NEMO AG Connection

We have a winner! The name chosen for our newsletter is NEMO AG Connection. Thank you to all who submitted name suggestions for the newsletter. We had a lot of great entries!

April/May
Upcoming Events

Pike County 4-H Hog and Sheep Weigh In, April 30, 4:00-7:00 p.m., Bowling Green, MO. Contact Patty Fisher at 573-324-5464.

Salt River Master Gardeners Meeting, May 7, 7:00-9:00 p.m., Palmyra, MO. Contact Alix Carpenter at 573-769-2177.

Serving on Public Boards, May 16 and 23, 6:00-9:00 p.m. Current locations are Unionville, Edina, Kahoka, and Palmyra. Contact Joe Koenen at 660-947-2705.

Adair County Lady Landowner Workshop, May 17, 9:30 a.m.—3:00 p.m., Steve’s Garden Deli meeting room in Kirksville, MO. Topics include SWCD/NRCS updates, Farm Leases in Missouri, Growing and Using Herbs, and The History of Women’s Fashion. Contact Adair County Extension Office at 660-665-9866.

Double Breeding Barn ($50 per day) or Single Breeding Barn ($25 per day) – contact the Sullivan County Extension Office to reserve date(s) at 660-265-4541.
Farm Leases in Missouri

Finally spring is arriving and producers are looking to reinstate previous leases or develop new ones. Many have already done so which is great since in Missouri there is no definite required start and end date for a farm lease. Even though the majority of farm leases are still oral, it is recommended to have a written lease to clarify issues and try to avoid problems. It is essential that a few things, at a minimum, be in the lease. Those items are:

1) Names of all parties entering into the agreement and a clear description of what is to be leased. The legal description would be good, but it can be confusing. If a certain farm is known as the “Howard Place” then this could also be added. Sometimes it helps to have the Farm Service Agency farm number and the tract number with a map.

2) Terms of the agreement – how many years, type of lease (cash, crop share, etc.).

3) Rental rate and arrangements meaning how much per unit and when payment will be made. This could also include any specific arrangements such as a certain type of tillage or crop rotation.

4) Right of entry – gives landowner right to come onto their own property otherwise this right is lost.

5) Signatures – all parties should sign agreement, including spouses.

There are several other items that should be considered in a written lease agreement. Operating expenses which may not pertain to cash lease, but does to a crop or livestock share lease. Conservation practices should be discussed and determined who will maintain and what will be allowed, and who pays for. Some practices and programs require the landowner to implement and others allow the tenant to do so, but if cost-share assistance is granted three will be a maintenance life on that practice. Improvements or repairs need to be specified as to who does them, who pays for them, and who owns them. For example, improvements attached to the land usually stay with the land, but a portable corral or chute could be brought in by the tenant and removed upon termination of the lease, but should be very clear on who owns it. Records should be kept on yields, livestock inventories, and field’s fertilized, limed and chemical application to name a few. A “no partnership” statement should be included to differentiate between liable parties. Arbitration is a way to handle differences of opinion if there is a dispute over the lease between the parties involved. If a landowner wishes to reserve the hunting rights, this should be stated in the lease. Other items can be put into the agreement if both parties agree. Clear communication is important to prevent unsatisfactory lease performance which usually leads to non-renewal of the agreement or litigation. Definite challenges exist in our current agriculture economy with many absentee landowners, farm heirs that may not understand agriculture, high commodity prices paralleled by high input costs and an undecided farm bill. Even though many uncertainties exist, a written farm lease can take some of the risk out of the picture.
The Onset of Spring means Fencing Law Issues Arise Again

I keep thinking that at some point in my career that I will have answered all the questions relating to fence and boundary issues but I know that won’t ever happen. University of Missouri Extension has some good resources related to this law that I want to mention today and address some common questions I get often also.

University of Missouri Extension has 2 very good resources related to this confusing law (remember there are 2 laws depending on what county your land is located in). Guide 810 “Missouri Fencing and Boundary Laws” discusses the law and landowner responsibilities in detail. It also addresses the differences between the local option law {in affect in 8 of the 20 counties in our Northeast Region} and the updated general fence law {more common state law in affect in the others}. Guide 811 “Missouri’s Fencing and Boundary Laws: Frequently Asked Questions” explains some of the more asked questions and issues related to the law. It also has a map showing which counties in our region (and the state) have which law in place. You can check both of them out online at [http://extension.missouri.edu/publications/](http://extension.missouri.edu/publications/) and type in fence law in the search box. I also have a couple of forms {different side of fence – other than legal side - to maintain, 90-day notice for optional law counties} that you can contact me for if you need them.

There are many common misconceptions surrounding this law as you might guess. (1) If I don’t own livestock in Missouri I don’t have to fence, correct? Livestock ownership does matter in the general law counties but if 1 landowner has livestock in the optional law counties, then both are legally responsible for their portion of a boundary fence. (2) A legal survey overrules anything else as far as where a boundary fence is located. While surveys are more accurate than ever, they alone do not determine where a boundary fence is located. A fence that has been in place for over 10 years may become the boundary line by adverse possession {legal term}. Don’t forget also that both landowners generally have to agree to move a fence, especially one that has been in place for that time period. Finally, surveys can and do change over time. (3) My neighbor does not want anything removed on his/her portion of the property line – can they do that? Missouri has many traditions and one of those is that 10 feet on each side be cleared of brush, trees, etc. so a good fence can be maintained. However, traditions are not law and so if they refuse to remove anything on their side they can legally do that. Keep in mind that they can also be responsible if their trees, etc. do damage to your fence because they wouldn’t clear them out and damaged your fence. (4) Just because I’m not a livestock owner doesn’t mean I can’t move/remove a fence, does it? This normally comes up when a survey is done by a new landowner. If you’re in a general law county, only the livestock owner is responsible for the boundary fence so you really don’t have a say in that fence unless they allow you to. There is a wording that can be placed on both deeds if you can both agree to make a boundary fence just a location point and not the boundary line due to adverse possession in the future.

This is a complicated law that can cause many hard feelings so don’t discuss it with neighbors unless you know the law well. If you have any specific questions related to either Fence Law here in Missouri, you can call or email me at 660-947-2705 or koenenj@missouri.edu.
Prescribed Burning as a Pasture Management Tool

Most people think of a grassland fire as a bad thing, but in certain situations it can be beneficial. Prescribed burning, using fire as a management tool in pastures, has become more widespread in recent years. Burning in the late winter and early spring is most common. This helps to remove the accumulated plant material and opens the canopy for new seedlings to emerge. This can be especially effective if pastures are over seeded with a legume such as red clover, where sunlight penetration into the canopy is important for seed germination. Burning is beneficial to a stand of native warm season grasses and also has wildlife habitat benefits.

Ideal conditions for burning include a moist soil, humidity of 30 to 60 percent, a temperature between 45-75 degrees with less than 70 percent cloud cover and a wind speed of 10 to 15 miles per hour. A light wind helps the fire to move across the field in an expected direction. The lack of wind can result in erratic and unpredictable fire patterns. Check the weather forecast to make sure the wind is not predicted to change directions during the time of the prescribed burn. Topography also plays a role in management of the fire. Fire travels uphill faster than downhill. Be aware of heavy fuel sources, such as downed trees, brush piles or logs, which may be within the prescribed burn area.

A drip torch can be useful when lighting the fire. Typically, it is a can with a long spout holding a fuel mixture that is ignited on the end and drops the fuel at a steady rate as a person walks along the area to be ignited. If a drip torch is unavailable, a handheld propane torch or even matches can be used to set the fire.

Use of a backfire is critical to control the fire. A backfire is a small slow fire that is set on the downwind side of the field. This will help to stop the fire when it reaches the edge of the field. A fire break such as a mowed or tilled strip around the edge of the field is important to contain the fire in the desired area. To effectively stop the fire at the edge of the field, the fire break and the back fire combined should be 50 feet wide. A backpack sprayer or an ATV equipped with a sprayer can be a used to wet areas along the backfire and to extinguish wooden fence posts if they begin to burn. Adding one quart of dish soap per 50 gallons of water will help the water to adhere to the grass leafs. A rake and a leaf blower are useful tools as well.

And finally, make safety a priority. Be aware that the smoke from the fire may be a hazard especially if it is blowing across a major road or toward a home. Protect sensitive areas such as telephone boxes that may be located near a fence line. Wear suitable clothing when conducting a prescribed burn of grasslands. Avoid wearing nylon or polyester based clothing which can melt and burn skin. Leather boots and gloves are most effective to protect feet and hands, as they will not ignite easily or melt. Goggles will help to protect eyes from smoke and embers. It is important to notify your neighbors and local fire department that you are intentionally burning the area and they should respond only if you contact them that the fire has gotten beyond your control.
Cover Crops and Nitrogen Management

Cover crops are increasing in popularity and use in this area. Cover crops can do wonders for soil health. With cover crops one of the common problems is failing to kill the cover crop at the right time and failing to manage the carbon penalty resulting from increased residue. The need for management arises because some cover crops impact the nitrogen penalty. The carbon penalty results when corn is planted after a crop that produced large amounts of residue with a carbon/nitrogen (C/N) ratio higher than 30/1, such as corn or wheat, or some cover crops such as cereal rye. Cover crop residue with a high C/N ratio provides additional carbon in the spring, adding to what’s already present from the previous crop. The soil microorganisms increase rapidly due to the carbon-rich source. The microbes use nitrogen from the soil, immobilizing it. If the timing is wrong, and if the nitrogen is not managed correctly, this can create a temporary nutrient shortage for young corn.

The nitrogen taken up by microbes becomes available later, through mineralization, which is affected by moisture and temperature. Immobilization and mineralization occur simultaneously in the soil but at various times, there is either net mobilization or net mineralization. Net mineralization late in the growing season is beneficial to the corn crop. The amount and type of residue produced by the cover crop determines how soon it becomes available. In a study in Indiana in 2012, the date the cover crop was killed was a big factor determining the onset of net nitrogen mineralization. In this study a number of cover crops were planted following a wheat crop with some plots where the straw was baled and removed, some plots tilled in the fall and leveled before planting and some where the straw was left and cover crops no-tilled into them. The drought is suspected to affect these results some. Soil nitrate tests were used to determine when net mineralization occurred. Where grass cover crops were killed on March 19, net mineralization did not occur for 60 days. Where cover crops had winterkilled, net mineralization occurred by March 29 (10 days). Annual ryegrass covers killed on March 15, showed net mineralization in about 40 days. Annual ryegrass killed on March 26, mineralization didn’t occur for approximately 125 days. Carbon content increased as plants grew and one week made a big difference because of the increase in tonnage and C/N ratio. Researchers believe this is a one year phenomenon due to extremely dry weather. Normally with the low C/N ratio of annual ryegrass they would expect for 50% to 70% of the nitrogen from ryegrass to be available to corn plants, six to ten weeks after it is killed in the spring.

The biggest issue with cover crops, when planting corn, is the kill date. There are several benefits to letting a cover crop grow longer in the spring but you must consider the impact that the additional growth will have on the carbon penalty for the next crop, and manage the availability of nitrogen accordingly. Following are some of the carbon/nitrogen ratios for several cash and cover crops:

- Corn stalks—57/1
- Soybean residue—18/1
- Annual ryegrass—17/1
- Vegetable cereal rye—26/1
- Cereal rye at flowering—37/1
- Cereal rye straw—82/1
- Crimson clover—15/1
- Hairy vetch—11/1
Residual Feed Intake (RFI) in Beef Cattle is More Important Than Ever Before!

As feed, land and cattle costs keep increasing, more producers are looking at cattle feed efficiency to help operations be more profitable. Kent Abele from Green Springs Bull Test Station in Nevada, MO came to the Mid-Missouri Grazing Conference in Jefferson City on February 28th to help producers understand how critical feed efficiency is and how RFI can help. Think about what could be done on your operation with the money saved if you didn’t have to feed as much hay this winter and your cattle performed the same? Feed is a major expense for cattle producers, second only to fixed costs. With 75 percent of the total feed cost used for maintenance in breeding cows, improving feed efficiency can have a big economic effect.

What is RFI or net feed efficiency, as some researchers call it? It is the difference between an animals’ actual feed intake and its expected feed requirements for maintenance and growth. RFI is the variation in feed intake that remains after the requirements for maintenance and growth have been met. Efficient animals eat less than expected and have a negative or low RFI, while inefficient animals eat more than expected and have a positive or high RFI. Mr. Abele, explained just how pronounced those differences are at his test station between individual bulls and heifers.

In beef cattle, it takes an average of 6 pounds of feed to produce one pound of body mass increase. Compare those numbers to 3.4 lbs. of feed for pigs, 2 lbs. for poultry and 1.2 lbs. for fish; beef cattle are obviously less efficient than other species when comparing feed:gain so it is critical that producers know that their beef cattle are as efficient as they can be. Researchers have noted that there is as much as an 8 pound difference in feed consumed per day for steers that gained similarly. Over a 120-day feeding period, this added up to about $125 per steer and meant the difference between making money and losing money.

Can RFI be used as a tool to improve genetics? Research indicates that RFI heritability is dependent upon breed, but is moderately heritable (0.16 to 0.43), so that improvements for feed efficiency can be seen through selective breeding. Improvements in RFI do not have negative impacts on other traits such as; average daily gain or weaning weights.

For more information, look at Noble Foundation, Alberta’s Agriculture and Rural Development website or the Green Springs Bull Test website at:
http://www.noble.org/ag/livestock/feed-efficiency/
http://www1.agric.gov.ab.ca/$department/deptdocs.nsf/all/agdex10861
www.greenspringsbulltest.com