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The magic bullet?

Livestock producers have probably seen brown bottles of "liquid minerals" on the shelves at a local veterinary office or farm store. What is actually in them and do they actually work? Previous research studies have indicated mixed results.

The latest data out of University of Arkansas (*U of A*) indicates injectable mineral supplements work well on highly stressed and newly received beef heifers. In this particular study, 90 head of crossbred heifers from a local sale barn were taken to a *U of A* research farm, a very typical scenario of many backgrounding operations throughout Missouri. When the heifers were received at the research farm, they were randomly assigned to one of three treatments. Two treatments were subcutaneous injectable trace mineral solutions containing varying levels of zinc, manganese, copper and selenium and a negative control group which received no injection.

The study showed average daily gain was greater for heifers receiving injectable minerals compared to the control, but did not vary between the injectable mineral groups. Total feed consumption and total gain:feed was greater for the injectable mineral groups than for the control group. One of the injectable treatment groups had a reduced incidence of Bovine Respiratory Disease. Antibiotic treatment cost was greater for the control group than for the injectable mineral groups. Does this mean when producers get a new batch of calves they should automatically give injectable minerals to them when they come to your farm, backgrounding operation or feedlot? This study would suggest so.

During this study, the control group had an antibiotic treatment cost of $13.66 compared to $9.47 and $8.07 for the two trace injectable mineral groups. Since the trace mineral injection cost was less than $1.50 per animal, it is obvious that the investment of the injectable trace mineral product more than paid for itself. However, other studies have shown mixed results, possibly due to different research protocols.

Although more research needs to be done on mineral nutrition, this study suggests producers might consider injectable minerals when buying highly stressed calves, especially with a potential reduction in antibiotic cost. More details on the study can be found at the following website: http://arkansasagnews.uark.edu/574-24.pdf.

Source: *Wendy Flatt Rapp Livestock Specialist*

Giant Miscanthus Grass - good or bad?

Miscanthus (*Miscanthus* x *giganteus*) hybrid grass is being promoted by several universities and other organizations as a solution to some of our energy needs. Reading articles and watching videos on miscanthus would lead people think it is the best new idea around with no problems. Miscanthus has been evaluated and widely planted in Europe during the past 5-10 years as a bioenergy crop. In spite of perceived positive attributes, there may be negative considerations to planting this crop. More Missouri research is needed to answer these questions.

Some promoted advantages are:

- Miscanthus is a large perennial grass with a great potential for use in alternative energy production for fuel and cellulosic alcohol production.
- Giant miscanthus is widely grown in Europe as a bioenergy crop.
- Fields planted to non-invasive miscanthus can be easily reclaimed for corn/soy bean.
- Miscanthus grass is being promoted as a high yielding, low/no input crop. Mineral nutrients translocate into the plant's crown in the fall and will continue even after frost.
- Excellent for carbon sequestration and soil building.
- NRCS cost share is available through the Biomass Crop Assistance Program (BCAP) for field establishments.
- Yield estimates are from 10 to 15 tons per acre.
- There is potential for income generation through carbon credits.
- Miscanthus begins growing at lower spring temperatures and stops growing later in the season than other warm season grasses.

Some of the not so commonly mentioned disadvantages or questions are:

- Miscanthus is a large, tall, dense growing perennial grass with few wildlife friendly uses.
- As a hybrid, the seed is not viable but the plant may be invasive through rhizome spread.
- There are concerns that miscanthus may produce an extremely small percent of viable seeds but due to the high density plantings, a few viable seeds may be enough to cause invasive spread.
- More Missouri research is needed on yields, fertilizer needs and ideal soil fertility levels.
- More Missouri research is needed on applying for carbon credits, carbon sequestration and soil improvement.
- Many Missouri fields are poor choices for miscanthus plantings because of erosion potential. Cost share is available from BCAP if the fields do not exceed soil loss requirements. Unfortunately, seed beds should be of loose, tilled soil 4 to 6 inches deep making them highly prone to erosion.
- Miscanthus yields are strongly influenced by water availability of at least 30 inches of rainfall a year.
- MU Agricultural Economists have not completed economic evaluations.
- MU Agronomists have not completed assessments on how miscanthus fits in to Missouri management and agronomic practices.
- There are few alternative uses such as for forage.
- Miscanthus is an exotic plant grown in a monoculture.
- Expensive to plant. Rhizomes are used for establishment plantings. The recommended planting depth is 4 inches.
- Miscanthus has been shown to serve as a host for corn rootworm and other insect pests of commercial crops. What effect this has on pest dynamics in near-by crops is unknown.
- Typical forage harvesting equipment on farms may not be compatible or efficient for miscanthus bioenergy harvesting.

There are a number of giant miscanthus grass plantings planned this spring in central Missouri. More will be learned about miscanthus, bioenergy crop establishment and production through these and other plantings.

Dr. Emily A. Heaton, Assistant Professor of Agronomy at Iowa State University, has stated that the ideal dedicated biomass crop is a perennial that efficiently uses available resources, stores carbon in the soil, is an efficient user of water, has low fertilizer requirements and is not invasive. Giant miscanthus (*Miscanthus* x *giganteus*) possesses many, if not all, of these characteristics.

Source: *Jim Jarman, agronomy specialist. Information came from the University of Missouri and other land grant universities, USDA, NRCS's Technical Note No. 4, "Planting and Managing Giant Miscanthus as a Bioenergy Crop", and videos from the US and Europe.*

2012 crop production costs

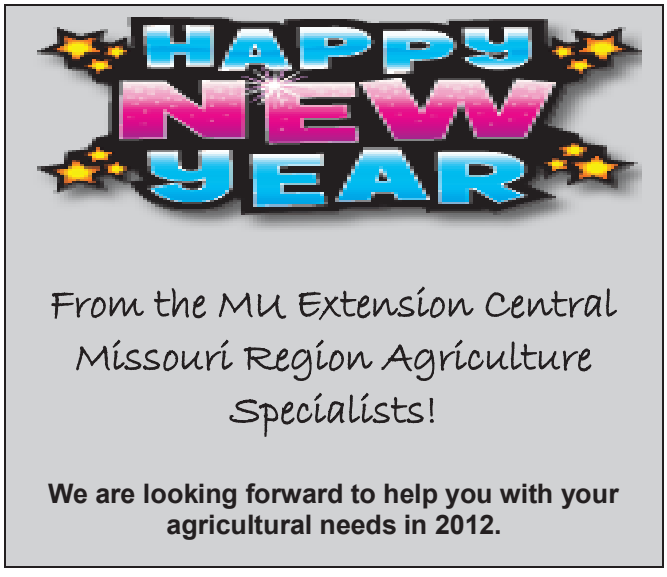
Each fall, the University of Missouri releases estimates for the costs of producing the major crops grown in Missouri. The table below shows non-land economic costs for typical farms with a specified set of production practices. View these numbers as being representative of a 2000 acre farm in central Missouri producing better than average yields with costs adjusted accordingly.

Your cost will differ. However, you can use these budgets as a template to customize estimates for your farm. Download the Crop Budget Generator spreadsheet at the FAPRI Missouri site, http://www.fapri.missouri.edu. Also available online are detailed reports for each crop, showing the assumptions and various inputs underlying the cost estimates. For assistance or more information, contact Brent Carpenter at the Pettis County Extension Center, Parman Green at the Carroll County Extension Center or Mary Sobba at the Audrain County Extension Center.

Web version link: http://www.fapri.missouri.edu/farmers_corner/budgets/index.asp?current_page=farmers_corner.

See on page 4 - Nonland cost estimates for Central Missouri, harvest in 2012.

Source: *Brent Carpenter, Ag Business Specialist*

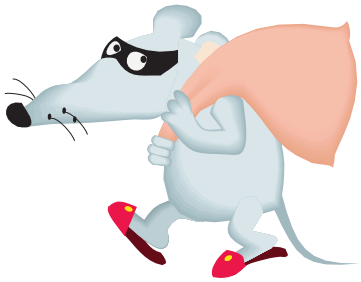


Helping fight agriculture theft

Recently, there have been several reports of agriculture theft in the Central Missouri area. Most of those thefts have been reported to the Johnson County (KS) Sheriff's office, which started a program to help fight agriculture and construction theft in Missouri and Kansas. The program is designed to assist in the prevention and recovery of equipment and livestock. The public is invited to participate in the program named Theft Reports of Agriculture and Construction Equipment (T.R.A.C.E.) Program.

The program uses e-mail for communication. Individuals or law enforcement report theft to the Johnson County Sheriff's office, which then sends out an e-mail to the participants registered with T.R.A.C.E. The objective is to quickly inform participants of suspicious activities and crime in their neighborhood, farming community and construction sites. This allows more eyes and ears looking for the stolen goods. If stolen goods are identified, then proper law authorities are notified.

This program is **not** intended to replace 911. Emergency calls and reports should continue using 911. The program is a next step for agriculture theft.



Agriculture producers, livestock owners, implement dealers and other interested parties are invited to register to become a part of T.R.A.C.E. To register go to the Johnson County Sheriff's website at www.jocosheriff.org, then click on the T.R.A.C.E. logo and register.

Source: *Mary Sobba, Ag Business Specialist*

Nonland cost estimates for Central Missouri, harvest in 2012.

	Dryland Corn	Irrigated Corn	Grain Sorghum	Soybeans	Soybeans DC	Wheat	DC Beans + Wheat
Yield, bushels	*155*	*200*	*100*	*50*	*25*	*60*	
Operating costs per acre							
Seed	103	110	30	62	73	40	113
Fertilizer	153	195	118	72	32	105	137
Crop protection	35	35	22	7	7	10	17
Crop insurance	25	20	0	20	0	12	12
Custom hire and rental	5	5	12	0	0	12	12
Machinery fuel, drying, and irrig. energy	37	69	13	14	9	12	21
Machinery repairs and maintenance	15	37	12	11	9	11	20
Operator and hired labor	13	19	10	11	9	10	19
Other expense	0	0	0	0	0	0	0
Operating interest	12	15	7	6	4	6	11
Operating costs per acre	**$398**	**$506**	**$225**	**$204**	**$143**	**$221**	**$363**
Ownership costs per acre							
Farm business overhead	4	4	3	5	0	4	4
Machinery overhead	24	46	18	17	0	13	13
Machinery depreciation	27	49	18	21	8	16	24
Nonland ownership costs per acre	**$54**	**$99**	**$40**	**$43**	**$8**	**$33**	**$41**
Total nonland costs per acre	**$452**	**$606**	**$264**	**$246**	**$150**	**$254**	**$404**
Operating costs per bushel	**2.57**	**2.53**	**2.25**	**4.07**	**5.70**	**3.68**	

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