be a little more complicated than that. Capital gains taxes are paid on the profit from the sale. For example, if you sell a stock share for $150, bought it for $100 and owned it for more than one year, the long term gain is $50 (profit). You pay tax only on the $50. For a mineral rights sale, the calculated capital gain will be based on the basis assigned to the mineral rights when you purchased the land, which may be "0". If the basis is "0", the entire amount of the proceeds would be taxed as capital gain income.
- Technology in the mineral extraction industries is constantly changing and improving. Areas that were once thought to not have economic mineral development potential are now being developed. The owner of the mineral rights at the time of development is the one receiving their portion of the income.

Because of the complexities of a mineral rights sale, MSU Extension recommends that a knowledgeable oil and gas attorney with experience working for private landowners be consulted to assist in understanding a sales contract. The oil and gas educational web page at http://msue.anr.msu.edu/program/info/oil_and_gas provides free educational materials including "Oil and Gas Expert Resources for Private Landowners," which includes a list of attorneys that have stated they have a specialty in mineral rights. There are also other downloadable resources related to oil and gas leasing, mineral rights and links to related web pages.

Trent Hilding is the founder and owner of Hilding Ag Services, located in Edmore, Michigan. Trent's practice area focuses on oil, gas and wind energy leasing, real estate and estate planning/business succession law throughout Michigan. Trent can be reached at (989) 427-3436 or hildingagservices@yahoo.com.

Landowner Informational Meetings

Educational meetings were held on January 30 in Sanilac County, February 17 in Ottawa County, March 6 in Monroe County, March 13 in Lapeer County and March 21 in Lapeer County. Total attendance was 579. MSU Extension personnel, private attorneys specializing in assisting landowners with oil and gas leasing, personnel from the Department of Environmental Quality and representatives of the Michigan oil and gas industry offer public meetings to educate landowners about the oil and gas industry in Michigan, which includes understanding and negotiating oil and gas leases. If you would like a meeting in your area, please contact Curtis Talley.

Please Share Your Oil and Gas Experiences

The editor is very interested in hearing both your positive and negative experiences dealing with oil and gas leasing or production. All information is kept confidential and is combined with data from other landowners to analyze the effectiveness of the educational effort. Report your experiences to the editor by phone at 231-873-2129 or talleycu@anr.msu.edu e-mail.

This newsletter is intended for landowners and other members of the public with interest in the oil and gas industry. If you would like to be added to the e-mail list to receive this newsletter, please contact the editor. You can also contact your local county MSU Extension Office to obtain copies of the newsletter and other free oil and gas leasing information.

MSU Extension has a web page that contains information for mineral and landowners regarding oil and gas leasing and other related informational topics at http://msue.anr.msu.edu/program/info/oil_and_gas