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. In some seasons such as 2012, January was more suitable due to unseasonable warm weather in February. So the timing window may vary slightly season to season. 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 Sods with Legumes” and “Seeding Rates, Dates, and Depths for Common Missouri Forages” or find them on the web: [http://extension.missouri.edu/p/G4651](http://extension.missouri.edu/p/G4651) and [http://extension.missouri.edu/p/G4652](http://extension.missouri.edu/p/G4652).

Anthony Ohmes, Agronomy Specialist, University of Missouri, Cape Girardeau, MO.
Beginning Wednesday, January 14, 2014
6:00 to 9:00 pm
E.K. Porter Distance Learning Center at Three Rivers Campus in Poplar Bluff, Missouri

Do you want to be in charge of who gets your assets after you’re gone? Are you concerned about what your estate will cost your heirs? What are the best tools available to plan your estate the way you want? These are just a few of the questions that will be answered at the Farm & Small Business Estate Planning Workshop series that is being held on January 14, 21, 28, and February 4. The sessions will begin at 6:00 p.m. and run until 9:00 p.m. on the Three Rivers Campus in the E.K. Porter Distance Learning Center. These sessions will be held via Interactive TV and each site will have a local facilitator. The cost to attend is $60 per person or $70 per couple or single business entity (one set of materials). Pre-registration is required by January 11th.

“Due to the fact that farmers and businesses have some very unique estate issues, these sessions are geared to their specific needs” says Joe Koenen, Agricultural Business Specialist with University of Missouri Extension who is one of the presenters who will help teach this program. “The major increase in asset values, especially land, in the last several years, and the recent law discussions at the Federal level has made this topic even more critical of late” said Joe. Any interested persons are welcome to attend. Karl DeMarce, an Associate Circuit Judge from Memphis will discuss probate in Missouri as well.

Session 1 will discuss Why Plan Your Estate; Who Should Be Involved; What Materials You’ll Need; Property Ownership and Business Organization and Choosing Advisors, including attorneys. Session 2 is on Probate in Missouri; Estate and Gift Taxes; Communication Issues with Family and others and an Introduction to Estate Planning Tools. Session 3 will cover Probate with Judge DeMarce. Session 4 will finish up with Estate Planning Tools and discuss where to go from here. You need to attend all 4 sessions of this class.

Registration fees include your materials and a light meal each night. We hope you'll plan to attend these worthwhile workshops. To pre-register, contact Chris Waite at (573) 686-8064 or e-mail WaiteC@missouri.edu. Space is limited so sign-up today.

This program is brought to you by the Small Business and Technology Development Center, Three Rivers College, and Greater Poplar Bluff Area Chamber of Commerce.

Funded in part through a cooperative agreement with the U.S. Small Business Administration. All opinions, conclusions or recommendations expressed are those of the author(s) and do not necessarily reflect the views of the SBA. Programs are extended to the public on a non-discriminatory basis. Reasonable accommodations for persons with disabilities will be made if requested at least two week in advance. Contact Chris Waite, 222 N Broadway, Poplar Bluff, MO 573-686-8064.
Soybean Conference / Meeting

Soybean Crop Management Conference
District 7 Missouri Soybean Association Meeting
Wednesday, January 15, 2014
Miner Convention Center, Miner, Missouri
(Next to the Drury Inn – E. Malone & I-55)
Registration: 7:30 a.m.   Program: 8:00 a.m. to 2:00 p.m.

Topics:

Weed Control Strategies for Resistance Weeds – Anthony Ohmes, MU Extension
Soybean Production and Management – Bill Wiebold, University of Missouri Columbia
Soybean Variety Update – Dr. Grover Shannon, MU Delta Center
Cover Crop Economics - Ray Massey, University of Missouri
Soybean Response to Maximum Yield Environment – Ryan J. Van Roekel, Soybean Researcher University of Arkansas
Sudden Death Syndrome Update (SDS) – Jason Bond, University of Illinois Carbondale, Plant Pathologist
Soybean Frog Eye Leaf Spot and Fungicide Resistance - Heather Kelly, University of Tennessee Plant Pathologist
Grain Marketing Outlook and Strategies – David Reinbott, MU Extension
Soybean Association Update – JP Dunn, MO Soybean Assoc.

PLUS

Industry Representatives on hand to answer questions about their products.
Sponsored Lunch. CEU’s will be applied for.

Pre-registration is requested for meals and handouts by contacting Anthony Ohmes (573-243-3581) or David Reinbott (573-545-3516).
Missouri Rice Varieties for 2014

Have you heard that farmers are independent thinkers? Our rice variety data gathering summary taken last week by Dr. Beighley and myself 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 ten Missouri counties that grow rice. Some want short and some tall, some early and some later. Some want disease resistance and some want the Clearfield weed trait, while some want less expensive seed so they can plant thicker.

We found that their selections were divided between ten varieties and the top three were planted on about fifty percent of the one hundred sixty thousand acres in Missouri. Since Southeast Missouri is the beginning of the Mississippi Delta, our soils vary like those below us from coarse sand to Sharkey clay. About fifty percent of our soils are clay based with a thin layer of silt. Many Missouri farmers think Hybrid rice varieties are a good fit 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 gives them a premium price. Many Missouri farmers are concentrating on quality and plant 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 growers see little chance for getting a yield increase with Hybrids so they plant conventional varieties. (Below is a list of our top ten varieties).

Southeast Missouri is blessed with a very ample supply of fresh, clean, easy to get, cheap water that recharges very quickly. Ninety nine percent of Missouri rice is flood irrigated, with one percent pivot or furrow. Ninety percent of our water is pumped from wells and ten 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.

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

Rankings represent roughly half of Missouri’s 160,000 acres for 2013 - Data obtained from Missouri Rice Council members and crop consultants.

<table>
<thead>
<tr>
<th>Rank</th>
<th>Cultivar</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt;</td>
<td>R Tec CLXL745</td>
</tr>
<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt;</td>
<td>CL 111</td>
</tr>
<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt;</td>
<td>R Tec XL753</td>
</tr>
<tr>
<td>4&lt;sup&gt;th&lt;/sup&gt;</td>
<td>CL 151</td>
</tr>
<tr>
<td>5&lt;sup&gt;th&lt;/sup&gt;</td>
<td>R Tec CLXL 729</td>
</tr>
<tr>
<td>6&lt;sup&gt;th&lt;/sup&gt;</td>
<td>CL 152</td>
</tr>
<tr>
<td>7&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Roy J</td>
</tr>
<tr>
<td>8&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Jupiter</td>
</tr>
<tr>
<td>9&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Wells</td>
</tr>
<tr>
<td>10&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Others</td>
</tr>
</tbody>
</table>
Some say that the idea of terrorists attacking US farms is pretty far-fetched, however "agroterrorism" is quickly becoming a talking point for those in Washington and specifically those left with the daunting task of staying one step ahead of our enemies.

Maybe you haven’t heard of this, but I found it quite fascinating and troubling at the same time. Did you know that way back in 2002, a US Navy SEAL Team stormed a cluster of caves in eastern Afghanistan, looking for guns explosives and possibly even bin Laden. What they found was entirely unexpected...documents, hundreds of them, all planning a terrorist attack on our US food supply.

There were agriculture articles from American science journals, translated into Arabic. There were USDA documents. There was a comprehensive list of the most devastating livestock pathogens -- foot and mouth disease, hog cholera, rinderpest, etc... There was a separate rundown of crop diseases like soybean rust and rice blight. And most alarmingly, there were training documents, detailing how to deploy these pathogens on farms.

The term agroterrorism emerged around this same time in 2002, though it didn’t make it into the Oxford New American Dictionary until 2010: “Terrorist acts intended to disrupt or damage a country’s agriculture, especially the use of a biological agent against crops or livestock.” As a concept, it’s largely theoretical -- as only a few examples exist from the last 50 years.

In 1970, 63 cows were poisoned at a Black Muslim farm in Alabama; the Ku Klux Klan was widely suspected. Palestinian sympathizers injected a handful of Jaffa oranges in 1978 to disrupt international trade with Israel. And in 1989, a rebel farmer group called the Breeders claimed responsibility for releasing crop-eating medflies in California, as retaliation for state-mandated pesticide spraying. So what is the big solution?

The National Bio and Agro-Defense Facility is a $1.2 billion building currently being setup in Manhattan, Kansas on the campus of Kansas State University. The facility is intended to be the national hub for studying and responding to animal-based agroterror threats. It will be a high-security science fortress -- on par with the Centers for Disease Control and Prevention in Atlanta. Interestingly, many analysts still think the notion of farms as terrorist targets is absurd. They argue that killing a few thousand cattle out in some hick town, is never going to create the same panic as killing a few thousand people in New York City. Some even go so far as to say the NBAF smells most like a pork barrel project -- a billion dollars spent on an issue that more than likely will never happen.

As you know, I am generally not a fan of spending more tax dollars on new unproven programs. In this case however I believe there could be some definite merit. The term "agroterrorism" is somewhat scary, especially as it hits too close to home for many of us. Let’s hope the dollars being spent can help keep us safe!

- From the VanTrump Report in the Farm Direction Newsletter
AG EXPO 2014

January 24 & 25
Friday 1 p.m. - 8 p.m.    Saturday 9 a.m. - 3 p.m.
Black River Coliseum
Poplar Bluff, Missouri

FREE ADMISSION

- Over 118 Agriculture Exhibits
- Private Applicator Training – Friday, 2:00 p.m. - 5:00 p.m.
- Duck Calling Contest – Friday, 6:00 p.m. • Youth & Adult Divisions
- Milking Contest – Friday, 5:30 p.m. • 3 Youth Divisions
- FFA Driving Contest – Saturday, 9 a.m.
- Old Time Auction – Saturday, 12 noon
- Kids Gardening Adventure – Saturday, 9 a.m. - Noon
- Baking Contest
- Ag Photography Contest
- Door Prizes
- Seminars
- Entertainment
- Petting Farm
- Live Cow Milking Demo
- Youth Farm Safety Education sponsored by 4H – Saturday, 12:00 p.m. - 2:00 p.m.

Bring the Family!

Sponsored by:
Butler County University of Missouri Extension Council & Three Rivers College Agriculture Club

For More Information Call 686-8064

TOY TRACTOR PEDAL-PULL CONTEST
Trophies will be given in each age group (Boy and Girl Divisions)
4–5 years - 6:00 p.m. Friday
6–7 years - 7:00 p.m. Friday
8–9 years - 10:30 a.m. Saturday

AG EXPO BEAUTY PAGEANT
Saturday, January 25
9:30 a.m. – Baby Girl (birth to 12 mo.)
10:00 a.m. – Toddler Girl (13 to 23 mo.)
10:30 a.m. – Petite Miss (2 to 4 yrs.)
11:00 a.m. – Tiny Miss (5 to 7 yrs.)
11:30 a.m. – Little Miss Ag Expo (8 to 12 yrs.)
12:00 noon – Junior Miss Ag Expo (13 to 15 yrs.)
12:30 p.m. – Miss Ag Expo (16 to 20 yrs.)

Pre-registration $25
$30 at the door
To register call 573-686-8064

NEW This Year
Mobile Certified Kitchen

www.extension.missouri.edu/butler
Cotton Production & Outlook Conference

Tuesday, February 4, 2014
The Fisher Delta Research Center

Registration starts at 7:30 am. The first presentation will be at 8:00 am. The program will conclude with a sponsored lunch. For additional information, contact Mike Milam at 573-888-4722 at the Dunklin County University of Missouri Extension Office.

Welcome Our New Agronomist

A new Agronomy Specialist will join the Southeast Region faculty on January 13, 2014. Dr. A.J. Foster will be headquartered in Stoddard County (Bloomfield, MO), and will be responsible for Extension Agronomy programming in Stoddard, Butler, Wayne and Reynolds counties; plus working with all the Agriculture faculty in SE Region on educational events. He recently graduated with a PhD degree in Crop Science from Oklahoma State University. Dr. Foster holds a Master of Science degree in Agronomy from Mississippi State University; a Master of Science degree in Agronomy - Soil Chemistry from Louisiana State University; and Bachelor of Science degree in Environmental Management from Louisiana State University. He also holds a Geographic Information Systems Certificate from Oklahoma State University. His recent work has focused in the area of using remote sensing technology to work with large-scale production of bioenergy feedstock crops. Other experiences include teaching undergraduate college courses in soil science; scouting cotton, soybeans, corn, grain sorghum and sugarcane in Louisiana; conducting research on the management of phosphorus on soils with long-term history of poultry application in Mississippi. To contact A.J. by email please use fosteraj@missouri.edu.
If you are interested in receiving this publication via e-mail or being removed from the email list please send a request to denklers@missouri.edu.

Future Meetings & Events -

**Soybean Crop Management Conference / District 7 Missouri Soybean Association Meeting**
- **Wednesday, January 15, 2014.** Miner Convention Center in Miner, MO beginning at 8:00 a.m.. For more information contact Anthony Ohmes at 573-243-3581 or (ohmesg@missouri.edu) or David Reinbott (reinbottd@missouri.edu) or 573-545-3516.

**The Missouri Cotton Production and Outlook Conference**
- **Tuesday, February 4, 2014.** The Fisher Delta Research Center. Registration will start at 7:30 am and the first presentation is at 8:00 am. The program will conclude with the sponsored lunch. For additional information, contact Mike Milam at 573-888-4722 at the Dunklin County University of Missouri Extension Office.

**Ag Expo:** **Friday and Saturday, January 24 and 25, 2014** at the Black River Coliseum in Poplar Bluff, MO. Admission is free. PAT training will be at 1:00 p.m. on January 24.

Commodities and markets - [http://extension.missouri.edu/seregion/fmmkt.htm](http://extension.missouri.edu/seregion/fmmkt.htm)