

PLOWING AHEAD

AGRICULTURE & NATURAL RESOURCES

January 2024



NEW MEETINGS FOR 2024

(Meetings will be held at the Madison County Extension Office, 230 Duncannon Lane, Richmond)

January 23rd at 6 pm

Beef Cattle Nutrition and Hay Contest Update

“Winter Feeding and Short Hay Supplies”

Dr. Jeff Lehmkuhler and Brandon Sears

January 30th at 6 pm

Carbon Credits and Carbon Market Update

“Row Crop/No-tillage Systems and Forest Land”

Dr. Jordan Shockley and Dr. Jacob Muller

February 12th at 6 pm

Corn and Soybean Update

“How to make your best yields - Pro Tips from UK Corn and Soybean Variety Trials and Top Yielding KY Farmers”

Dr. Chad Lee, UK Extension Grain Specialist

February 29th at 6 pm

Small Ruminant Parasitology Clinic

“Fecal egg count workshop”

Kentucky State University Veterinarian Dr. Jesse Lay DVM

A meal will be provided at each meeting - Please call 859-623-4072 to register so we have enough food!

****These meetings qualify for CAIP education credit****

(If weather is bad, meetings may be rescheduled.)



Cooperative Extension Service
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UPCOMING AUCTIONS

Madison County Fair Board Annual Equipment Consignment Auction set for Saturday January 6, 2024.

Auction will begin at 10 am, Saturday January 6, at the Madison County Fairgrounds. Call Chuck Givens at 859-582-5822 or visit

www.themadisoncountyfair.com for more information.

Annual Hay Auction Set for Saturday January 20, 2024.

Mark your calendar for Saturday January 20th at 10 am for our annual hay auction at the Madison County Fairgrounds. All types and sizes of hay offered.

Hay drop-off will be January 17-19 from 12 noon to dark each day.

The sale will take place rain or shine.



Brandon Sears

Brandon Sears

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FIREWOOD FACTS

Best Firewood Species

When choosing between species of woods, realize that they provide different amounts of heat per unit size. Wood is made up of air and cellulose (wood fiber). Some firewood logs have more air space than others. The more air space, the less amount of wood to burn. Purchase the heaviest/densest per unit volume.

The term "seasoned", when referring to wood, means how much water is in the wood. The more water you have in the firewood, the less heat you are going to have generated to heat a room. The heat generated from wet wood will have to go towards evaporating any moisture that might be found in the wood. Seasoned wood takes about six to twelve months to dry or cure properly. Seasoned wood is going to have splits in the end of the log and have a gray color. Having logs split into sections will help in speeding the drying process.

The better woods to choose from would be oak, hickory and black locust. These would be the densest of the firewoods in Kentucky. Yellow-poplar, silver and red maple would provide much less heat per unit volume, but are great woods for starting fires in the fireplace. You should have a professional check your fireplace system before you build your first fire. This is a real must if you have not used the system for a number of years.

How to Dry Firewood

Cut to required fireplace length - Split for quicker drying - Removal of bark - Air dried for a minimum of six months - Stacked and dried in an open area with good air flow - Cover over the top of wood (not sides) - "Season" wood during months of low humidity - Keep the wood off the ground

Measuring and Stacking Firewood

It pays to know how firewood is measured. Firewood is generally sold using a volume measurement. Terms used to describe the volume of wood are cord, face cord, fireplace cord, and rick. A cord is a neatly stacked pile of wood measuring 4 feet by 8 feet with each piece of wood 4 feet in length. A face cord has the same general measurements, but the depth of the pile is the length of the firewood logs, not 4 feet, i.e., 4 feet by 8 feet by 20 inches assuming each log is 20 inches long.

A rick and fireplace cord are often regarded as the same and refer to one third of a cord, but regional differences do occur. It is important to remember that all these volume measurements are not exact. The size and shape of individual logs, how carefully they are stacked, and if the wood is split all influence the actual wood volume whether purchased by the cord, face cord, or rick.

FROST SEEDING - IT'S THAT TIME OF YEAR!

By Chris Teutsch, Extension Professor, Forage Specialist, UKREC at Princeton

Nitrogen remains an important part of grassland ecosystems and is closely related to both dry matter yield and crude protein concentrations in grasses and non-leguminous forbs. Since nitrogen is highly mobile in the soil, soil testing is not commonly used to make nitrogen fertilization recommendations. Recommendations are based on research trials conducted over multiple years and locations.

Nitrogen Cycling in Grassland Ecosystems.

So here is some good news...in well managed grasslands strong nitrogen cycles can be developed over time. Nitrogen enters these systems in the form atmospheric deposition (minor amounts), feed and supplements brought into the system, and nitrogen fixed by legumes. These cycles can reduce or in some cases even eliminate the need for nitrogen fertilizer. It is important to realize that these cycles take time to develop require good grazing and feed management. A key component of these cycles is the use of legumes such as red and white clover and alfalfa (Figure 2).

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FROST SEEDING...CONTINUED

Legumes fix nitrogen in the air to a plant available form. The importance of legumes in grasslands has long been recognized. They bring nitrogen into grassland ecosystems via symbiotic nitrogen fixation, improve forage quality and animal performance, and dilute the toxic effects of the endophyte found in tall fescue. It is estimated that commonly used pasture legumes will fix between 50 and 250 lb of nitrogen per acre per year.

Legumes share nitrogen with grass indirectly. Nitrogen is transferred to grass grown in association with legumes through the ingestion of legumes and subsequent deposition of dung and urine by grazing animals (Figure 2), death and decomposition of above and below ground plant parts including roots, shoots, and nodules, and to a lesser extent direct legume to grass transfer.

Overseeding legumes is not the same as applying commercial nitrogen fertilizer. Mixed stands of grasses and legumes may yield as much or more than grass monocultures fertilized with moderate rates of nitrogen, but a significant proportion of that yield will be made up of the legumes. In other words, legumes not only increase grass growth by supplying nitrogen, but also compensate for lower grass production in mixed stands.

Applying nitrogen fertilizer to mixed stands shifts botanical composition. The addition of nitrogen fertilizer to grass-legumes mixtures tends to shift the composition of the mixture toward grasses. Nitrogen fertilizer also reduces nitrogen fixation in the legumes since energetics favor uptake of nitrogen in the soil rather than biological fixation.

Improved legumes require good soil fertility to be productive and persistent. Improved legumes such as red and white clover and alfalfa require relatively high soil fertility and pH's above 6.0 to be productive. This means that an initial investment in potash, phosphorus, and lime must be made. These applications need to be based on a recent soil test.

Legumes are most productive when rotationally stocked. Like other forages legumes respond well to improved grazing management. Resting pastures allows leaf area to regrow and carbohydrate reserves to be stored up. In general, tall growing legumes like alfalfa and red clover are more dependent on stored energy for regrowth. This means that they need time to rest and replenish their stored carbohydrates between grazing events. That is the reason that alfalfa does not persist well in continuous grazing systems. Even white clover that tolerates close grazing very well benefits from rest.

Rotational stocking is a tool to manage botanical composition. How we graze our pastures has a profound impact on botanical composition. In grasses, energy for regrowth is dependent on leaf area remaining after grazing. The remaining leaf area is like a solar panel that captures sunlight and converts it into energy (sugars and carbohydrates) that the plant can use to fuel regrowth. The more leaf area we leave, the larger the solar panel, the faster pastures will regrow, and the more competitive the grass will be the tall growing legumes. If we graze closely with a rest period between grazings, we will tend to favor tall growing legumes in the sward since they are more dependent on stored carbohydrates for regrowth.

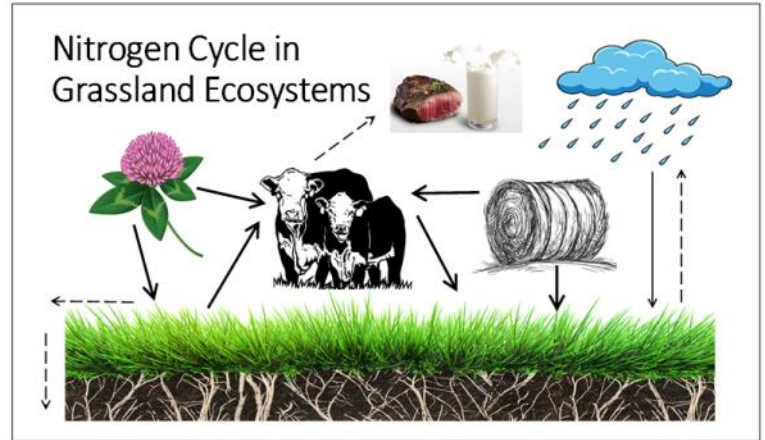


Figure 2. Strong nitrogen cycles can develop in well managed grassland ecosystems. Nitrogen enters the system via imported hay and supplements, nitrogen fixation in legumes and atmospheric deposition (minor amounts). Nitrogen leaves the system via volatilization, denitrification, leaching, runoff, and animal products removed. A cow-calf pair will consume approximately 280 lb N/year of which 200 lb is retained in the grassland.

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FROST SEEDING...CONTINUED

Mixed stands can be stockpiled for winter grazing. Grass-legumes mixtures can be stockpiled for winter grazing, but they need to be used first since legumes tend to deteriorate before grasses. Save pure stands of grass that were fertilized with nitrogen for late winter grazing.

Overseed when needed to introduce and maintain improved legumes. Approximately 25 to 30% of the pasture on a dry matter basis should be made up of clover or other legumes. Even improved red clover varieties only last two to three years. Annual lespedeza will sometimes reseed itself, but as a general rule this is not dependable. A good general mix for overseeding pastures in Kentucky is 6-8 lb medium red clover, 1-2 lb of ladino or grazing type white clover, and in some cases 10 lb of annual lespedeza per acre.

Always use improved clover varieties. Work done at the University of Kentucky shows that improved red clover varieties will last 1-2 years longer than common medium red clover. Using certified seed guarantees that you are getting the genetics that you are paying for. More information on the best adapted clover varieties can be found by going to the [UK Forages Website](#) and clicking on the "Variety Trial" icon.

Always inoculate or use pre-inoculated seed. Since legumes fix nitrogen from the air by forming a symbiotic relationship with *Rhizobium* bacteria, inoculating seed with the proper strain of nitrogen fixing bacteria prior to planting is the best way to ensure optimal fixation.

Sometimes we need to be reminded about the importance of legumes in grazing systems. I cannot think of a better reminder than expensive nitrogen. Clover seed prices will likely be higher in the spring and availability may be limited. So, now is the time to make plans and gather supplies for frost seeding in February!

Table 1. The amount and value of nitrogen fixed by commonly used pasture legumes.

| Legume | Nitrogen Fixed lb/A/yr | Value of Fixed Nitrogen (\$/A/year) | | |
|------------------|---------------------------|-------------------------------------|------------------|------------------|
| | | N cost=\$0.25/lb | N cost=\$0.50/lb | N cost=\$0.75/lb |
| Alfalfa | 150-250 | 40-65 | 80-130 | 120-195 |
| Red Clover | 75-200 | 20-50 | 40-100 | 60-150 |
| Ladino Clover | 75-150 | 20-40 | 40-80 | 60-120 |
| Annual Lespedeza | 50-150 | 15-40 | 30-80 | 45-120 |

Adapted from *Southern Forages, Fourth Edition.*



BBQ Venison Meatballs

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Meatballs

- 1 pound ground venison (may substitute elk or beef)
- 1/2 cup 2% milk
- 3/4 cup rolled oats
- 1/2 cup minced fresh onion
- 1/4 teaspoon salt
- 1/4 teaspoon black pepper

Sauce

- 1 cup ketchup
- 1/2 cup water
- 1/2 cup grated onion
- 2 tablespoons vinegar
- 1/4 cup brown sugar
- 1/4 teaspoon black pepper

Combine venison, milk, oats, onion, salt, and pepper in a large bowl. Use a sturdy spoon or clean hands to mix well. Shape meat mixture into 12, 1-inch balls, and place in a shallow 9-by-13-inch baking pan. Combine all the sauce ingredients in a bowl and stir well. Pour sauce over meatballs. Bake uncovered at 350 degrees F for 1 hour, turning over twice.

Yield: 6 servings

Adapted from: "Fish & Game Cookbook," Bonnie Scott, 2013.

Nutrition Facts

6 servings per recipe
Serving size 2 meatballs (139g)

Amount per serving
Calories 160

| | % Daily Value* |
|-------------------------------|----------------|
| Total Fat 3g | 4% |
| Saturated Fat 1g | 5% |
| Trans Fat 0g | |
| Cholesterol 65mg | 22% |
| Sodium 220mg | 10% |
| Total Carbohydrate 14g | 5% |
| Dietary Fiber 1g | 4% |
| Total Sugars 8g | |
| Includes 3g Added Sugars | 6% |
| Protein 20g | |

| | |
|-----------------|-----|
| Vitamin D 0mcg | 0% |
| Calcium 43mg | 4% |
| Iron 3mg | 15% |
| Potassium 322mg | 6% |

*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.



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USDA Supplemental Nutrition Assistance Program

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Find this Cook Wild Kentucky recipe and others for Fish, Venison, Rabbit, Dove, Frog Legs, and more at: <https://www.planeatmove.com/recipes/>, then Browse by Category, and choose Cook Wild Kentucky.

MADISON COUNTY BEEKEEPERS ASSOCIATION

Madison County Beekeepers Association next meeting is planned for January 22, 6:00 pm, Madison County Extension Office. For more info, call Kent, 859-623-3576 or Paul, 859-582-6172.



PLATE IT UP! KENTUCKY PROUD!

Whatever the season, Plate It Up with delicious recipes that put a new twist on your favorite Kentucky Proud foods. Visit <http://fcs-hes.ca.uky.edu/piukp-recipes> to find all the Plate It Up recipes using Kentucky Proud products.