Wow, some heat finally hit this past weekend and this week looks to be a good one. I see a lot of hay dropped in the last 24 hours. This will be HAY WEEK in Ashtabula County. Lots of issues will continue to creep up in respect to the excessive rains, so keep watching this newsletter for updates. I have included an article from Mark Sulc on supplemental feed sources as I know some of our dairy operations will be short on feed come this fall. There is going to be a lot of financial stress this fall as we try to repay the operating loans, so start planning now---don’t ignore the numbers. Have a good week and take your stress out by slinging hay bales around.

David Marrison, AG Educator

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Ohio Supreme Court Resolves Grain Bin Taxation Issue
Peggy Kirk Hall, Asst. Professor, Agricultural & Resource Law

Grain bins are “business fixtures” that are personal property not subject to real property tax, according to a decision issued today by the Ohio Supreme Court. The court case arose when the Metamora Elevator Company challenged the Fulton County auditor’s inclusion of grain storage bins in the company’s real property valuation. Metamora filed complaints with the county Board of Revision, arguing that the grain bins are business fixtures that should not be included in the company’s real property assessment. The Board of Revision disagreed with Metamora and the company appealed to the Board of Tax Appeals (BTA).

The Fulton County BTA ruled in favor of the company, determining that grains bins are personal property and should not be taxed as real property. The BTA reduced Metamora’s real property value by nearly $1.1 million, the value of the grain bins. Fulton County requested a review of the BTA decision by the Ohio Supreme Court, which agreed to hear the case. The issue before the Court was whether the grain bins are “fixtures” or “improvements” that are subject to real property tax or whether they are not subject to real property tax because they are “business fixtures” that qualify as personal property.
Ohio Supreme Court’s Reasoning
In its decision authored by Justice O’Donnell, the Supreme Court explained that the legislature amended the Ohio Revised Code in 1992 to clarify the historically “elusive” distinction between real and personal property in Ohio. The court stated that the changes expressed a clear intent to identify fixtures as real property while defining business fixtures as personal property, according to two of the revised sections of Ohio law:

ORC 5701.02(A), which states that “real property” includes “land itself *** and, unless otherwise specified in this section or section 5701.03 of the Revised Code, all buildings, structures, improvements, and fixtures of whatever kind on the land.”

ORC 5701.03(B), which defines “business fixture” as “an item of tangible personal property that has become permanently attached or affixed to the land or to a building, structure, or improvement, and that primarily benefits the business conducted by the occupant on the premises and not the realty. Business fixture includes, but is not limited to, machinery, equipment, signs, storage bins and tanks, whether above or below ground, and broadcasting, transportation, transmission, and distribution systems, whether above or below ground.

“Our analysis need go no further than to apply the expressed intent of the General Assembly to the undisputed facts of this case,” said the Court, and concluded that the legislature clearly intended for the term “business fixture” to include storage bins, and therefore to define storage bins as personal property not subject to real property tax.

The Court rejected the two arguments advanced by the county, that property classification cases depend upon what constitutes an “improvement” under the Ohio Constitution and that it would be unconstitutional for the legislature to classify constitutional “improvements” such as fixtures or structures as personal property simply because the fixtures might be used in business. Because the grain bins related more to the personal business than to the land, based on the definition of “business fixture” in ORC 5701.03, the Court saw no conflict between the personal property classification and the Ohio Constitution.

Implications for Agriculture
Fulton County may not be the only county that classifies grain bins as real property for tax purposes. Landowners who own grain bins should review their property tax records and determine whether the real property value includes the value of grain bins located on the parcel. If the property tax does incorporate grain bin values, consult with the county auditor to discuss the situation. Ohio law allows a county auditor to correct "clerical errors" made in the collection of real property taxes, although there is a question of whether inclusion of grain bins in the real property value constitutes a clerical error. Ohio law also provides remedies for taxpayers who have overpaid taxes; landowners should consult with a tax attorney for guidance on these remedies. Note that filing a complaint with the Board of Revision is not an option, as March 30 was the deadline for filing complaints for the current tax year. The case of Metamora Elevator Co. v. Fulton Cty. Bd. of Revision, Slip Opinion No. 2015-Ohio-2807 is available on the Ohio Supreme Court’s website at: [http://www.supremecourt.ohio.gov/rod/docs/pdf/0/2015/2015-Ohio-2807.pdf](http://www.supremecourt.ohio.gov/rod/docs/pdf/0/2015/2015-Ohio-2807.pdf)

Weather Update
Jim Noel

The pattern change we talked about last week is on schedule. The wet pattern is relaxing!
The outlook for the rest of July into August calls for near normal temperatures and rainfall with a slight trending toward warmer and drier conditions but only slightly, not a clear bias. The latest NOAA Climate Prediction Center outlooks can be found at: [http://www.cpc.ncep.noaa.gov](http://www.cpc.ncep.noaa.gov) The latest 16-day rainfall consensus outlook can be found at the OHRFC website of: [http://www.erh.noaa.gov/ohrfc/HAS/images/NAEFS16day.pdf](http://www.erh.noaa.gov/ohrfc/HAS/images/NAEFS16day.pdf)
You will note on the 16-day rainfall outlook even though the eastern corn and soybean region dries some, much of the rest of the region is still under pressure for wet conditions. Longer-term, a strong El Nino is brewing in the Pacific Ocean which will keep pressure on the agriculture areas into fall 2015 and 2016.

**Strongest El Niño in 50 Years Brewing?**

By Ben Potter


The latest El Niño arrival has been a strange one indeed. First it refused to develop, then it came on so weak that climatologists struggled with how (and whether) to classify it. Now, it’s coming on so strong it might end up being the strongest El Niño event in the past 50 years. That’s because El Niño has strengthened steadily during the past month, approaching “strong category” strength already, according to AccuWeather senior meteorologist Brett Anderson. And El Niño rarely peaks in summertime months, he says.

"Confidence continues to grow that this El Niño will be one of the stronger El Niños over the past 50 years," Anderson says. "El Niño typically reaches its peak during the December through February period." Currently, NOAA is predicting a 90% chance that El Niño will stay in the Northern Hemisphere at least through winter 2015-16, and there’s an 80% chance it could last through early spring of 2016.

That is a major factor in NOAA’s three-month outlook that covers July-September 2015. This latest seasonal outlook suggests above-normal precipitation through the western Corn Belt into the Great Plains, with below-normal precipitation across much of the Southeast and Mid-Atlantic states. Seasonal temperature outlooks for this timeframe paints two distinct pictures. The East and West Coast may experience above-normal temperatures for July-September 2015. Meantime, a large swatch of the country’s interior, including most of Nebraska, Kansas, Oklahoma, Texas, Iowa, Missouri, Arkansas and Illinois, have a likelihood of lower-than-normal temperatures during this period.

The strongest El Niño on record in the past 100 years occurred in 1997-98, Anderson says. That event brought plentiful rains to California during the winter months, peaking in February 1998. El Niño typically pushes more storms into California due to corresponding jet stream patterns. "A strong El Niño could be good news for the extreme drought in California," Anderson says, adding that a stormy winter would also bring heightened risk of mudslides and flash floods. For more weather news, forecasts and more than a dozen ag-specific weather maps, visit [www.AgWeb.com/weather](http://www.AgWeb.com/weather).

**Supplemental Forage Options for Late Summer to Early Autumn Planting**

By Mark Sulc

This has obviously been a difficult year for mechanically harvested forages. Not only has it been nearly impossible to harvest dry forage, but reports are becoming more numerous of damaged forage stands due to the excessive rainfall we’ve experienced. This is especially true of alfalfa. Summer regrowth of alfalfa is poor in many fields and many stands are declining, especially where wheel track damage occurred due to the wet soils during harvest operations. Corn silage yields are expected to be lower in many fields. So overall stored forage supply is tight and forage quality of hay crops has been poor for many due to delayed harvest and rained on hay. The need for additional forage supplies this summer is significant for many.
Earlier this summer I wrote an article about options for producing supplemental forage from annual crops planted in June. Here I discuss options for producing supplemental forage from late summer plantings. The most convenient areas for planting annual forages for the remainder of this growing season are in fields coming out of wheat grain harvest and corn silage that will be harvested in late August to early September. Of course, acres where corn or soybean plantings were prevented by wet weather can also be used, provided the corn or soybean herbicides applied are not harmful to forage plantings. Always check herbicide labels for crop rotation restrictions prior to planting forages.

**July Plantings.**

Sudangrass, sorghum x sudangrass hybrids, pearl millet, and forage sorghum establish and usually grow rapidly this time of year, but we are right up against the deadline for getting them planted. Wet and cool weather is not favorable for these grasses, but the weather outlook for the remainder of July is for warmer and drier conditions than we’ve had so far, and this would favor these grasses. These grasses should only be considered now in central to southern Ohio and ONLY IF they can be planted yet this week (many areas will be too wet). Planting now in northern Ohio or after this week in the rest of the state is more risky. Two years ago we produced 2 to 4 tons of forage dry matter from sudangrass or sorghum-sudan that was planted on July 19 in west central Ohio. The yield depended on the harvest date and the forage quality changed little once the forage was waist high or above. For dairy, I strongly encourage planting the BMR types for greater digestibility. Refer to the Agronomy Guide (pages 111-114) for how to reduce the risk of prussic acid poisoning in autumn harvests and for more details on establishment and management ([http://agcrops.osu.edu/specialists/fertility/fertility-fact-sheets-and-bulletins/agron_guide.pdf/view](http://agcrops.osu.edu/specialists/fertility/fertility-fact-sheets-and-bulletins/agron_guide.pdf/view)).

**Early August Plantings.**

The best options are to plant spring oat, spring triticale, or annual ryegrass (see section below on annual ryegrass). An increasing number of Ohio producers are gaining experience with August plantings of oat. Oat seed usually can be purchased at a more economical price than spring triticale, but either species will produce good dry matter yields within 60 to 80 days after planting. When planted the first two weeks of August and with adequate rainfall, oat and spring triticale can produce from 2500 to 5000 lbs/acre of dry matter by mid-October. The lower yields occur when leaf rust becomes a problem, which is a possibility in a damp year like we’ve had so far. They will reach the boot stage of growth in October, which provides the best compromise of yield and forage quality. If harvest is delayed until November, the early August planted oat and spring triticale will be in heading stage and will yield 6000 lbs of dry matter/acre or more. Early August planted oats or spring triticale forage will have crude protein (CP) content of 12 to 15% and neutral detergent fiber (NDF) of 38 to 50% depending on planting date and stage at harvest. These small grains will have to be put up as silage or balage if being mechanically harvested.

**Late August to Early September Plantings**

Spring oat, spring triticale, and annual ryegrass can also be planted from late August to mid-September, immediately after an early corn silage harvest. These later planting dates will produce lower yields (1500 to 3000 lbs dry matter/acre) than August plantings and harvest will be delayed into months with poor drying conditions (November to early December). Plantings in early September would be an excellent option for grazing or green chopping. Forage quality will be very high with these later plantings – CP will range from 20 to 32%, NDF will be 30 to 38%, and NDF digestibility will be 75 to 85%. If an early spring forage harvest is
desirable next year, winter triticale and winter rye should be included in mixture with the spring oat and spring triticale planted in late August and early September.

**Late September to October Plantings**

Wheat, winter triticale, and winter rye can be planted to produce good yields of high quality forage early next spring. Rye grows and matures rapidly in the spring and has the deserved reputation of becoming “like straw” in a short period of time once it turns reproductive. Wheat and winter triticale will be easier to manage next spring because they mature more slowly than rye. Wheat planting should be delayed until after the Hessian fly-safe date, which is 22 September in northern Ohio and 5 October in southern Ohio (Hessian fly feeding can reduce forage yield). Forage quality can be excellent for these species if harvested in boot stage of growth in the spring, producing from 2 to 4 tons/acre of dry matter depending on stage of harvest.

**Annual/Italian Ryegrass Option**

Annual/Italian ryegrass is another good option for producing high quality forage, especially for grazing in late autumn and early winter followed by forage harvests or grazing next year. Some varieties are more likely to survive the winter than others. The varieties Marshall, Winterhawk, and Fria all survived the very cold winter of 2013-2014 much better than many other varieties we tested. Additional data from our September plantings in 2014 will be made available soon. Refer to the Ohio Forage Performance Trials for selecting varieties, check the Forage Archive for past years of performance ([http://hostedweb.cfaes.ohio-state.edu/perf/](http://hostedweb.cfaes.ohio-state.edu/perf/)).

The forage quality of annual/Italian ryegrass will be at least equal to or higher than that of the small grain forages discussed above. We have planted annual ryegrass in early September for several years, obtaining 800 to 2000 lbs of dry matter/acre of forage by late November and early December, with yields of 3 to 5 tons of dry matter/acre the following year from improved varieties with good winter survival and with adequate nitrogen fertilization. Annual ryegrass can be planted earlier in August, especially if soil moisture is present (definitely true this year), which should provide higher yields in late autumn (up to 3000 lbs/acre dry matter).

**Seeding Rates and Mixtures**

Plant high quality seed of a named variety to ensure high germination rate and avoid unpleasant surprises regarding varietal identity and crop characteristics. Oat should be planted at 75 to 100 lbs per acre and spring triticale at 90 to 110 lbs/acre when seeded alone. Winter rye should be seeded at 110 lbs/acre while wheat and winter triticale should be seeded at 110 to 120 lbs/acre. For mixtures of these small grains, the seeding rate of each component can be reduced to 70% of the full rate. Plant 20 to 25 lbs/acre of annual ryegrass seed and apply 30 to 50 lbs N/acre either at planting or at early tillering stage. Additional nitrogen will be required next spring for good production.

When planting in early August, field peas or soybeans could be added to the mixture to boost the CP content of the forage, an important consideration for dairy producers this year. While we have no data on planting such mixtures in August, we would expect the CP content to be increased by 3 to 4 percentage units when including field peas or soybeans with oats or spring triticale planted by August 10 to15. This should provide an extra value of $40 to $50/acre from the increased protein content of the forage. This
needs to be compared to the extra cost of the legume seed included in the mixture. Field peas should be inoculated with N-fixing bacteria and sown in the mixture at 70 to 90 lb/acre. Soybean seeding rates for this application are not well-defined, but perhaps should be included in the mixture at 60 to 70% of normal soybean seeding rates. If the legume seed cost is no more than $50/acre, then including the legume in the mixture should be cost effective for lactating dairy cows, because the legume-small grain mixture should have lower NDF content leading to higher forage intake and greater milk production.

Several brassica species can be planted in early August for autumn and early winter grazing. For more information on this option, refer to The Ohio Agronomy Guide, pages 114-118.

Late-Season Weed Issues – Are We Having Fun Yet?
By Mark Loux

According to our weather guru, there is no close precedent for a summer like this in the last 100 years, and I can’t recall a year with this much mid-season rain in my almost 30 years here. This has obviously caused immense problems with post-emergence herbicide applications. There are many fields with large giant ragweed plants that still require treatment, should field conditions become suitable for traffic again. Even the best herbicide treatments are not likely to completely control all of the large giant ragweed, but they can be at least partially effective. Additional goals of herbicide treatments at this time are: 1) prevent plants from getting even larger; 2) prevent or reduce seed production; and 3) prevent harvest problems and losses. When selecting herbicides for late-season herbicide applications, keep in mind the restrictions on maximum crop stage, pre-harvest intervals, and crop rotation restrictions. For some of the key giant ragweed herbicides, these are as follows:

Classic – apply 60 days before maturity. 9 months to corn, 3 months to wheat.

Cobra – apply 45 days before harvest. No rotation restrictions.

FirstRate – apply 65 days before harvest. 9 months to corn, 4 months to wheat.

Flexstar, Flexstar GT (including generic equivalents) – apply 45 days before harvest. 10 months to corn, 4 months to wheat.

Glyphosate - must be applied prior to the end of the R2 stage. No rotation restrictions

Liberty – prior to soybean bloom. No rotation restrictions.

We suggest using maximum labeled rates of any herbicide(s) applied for control of ragweed this late in the season. Other application parameters – adjuvants, nozzles, volume – should also be adjusted to maximize herbicide activity on large weeds.

Obtaining effective control of marestail in wheat stubble has been an issue for several years. This situation can include marestail plants that are cut off by the combine which then regrow, and smaller, younger plants that were “lurking” lower in the wheat below the cutter bar. We conducted a study last summer to determine the effect of herbicide and application timing on control, in a field that mostly had the latter
type of plant. In a nutshell, herbicides applied on July 25 were overall more effective than those applied on August 7 (and we assume that effectiveness continues to further decline for applications later in August).

The commonly used combination of glyphosate/2,4-D adequately controlled marestail at the first application (not all plants dead but prevented seed production), but some plants survived and produced seed at the later application. Similar results occurred for the combination of glyphosate/dicamba. Other treatments, which consisted of various herbicides mixed with Sharpen, Liberty, or Gramoxone, largely prevented seed production at both application timings. We assume that control of larger plants previously mowed off by the combine would be more difficult. Overall, the results of this study indicate that earlier is better than later with regard to marestail control following wheat harvest. Preventing marestail seed production is really the key goal of wheat stubble treatments, and it’s possible for this to be achieved even if some plants are still alive late in summer.

Plasticulture Strawberry Field Day to be Held on August 4, 2015
OSU Extension will be hosting a Plasticulture Strawberry Field Day on Tuesday, August 4, 2015 from 1:00 to 13:00 p.m. at Catalpa Grove Farm located at 41473 OH-14 in Columbiana, Ohio. This workshop will demonstrate how to plant strawberries using plasticulture. During this program, participants will learn what strawberry varieties to plant and how to manage them. The featured speaker will be Brad Bergefurd, Extension Specialist for Horticulture from Piketon, Ohio. Brad conducts research and extension programs in vegetable crops and plasticulture strawberries. Registration is required by July 31. There is no cost to attend; however, registrations are needed for handouts and other details. Please call 330-533-5538 to register. The program registration flyer can be found at: http://go.osu.edu/strawberryfields

Regional Dairy Meeting to be Held on August 6 in Wooster, Ohio
Today’s dairy producer faces a volatile market. Dairy producers need to understand current dairy programs and their costs of production. Expectations for high quality milk production are increasing. This short regional dairy meeting will update dairy producers on some current topics to help them manage in today’s dairy production environment.

All area dairy producers are invited to attend the Regional Dairy Update meeting on August 6 at Fisher Auditorium on the OARDC campus in Wooster from 10:30 pm to 1:30 pm. Topics that will be addressed at the meeting include: The farm bill Dairy Margin Protection Program (MPP), Using Dairy MPP Decision Tools, Dairy Farm Financial Status: Costs of Production, and Milk Quality Evaluation and Management. Presenters include Shelly Odenkirk, Wayne County Farm Service Agency, Rory Lewandowski, Wayne County Extension, Dianne Shoemaker, OSU Extension Field Specialist in Dairy Production Economics and Dr. Luciana Da Costa, OSU Dairy Extension Veterinarian, Milk Quality. The presentation by Dr. Da Costa will focus on identifying milk quality standards and management practices required to maintain or improve milk quality. This is a particularly relevant topic in today’s milk marketing environment. On some farms a milk quality premium contributes significantly to the bottom line.

Pre-registration is requested to the Wayne County Extension office at 330-264-8722 by August 3. The cost of the meeting is $10/ person which includes lunch and handout materials. Sponsors providing dairy products or financial assistance to help cover meeting costs include: Smith Dairy, Dairy Farmers of America, Dairymen’s, Brewster Dairy and WG Dairy.

What’s in your Balage? Inadequate Fermentation May Lead to Botulism
Dr. Michelle Arnold, DVM- Ruminant Extension Veterinarian (UKVDL) and Dr. Jeff Lehmkuhler, Beef Extension Specialist, University of Kentucky
Source: http://beef.osu.edu/beef/beefJul1515.html
Round bale silage (or "balage") is an alternative to baling dry hay that allows shorter hay curing time and saves valuable nutrients in the face of approaching adverse weather conditions. It is a combination of hay and silage making and has certain advantages and disadvantages over other forage preservation systems. Balage is simply forage of a relatively high moisture content that is baled with a round baler and then stored in a sealed container, usually a plastic bag or wrapped in plastic, to keep oxygen out. Both grasses and legumes can be preserved by this method if proper techniques are followed. Forage cut at the correct stage of maturity, allowed to wilt to a 40-60% moisture range, then baled and wrapped at the proper moisture content will undergo fermentation, a process that drops the pH of the feed below 4.5 where spoilage organisms (especially bacteria from the Clostridial family) will not grow.

Problems arise when there is a lack of adequate fermentation to reach this low pH, which occurs most often with small grains (rye, oats, wheat, barley). Wet, non-wilted, and/or overly mature forages have less soluble sugars available for completion of fermentation. Clostridials thrive in wet environments where forage moistures are in the higher 67-70% range; > 70% moisture almost guarantees Clostridial activity. Baled silage is also more likely to spoil as compared to silage in traditional silos because of aerobic degradation of the carbohydrate due to delayed wrapping, poor moisture management, and damage to the plastic covering, resulting in the harmful introduction of oxygen.

Botulism is a disease caused by one of the most potent toxins known to man. This toxin is produced by Clostridium botulinum, a spore forming anaerobic Gram + rod. These spores are found everywhere in the soil and contaminate plant material during harvest. In the absence of oxygen (as is found in wrapped hay) and a pH greater than 4.5 (poor fermentation), the spores enter a vegetative state, multiply and produce toxin. Two forms of the toxin, Types B and C, occur most frequently in KY cattle. Type B is associated with improperly fermented forage while Type C occurs from the accidental feeding of dead birds, dogs, cats or poultry litter contaminated with dead birds in the ration of cattle. Both types produce the same characteristic clinical picture in cattle including:

1. Typically a large number of animals affected all at once;
2. Progressive muscle weakness leading to recumbency (downers) over a 2-5 day period of time, depending on the amount of toxin ingested. Signs may develop as early as 24 hours to as many as 10 days after ingesting the toxin:
3. Decreased Tongue Tone-The "classic" feature of botulism. The tongue may actually hang from the side of the mouth as the disease progresses. Without tongue control, a cow will have other associated signs such as a dirty nose, difficulty chewing and swallowing, and plunging the nose deep in a watering trough to drink;
4. Constipation/Raising the tail while straining. Sometimes see colic (abdominal pain) and a "hunched up" appearance;
5. Death due to paralysis of muscles of the diaphragm.

Treatment consists of supportive care including administering fluids and propping cows up on their sternum. A toxoid for Clostridium botulinum type B (Bot Tox B, Neogen Corporation) is approved for horses and can be used in an extra-label fashion in cattle if a valid veterinary-client-patient relationship exists. This vaccine will not reverse clinical signs already present but may help to prevent new cases. Generally, animals less severely affected that do not go down will survive. Dead animals must be disposed of properly (including rendering) as the meat is not safe for consumption.

Diagnosis is difficult and is usually based on history and clinical signs. Rumen contents, feed samples and blood can be analyzed for the toxin. Other possible causes of muscle weakness and downer cows include low blood levels of calcium, potassium or magnesium, ionophore toxicity (rumensin, lasalocid), organophosphate or carbamate insecticides, heavy metals such as lead, and infectious causes such as listeriosis or rabies. Calves may exhibit extreme muscle weakness due to a lack of selenium. Your veterinarian is the best source of information to determine the cause of your problem.
Prevention is based on ensuring proper harvest and preservation of wrapped forages to reduce the risk of botulism in cattle. Correct moisture content and maturity of the forage are of primary importance. Also, achieving the highest bale density possible, especially with high internal core densities, gets out the maximum amount of oxygen with few air pockets. Wrapping the bales as soon as possible with a good quality plastic, preferably with an ultraviolet inhibitor and 6-8mm thickness, and using multiple layers will extend the storage time. If holes appear during storage, these should be covered immediately with tape. Store the wrapped bales on a north facing slope if available because prolonged exposure to the summer sun may cause the upper side and the south face of the bale to dry out, with the moisture condensing on the bottom or north face of the bale. A well-managed bale could end up developing a Clostridial prone pocket in dried out areas of the bale.

In summary, it is advisable to test the pH of your balage to insure adequate fermentation. To do this, samples can be submitted to a forage laboratory and a fermentation profile requested. This will often include a pH and volatile fatty acid profile. This is a common practice for corn silage and one should consider this with fermented forages of all types. An outbreak of botulism in 2009 in Nelson County serves as a reminder of the potential for deadly consequences from poor quality feed. In December 2009, round bale oatlage was fed to stocker calves that resulted in the deaths of 90 head. Samples of the rumen contents and the oatlage were sent to the Botulism Diagnostic Laboratory at the University of Pennsylvania where both tested positive for the Clostridium botulinum Type B spores and preformed toxin. Further analysis revealed a pH of 6.8 in the forage-the perfect environment for a disaster. It is important to remember that thousands of round bales are wrapped annually with only a few cases of botulism occurring; the risk of disease is low if one applies the proper management from time of harvest through feeding.

Evaluating and Leasing a Woods for Maple Syrup Production
Les Ober, ANR Coordinator- Geauga Co. OSU Extension

Expansion in the maple syrup producing regions has been in high gear over the last several years. In New England and New York there is little doubt on how and where expansion will occur. In both areas you have mountainsides with 1000’s of maple trees. Much of this land is owned and leased by the government or large private companies. Obtain the operating capital; lease the land run the pipeline down the mountainside to the sugarhouse and you are in business. Ok I realize it is not that simple but it is a lot easier than expanding in Ohio. We have fewer trees, in smaller concentrations, which are spread across the state. There is also the issue of convincing landowners to lease their trees. This can be very difficult to say the least.

Let’s look at the process of leasing trees for maple syrup production. The majority of trees in Ohio are privately owned. Most of the government owned woodland is located in SE Ohio in areas that have never been considered prime maple producing area. Sixty percent of the maple production in Ohio is done in the northeast quadrant of the state. This is an area that has seen increased pressure from urban development and the price of that land reflects developmental value not agricultural value. This often makes it unaffordable for someone to buy a woodlot for maple production. To compound the problem much of this land is owned by “Baby Boomers” who have passed away or are now ready to leave Ohio and transfer ownership to a sibling or a third party. Often the cost of ownership (land tax) or the cost of settling an estate will determine what will happen to the estate. Many times the family is forced to liquidate assets such as timber to offset these expenses. As a result many of our prime sugar bushes have been cut down and lost in the process. Unfortunately in times of duress families do not receive the full market value of the timber as a result of a quick sale to take care of financial obligations. This often compounds the agony of estate settlement. They also do not take the time to explore all of the options for utilizing their woodlot.

Today a profitable maple operation relies heavily on technology to be successful and that includes a vacuum tubing system. Installing a tubing system requires a long term (7 to 10 years) lease. Many landowners are hesitant about entering into this type of agreement for a variety of reasons. One of the primary reasons is that the owner does not
want to be bound to a binding contract if something would happen and he had to sell the property. Even if a sale is not forthcoming coming many owners are uncertain about how their actions might impact the next generation. This needs to be a consideration when designing a lease. There need to be an emergency escape clause that protects the rights of both parties. One ways of softening this objection is for the owner to get a substantial financial return for leasing the woods. Consider the fact that an average lease on cropland now starts at $100.00 per acre (this is high for some areas and low for others). This means that woods with 80 taps, renting for $1.00 per tap would be equivalent to many cropland leases. This also this also demonstrates why maple lease rates need to start at $1.00 per tap to keep a woodlot lease comparable to a cropland lease. The only way to determine a rental rate is to accurately estimate the number of taps per acre.

Since the millennium it has become increasingly hard to find an unused sugarbush in prime condition in Ohio. Often times a maple producer hears about a stand of timber that might be available for tapping and he decides to look at it and it falls way short of his expectations. I can tell you from experience that I have walked more than one woodlot where the owner was sure he enough trees to make syrup. Yes he did have maple trees but not nearly enough to be economically feasible for maple production. The reason for this is that many of the woodlots are 2nd and 3rd growth timber containing large numbers of smaller trees. Because these woods containing trees that are not ready for a timber harvest due to their size the owner is years away from harvest and potential financial gain. This makes maple syrup production a very viable option that can be attractive to the owner because he can get an immediate financial return from his woodlot. On the other side, the producer is looking at single tap trees and trees that may not immediately be big enough to tap for several years. The long term goal of the producer should be to convince the woodlot owner that maple syrup production is a worthwhile use of his resource resulting in the continuation of the lease over time. If these were large mature maples it would be very difficult to make a case that he could make more money by leasing for maple syrup production. In this case the only chance you have is to increase the rental rate and make a case for selective harvest that will preserve some of the larger trees. In both cases the axiom; “The best way to preserve sugarbush is to tap a sugarbush”, applies.

What are the criteria that I go by to determine the feasibility of transforming a woodlot into a sugarbush? Start with a good layout plan. The producer wants to avoid excessively long mainlines going to trees scattered over a wide area. Slope is important but there are ways to work around slope issues. The most common problem with slope is that the woods often slope away from the collection point. This problem is usually solved with the installation of auxiliary tanks, long pump lines and a transfer pump big enough to handle the volume of sap produced. All of this adds to the cost of installing the tubing. The best way to determine layout is to use a GIS map with contours to find high and low points. If you are lucky enough to find a woodlot where to dominant tree is the sugar maple of tapable size and those trees are dispersed evenly across the landscape, you have found a real Jewel. However, most time you end up with sugar maples mixed in with red maple and other hardwood species. A good sugarbush will average 80 taps per acre. Anything below 50 taps per acre is considered marginal. If it is in a woods that has been previously harvested then size of the tree (smaller than 10 inch cum.) becomes an issue. You need to use an angle gauge or prism to determine size at a distance. For closer examination a 32 inch circumference chain will equate to 10 inch diameter tree. The best way to determine tap numbers is to lay out a circle with a 26.4 inch radius from the center. Count all of the tapable trees in that circle and multiply that number by 20 to give you the number of taps in an acre. Example (in a circle with a 26.4 inch radius) 5 taps X 20 = 100 taps per acre. You want to do this randomly at multiple locations across the woods. Average all the results of those locations together to come up with an average number of taps per acre for the woodlot.

Now it is time to develop a management plan. A well-managed vacuum tubing system should produce ½ gallon of syrup per tap. At $50.00 per gallon that grosses you from $1250 up to $2000.00 per acre. That is a gross return, all of your production expenses including your labor needs to be deducted to give you a net return on you investment and your cost to produce a gallon of syrup. One of those costs is the initial cost of installing your tubing, spread over a 10 year period.. You need to know your cost of production before you can put together a lease offer.
What are the selling points of a good lease? A good lease agreement is built on the premise of Best Management Practices. This includes tree size determination, general tapping practices, access for the owner and operator, BMP responsibility, owner liability protection and finally rent per tap. All of these need to be adapted to the woodlot you are trying to rent. For example the owner depends on the woods as a source for firewood. He has to have access to the woods in the off season. You must lay out your system to allow access. This includes being able to disconnect certain mainlines and removing several laterals to allow for that access. He is also concerned about liability if you or one of your workers gets hurt in the woods while making syrup. You need to include him in your insurance liability policy as a co-insured, taking the risk off of him while you are on his property.

You now have a reasonable lease offer that works for you but will you be able to sell the idea to the landowner. You need to put yourself in the shoes of the landowner and ask yourself would you consider entering into this contract if it were offered to you. Hopefully the answer is yes but if it is not then you need to reassess the plan before moving on. What happens next will determine the success or failure of adding this woodlot to your operation. You now become a salesman trying to convince the owner that this is a good idea and both of you will benefit. If you have done your homework and you make your case honestly and sincerely you should be successful in expanding your maple syrup operation.

**Organic Seed Coating for Alfalfa Helps Prevent Some Soilborne Diseases**

By Dennis O’Brien.
Source: [http://www.ars.usda.gov/is/pr/2015/150716.htm](http://www.ars.usda.gov/is/pr/2015/150716.htm)

U.S. Department of Agriculture (USDA) scientists have found that a natural seed coating can protect alfalfa against some soilborne diseases. Alfalfa is a $10 billion-a-year crop in the U.S., but producing it can be a challenge. Farmers in the Midwest often plant it early in the spring when the soil is cold and damp. That makes the seeds vulnerable to a number of soilborne diseases.

To minimize the damage, most alfalfa seeds are coated with a fungicidal treatment. But the treatment, mefenoxam, is ineffective against the pathogen causing Aphanomyces root rot (ARR), which is common to Midwestern soils. Demand for organic alfalfa for organic dairy operations also is increasing, and alfalfa treated with a fungicide can’t be labeled as organic. Many organic dairy farmers would like to expand but may face a roadblock due to a lack of available organic feed, according to Deborah Samac, a plant pathologist in the Agricultural Research Service's (ARS) Plant Science Research Unit in St. Paul, Minnesota.

Samac wanted to see if coating alfalfa seeds with a naturally occurring mineral would protect them from soil diseases, including ARR. The mineral, zeolite, comes from degraded volcanic rock, has antifungal activity, and qualifies as an organic soil treatment. Samac also wanted to assess zeolite’s effects on the health of plant roots and beneficial soil microbes.

She and her colleagues grew plants with three different seed treatments and inoculated them with the types of pathogens that attack alfalfa roots. The seed treatments included a control with no fungicide, mefenoxam-treated seeds, and commercially available zeolite-coated seeds designed for organic alfalfa production. The plants were removed after 21 days and rated for disease symptoms on a 1-to-5 scale. They also repeated the process in soils collected from 12 Minnesota alfalfa fields to assess the treatment's effectiveness in soil naturally infested with pathogens.

The results showed that the mineral coating was as effective as mefenoxam in protecting seeds from most soil pathogens, but unlike mefenoxam, zeolite protected the seeds from ARR. It also did not inhibit production of healthy roots or beneficial microbes in the soil. The coated seeds need to be evaluated further, but the findings show they
could prove useful in both conventional and organic alfalfa operations, Samac says. The results were published May 29, 2015, in the journal Plant Disease at: http://www.apsnet.org/publications/plantdisease/Pages/default.aspx

Read more about this research in the July 2015 issue of AgResearch magazine at: http://agresearchmag.ars.usda.gov/2015/jul/alfalfa/ ARS is USDA's chief intramural scientific research agency.

**Vegetable of the Week – Swiss Chard (Beta vulgaris subsp. cicla)**

**Author: Erik Draper, draper.15@osu.edu**

Looking to bring a little bit of zing and color into the garden while also providing a serving of vegetables? Well then, Swiss chard is the perfect blend of eye popping colors combined with something good to eat! Swiss chard is a very easy plant to grow and harvest, especially if there is a real preference for eating and enjoying a highly nutritious, spinach-like vegetable. Chard, a close relative of the beet, is grown for its vitamin-rich leaves and leafstalks (petioles), rather than an enlarged root; however, like beets, chard “seeds” produce multiple seedlings and therefore, thinning them is required. Thin chard seedlings to about 12” apart to allow plants to grow to their mature size, which is about 2 - 3’ tall. Seedling plants, removed when thinning, are a wonderful addition to any salads. Swiss chard leaves can be harvested and used as soon as they are an appropriate size for use, which is approximately when the leaves are 7-12” tall. Chard may be harvested throughout the entire growing season, right up until the killing frost. Remove the outer-most, larger leaves, cutting them about 1” from the soil surface with a sharp knife. Try to avoid damaging the inner-most area where the new leaves and stems continuously emerge from the growing center. Harvested chard can be stored unwashed in the refrigerator for a few days. The leaves and petioles can all be cooked, prepared, or utilized just like spinach.

There are many cultivars available: like those with red petioles ('Burgundy', 'Rhubarb', 'Ruby Red'); white petioles ('Fordhook Giant', 'Geneva', 'Large White Ribbed', 'Lucullus', 'Perpetual', 'Winter King', 'Virgo', 'Bionda di Lyon'); yellow petioles ('Bright Yellow', 'Gold Stem', 'Pot of Gold'); magenta petioles ('Magenta Sunset'), or a mixture of red, pink, orange, purple, white, and yellow petioles ('Five Color Silverbeet', 'Rainbow', 'Bright Lights', 'Neon Lights', 'Northern Lights'). Now your eyes can be served a colorful treat too, while your tastebuds are enjoying swiss chard!

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