

# Missouri Ag News

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## Frost Seeding Legumes

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| Engineering | Livestock    |
| Forestry    | Other        |



Research has shown that investing in legumes in cool-season grass pastures will result in improved forage quality and yield while reducing overall fertilizer costs. Legumes, such as clover, fix atmospheric nitrogen (free N) and when legumes make up 20% to 30% of overall stand the result is little to no nitrogen required for the companion cool-season grass crop. Legumes not only reduce the need for nitrogen, they also improve overall livestock daily gain and conception rates. Legumes help reduce the negative effects of ergovaline, the toxin produce by endophyte infected KY 31 fescue.

White (Ladino) clover is the most suited companion legume for pastures and the cheapest to spread. Other legumes include red clover and annual lespedeza. Red clover is more suited for hay production since it less tolerant to grazing than white. Annual lespedeza should be considered in the mix since its production is during summer, therefore, providing some feed when cool-season grass and clover production tends decrease.

Frost seeding is the most common

method employed by producers. The window for frost seeding legumes is typically February. Later planting will reduce overall success of establishment since it is the freezing and thawing action of the soil that moves seed into the soil/seed zone. Seeding rates for ladino clover, red clover and annual lespedeza are 2 lbs/A, 10 lbs/A, and 25 lbs/A of pure live seed, respectively. Also, it is important to consider inoculating clover seed to insure good nodulation especially in fields where legumes have not been in the mix for some time.

For more information on frost seeding legumes into existing pasture contact your local MU Extension Center and ask for guides G4651 and G4652, "Renovating Grass Sodds with Legumes" and "Seeding Rates, Dates, and Depths for Common Missouri Forages" or find them on the web: <http://extension.missouri.edu/p/G4651> and <http://extension.missouri.edu/p/G4652>.

Anthony Ohmes, Agronomy Specialist, University of Missouri, Jackson, MO.

## Missouri Cotton Production and Outlook Conference

**Tuesday, February 3, 2015**  
**Fisher Delta Research Center**  
**Portageville, Missouri**

Contact Andrea Jones, 573-379-5431 for more information. CEU's will be applied for.

7:30 - Registration

8:00 - Cotton Insect Update-Dr. Moneen Jones, Research Entomologist

8:20 - Soil Health and New Irrigation Program - Dr. Gene Stevens, Professor

8:40 - Cotton Weed Control-Jim Heiser, Fisher Delta Research Center

9:00 - Cotton Variety Trials-Andrea Jones, Delta Center

10:10 - Products from Industry, 5@10 Minutes each

11:00 - Missouri Water Use Reporting-Brian Fredrick, Department of Natural Resources,

11:30- - Cotton Outlook and Marketing Strategies-David Reinbott-Agriculture Business  
Specialist,

12:00 - Introduction of Sponsors-Dr. Mike Milam, Regional Agronomist,

12:10 – Lunch

1:00. – Farm Bill Program – David Reinbott, MU Extension and Mike Blankenship, USDA/FSA

## Beginning Beekeepers Workshop

**Saturday, February 7, 2015**  
**First United Methodist Church**  
**500 North Main Street, Poplar Bluff, MO**  
**8:00am to 4:00pm**

- Basic honey bee biology and behavior
- Where to get bees / how to install
- Hive manipulations and seasonal colony management through the first year
- Honey production, processing, packaging
- Bee associations and sources of information
- Equipment
- Bee health and diseases

**Fee of \$15.00 includes lunch. Contact the Butler County Extension Center at 573-686-8064 to register.**

Contact the Butler county Extension Center at 573-686-8064.

# Soil pH is like the Cooling System in your Car!!!

Soil pH in my opinion is similar to the cooling system in a car. The cooling system regulates the operation of the engine, while soil pH regulates and controls many chemical and biological processes that take place in the soil, particularly, plant nutrient availability. Moreover, like the thermostat measures the temperature in your car, soil pH measures the acidity and alkalinity in your soil. pH levels range from 0-14, with 7 being neutral, below 7 acidic and above 7 alkaline. The optimal pH range for most plants is between 5.5 and 7.0, however plants are able to adapt and thrive at pH levels outside this range.

## What are the factors that affect soil pH?

### Rainfall

Soils formed under low rainfall conditions tend to be alkaline with soil pH around 7 or greater. In contrast, soils formed under high rainfall conditions are more acidic. Thus, most of the soils in southeast Missouri are inherently acidic.

### Nitrogen fertilizer

Nitrogen sources contain forms of ammonium that increases soil acidity unless the plant directly absorbs the ammonium ions. The greater the amount of nitrogen fertilizer applied to a soil the greater the potential for soil acidification.

Figure 1. Source: Terrence Cooper @ University of Minnesota

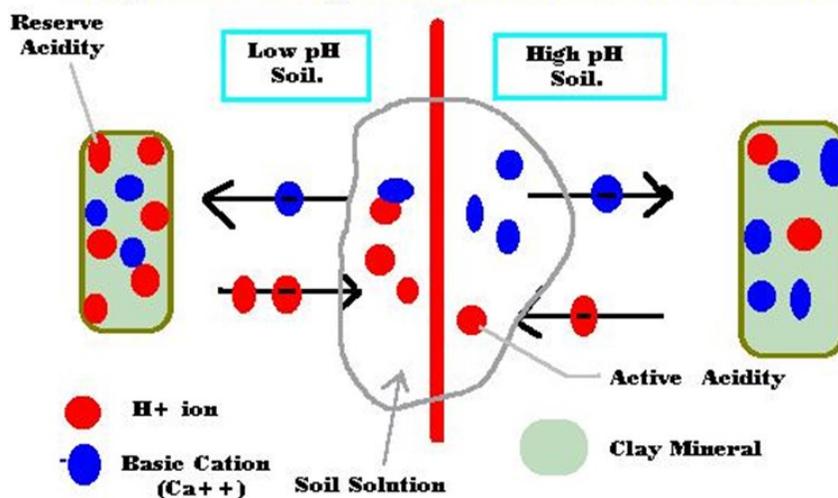
### Plants

Legumes such as soybeans, alfalfa and clovers are heavy feeders of basic cations such as Ca and Mg. These plants tend to take up more cations in proportion to anions. To maintain the electrochemical balance within their tissues they release H ions from the roots into soil resulting in a net soil acidification.

## How do I raise the soil pH?

Raising soil pH is done by using liming materials containing calcium and/or magnesium, which when dissolved neutralizes soil acidity. The amount of liming material needed to raise the soil pH is dependent on the total amount of H ions held on reserve or on the cation exchange site (Figure 1). Soils testing labs use a buffer solution to determine the amount of exchange acidity needing to be replaced on the exchange site. So, raising the pH is adding liming material

**Diagram of Soil pH and Active and Reserve Acidity**



## ..Soil pH continued

to increase the percentage of base cations or base saturation in that soil.

The use of lime to correct soil acidity should be the foundation of any good soil fertility program. *CropNutrition.com* provides a very detailed overview on soil pH that is a good read for refreshing our basic understanding of soil pH and the importance of lime management in a crop production system. So as you prepare for the 2015 cropping season remember soil pH is a

number that deserves respect, the efficiency and the productivity of your entire cropping system depends on it.

The University of Missouri Extension office in each county offers routine soil testing program that provides information on soil pH, Ca, Mg, P, K and OM. For more information on soil sampling and soil testing contact your local Extension office. Remember if you don't soil test you will be forced to guess!!!

A.J. Foster, Agronomy Specialist, University of Missouri, Bloomfield, MO.

## Spring Pasture Weed Control

Late February to mid-March is the recommended spring timing to control biennial and winter annual pasture weeds. The other recommended timing to control these weeds is in the fall. The reason for these timings is stage of growth and development of the target weeds. Applying herbicides to small actively growing weeds is critical to achieve maximum control and prevent seed production. Many biennial and annual winter weeds have two basic stages of development, which are basal rosette (vegetative stage) followed by bolting stalk (reproductive stage). For these plants the herbicide application timing would be the basal rosette stage. An example of this type of development is thistles.

Products containing 2,4-D, dicamba, triclopyr, picloram, aminopyralid, or pre-mixed products containing two or more of these products provide good to excellent control of broadleaf weeds in pasture. Use caution: these products are safe at labeled rates on grass species but can kill or severely injure desirable broadleaves in grass-legume pasture mixes. In some cases spot treatment of areas may provide adequate

control. Always read label for proper rates, target weeds, and grazing or harvest restrictions.

In addition to herbicide applications, timely mowing will help suppress seed production. Successful mowing for seed suppression must occur prior to pollination. In many cases, a combination of both timely herbicide application and timely mowing will be needed during the growing season to manage weeds and improve pasture health.

For more information contact a University of Missouri Extension Center and ask for IPM 1031: "Weed and Brush Control for Forages, Pastures, and Noncropland" or "MU Extension Pasture and Brush Control" sheet. You can also find them on the web at:

<http://extension.missouri.edu/p/ipm1031>

<http://extension.missouri.edu/capegirardeau/agriculture.aspx>

Anthony Ohmes, Agronomy Specialist, University of Missouri, Jackson, MO.

# Missouri Rice Varieties for 2015

Have you heard that farmers are independent thinkers? Our rice variety data gathering summary taken last week for 2014 certainly reflects the different thinking Missouri farmers have about choosing rice varieties to plant on their farms. They have very good reasons for needing diverse varieties that fit their specific conditions and situations in the ten MO counties that grow rice listed on map below. Some want short and some tall, some early and some later. Some want hybrids for better disease resistance and some want the Clearfield weed trait, while some want less expensive seed so they can plant thicker. Some are seeking the best fit for row rice and blast resistance.

We found that their selections were divided between ten varieties and the top five was planted on about sixty five percent of the 216,000 acres in MO. Since Southeast Missouri is the beginning of the Mississippi Delta, our soils vary greatly from sand to Sharkey Clay. About fifty percent of our soils are clay based with a thin layer of silt. Many Missouri farmers

like hybrid rice for these soils where they often see a yield increase over conventional varieties and they like the disease package they get with the hybrids. Others prefer varieties that tend to grade better which may give them a premium price. Most MO farmers are concentrating on quality with five percent medium grain with the remaining ninety five percent being long grain. The remaining fifty percent of our soils are either heavy clay or loamy and many growers see conventional varieties a better fit. 2015 offers new varieties for consideration. Missouri has not finished analyzing 2014 variety data and as usual MO growers look to the University of Arkansas for rice variety data. We are all looking forward to exciting new varieties from Dr. Beighley's breeding of a medium grain rice at MO Rice Council Research Farm (MM-14), LSU and UAR (LaKast) another long grain variety, along with a new herbicide series from Horizon Ag and BASF.

Southeast Missouri is blessed with a very ample supply of fresh, clean, easy to pump, cheap water supply that recharges very quickly. Ninety Seven percent of MO rice is flood irrigated, with three percent pivot or furrow. Ninety five percent of our water is pumped from wells with five percent from streams. Ninety five percent is drill or broadcast seeded and five percent water seeded. All of this information causes farmers to choose varieties that best fit their specific situation. (Estimated top varieties in 2014 shown at left.)

Sam Atwell, Agronomy Specialist, University of Missouri, New Madrid, MO.

## Cultivar Ranking for MO 2014



| Rank            | Cultivar       |      |
|-----------------|----------------|------|
| 1 <sup>st</sup> | R Tec CLXL745  | =15% |
| 2 <sup>nd</sup> | CL 111         | =15% |
| 3 <sup>rd</sup> | R Tec XL753    | =15% |
| 4 <sup>th</sup> | CL 151         | =10% |
| 5 <sup>th</sup> | R Tec CLXL 729 | =10% |
| 6 <sup>th</sup> | CL 152         | = 8% |
| 7 <sup>th</sup> | Roy J          | = 8% |
| 8 <sup>th</sup> | Jupiter        | = 5% |
| 9 <sup>th</sup> | Wells          | = 2% |
|                 | Others         | = 7% |

| Grain Type    | Percent of Acres |
|---------------|------------------|
| Conventionals | 60%              |
| Hybrids       | 40%              |
| Clearfield    | 35%              |

Rankings represent roughly half of Missouri's 216,000 acres for 2014

†Cultivar ranking can be skewed based on consultant preferences (especially hybrid vs. conventional)

Data obtained from Missouri Rice Council members and Missouri Crop Consultants

## Farmers Market Workshop

Friday, February 20, 2015

8:30am to 3:00pm

North College Center, Mineral Area College, Park Hills

8:30 – Registration and Certifying Scales

9:15 – Greenhouse Options for the Market Grower, Donna Aufdenberg

10:25 – Diseases, Sarah Denkler

11:20 – Growing Flowers for Cut Flower Market

12:15 – Lunch

1:00 – Marketing & Presentation

2:00 – Beekeeping Basics, *Gregg Hitchings, Parkland Beekeepers Association*

The cost is \$15. Lunch will be served and there will also be an opportunity to recertify scales. RSVP required by February 18 to ensure a spot. For more information, contact Katie Kammler at 573-883-3548 or [kammlerk@missouri.edu](mailto:kammlerk@missouri.edu).

## 2015 Missouri Rice Conference

Thursday, February 19, 2015

8:10 a.m. – 2:30 p.m. with registration at 8:00 a.m.

Location: Eagles Club at Dexter

½ mile South of Hwy. 25 and Hwy. 60 Intersection. Contact Sam Atwell, 573-748-5531 for more information. CEUs will be applied for.

8:00 am – Registration, coffee, doughnuts

8:15 am – Irrigation Mt Summary – Dr. Joe Henggeler

8:30 am – Sensors Management – Dr. AJ Foster

8:45 am – Rice Varieties / Breeding – Dr. Donn Beighley, Rice Breeder

9:15 am - Rice Production Research – Dr. Gene Stevens,

10:00 am – Rice Weed Control – Jim Heiser

10:30 am – Black Bird Rice Research Update – Parker Hall, USDA Wildlife Director

11:10 am – Rice Production Issues – Dr. Jarrod Hardke

11:50 am – US Rice Domestic & Foreign Markets –Greg Yielding, MO Rice Council /US Rice Producers Association

1:00 pm – Farm Bill Program - David Reinbott Extension & Steve Morrison USDA/FSA

## Future Meetings & Events -

**Southeast Missouri Scouting School February 1-19, 2015.** Monday to Thursday from 5:00 pm to 9:00 pm at the Delta Fisher Research Center in Portageville, MO. Contact Andrea Jones at 573-379-5431.

### **Farm Bill Meetings:**

- February 3 - 1:00 p.m. to 3:00 p.m., Fisher Delta Research Center, Portageville
- February 19 - 1:00 p.m. to 3:00 p.m., Dexter Eagles Lodge, Dexter

**Regional Cotton Meeting Tuesday, February 3, 2015.** Delta Fisher Research Center in Portageville.

**Beginning Beekeeper Training Saturday, February 7, 2015.** Butler County Extension Center in Poplar Bluff, MO.

**Private Applicator Training Tuesday, February 10, 2015.** Extension Center in Jackson, MO at 7:00 pm. Please call the Extension Center at 573-243-3581 to register. University of Missouri Extension will be offering private applicator training at various locations in the region. Contact your local extension office to see what training programs are available in your area. The training is for certification and re-certification of a restricted-use pesticide license. Individuals involved in production of agriculture commodities and 18 years of age or older may attend. This training also can fulfill the education requirement for worker protection standards. This training is the educational requirement that precedes licensing from the Missouri Department of Agriculture.

**Missouri Rice Producer Meeting Thursday, February 19, 2015.** Dexter Eagles in Dexter, MO. Registration at 8:00 a.m. Contact Sam Atwell at 573-748-5531

**Farmers Market Survey Friday, February 20, 2015.** North College Center, Mineral Area College, Park Hills from 8:30am to 3:00pm. Fee is \$15. Lunch will be served and there will also be an opportunity to recertify scales. Register by February 18 to ensure a lunch meal by contact Katie Kammler at 573-883-3548 or [kammlerk@missouri.edu](mailto:kammlerk@missouri.edu).

**Missouri State Fair August 13-23, 2015.** Sedalia, MO. For more information visit [www.mostatefair.com](http://www.mostatefair.com) or call 1-800-422-FAIR.

**Commodities and markets** - <http://extension.missouri.edu/scott/crop-budgets.aspx>  
**2014 Farm Bill** - <http://extension.missouri.edu/scott/Farm-bill.aspx>

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## North Central Cropping Systems Survey

Kate Kammler, extension specialist from Missouri, is taking part in a Region Cropping Systems Academy working on current agriculture issues.

The team she is on will work on programming for cover crops, cropping diversity and soil health.

They have developed a survey for growers which is available via Qualtrics online.

It is the goal of the team to get as much feedback as possible in order to get a good representation from across the state of Missouri.

Please go to the following link where you can provide input in a short survey.

[https://qtrial2015az1.az1.qualtrics.com/SE/?SID=SV\\_e4h77jaGNraWSII](https://qtrial2015az1.az1.qualtrics.com/SE/?SID=SV_e4h77jaGNraWSII)

Feel free to share this information with other colleagues who may be interested in cover crops or providing input.