

# Missouri Ag News

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## Fertilization & Management of Precision Graded Soils

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Crops	Horticulture
Engineering	Livestock
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It goes without saying we need rain. On a positive note, the warm dry spring has allowed new land grading for irrigation. The following information will help to manage these newly graded fields.

Precision grading of fields for irrigation is continually being performed in Missouri. A decrease in productivity often results from precision grading of silt or sandy loam soils. In many cases, the subsoil material that is exposed is unproductive and difficult to manage. In these areas, it is generally true that the deeper the cut, the greater the decline in crop productivity and the more beneficial it will be to invest in soil reclamation.

Routine soil testing is often unable to identify the nutrient(s) that are limiting plant growth in newly cut areas. The application of poultry litter helps restore lost productivity. Clay soils however do not generally exhibit reduced productivity following grading. Realizing that some soils may be graded without a loss of productivity, application of poultry litter may not always be economical. The following are recommendations for the application of litter and fertility management on precision graded soils.

**General Fertility** - Follow recommended nitrogen (N) rates for the variety to be planted despite the recommended application of poultry litter. Litter commonly contains about 2 to 4 percent N, however, only half the total N is available during the first growing season. Nitrogen rates should only be adjusted when extremely high rates of litter are applied immediately prior to planting. Although routine soil testing seldom identifies fertility problems on cut fields, soil samples should be submitted for recommendations of P, K, Zn and to identify pH and Na levels.

A blanket application of 40 pounds P<sub>2</sub>O<sub>5</sub> per acre is recommended on cut soils because the Phosphorus (P) content of many Delta subsoils is very low. Research results have shown that rice growing on cut soils frequently responds to applications of P fertilizer. Furthermore, the data indicates that application of both litter and P is likely to produce yields in excess of those obtained when either material is applied alone. Therefore, P should be added in addition to poultry litter amendments. Inorganic fertilizer (P, K, Zn and S) has in some

## Precision Graded Soil...Continued....

cases increased productivity of cut soils. However, yield responses to commercial fertilizer applications alone have been inconsistent and not always as great as those from poultry litter applications. Data also indicates that inorganic fertilizer is less effective on soils with deep cuts. Apply inorganic fertilizer in amounts recommended by soil test results, in addition to poultry litter amendments. Diagnostic soil testing and plant tissue analysis may be useful to correctly identify problem areas during the growing season.

**Rate of Litter** - Poultry litter may be a viable source of P and K on undisturbed soils; however, the primary benefit of litter is restoring lost productivity on cut soils. Numerous research studies indicate that poultry litter rates

less than 1,000 pounds per acre are inconsistent in producing significant yield increases on leveled soils. Consequently, no less than 1,000 pounds of litter (dry weight basis) per acre should be applied to precision leveled silt loam soils.

When applying litter, adjust the application rate to compensate for moisture content of the litter. For example, 1,000 pounds of fresh litter at 30 percent moisture contains about 300 pounds of water and 700 pounds of litter. Poultry litter data in the table at right refers to dry weight litter.

Research shows that spring applications of litter produce higher rice yields compared to fall

applications of equal amounts. Data indicates that pound for pound, fresh litter and composted litter produce equal yield responses.

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

**Ranges and Mean Values for N, P, K and Zn found in 1 ton of Poultry Litter.**

Element	Mean	Low Range	High Range
Lbs/Ac/ton litter (dry weight basis)			
N	81.6	34	136
P	28.6	16	52
P2O5	65.5	37	119
K	41.4	26	92
K2O	49.9	31	111
Zn	.4	.2	.5

## 2012 Missouri Blueberry Management Workshop

Saturday, June 2, 2012

9:00am-3:00pm

The workshop is \$20 per person for lunch, refreshments, and educational materials. Pre-registration is required by May 30 to attend the workshop. There are 30 seats available. Call Katie Kammler, Agronomy/Plant Sciences Specialist at 573-883-3548 to register.

**Workshop Topics:** Designing, using and maintaining trickle irrigation / Choosing a site for blueberry production / Blueberry site preparation / Blueberry harvest management / Blueberry production at Highland Blueberry Farm

Workshop location: **Highland Blueberry Farm**, 2607 Perry County Road 616, Perryville, MO 63775, (573) 547-4448. From Interstate 55: Exit I-55 at Exit 129; head south 7.9 mi on Hwy 51 to State Hwy O, turn left and drive 1.9 mi to Co Rd 616/ PCR 616. Turn left and drive 1.7 mi to destination on the right.

# Canola

On May 18, I attended a canola tour at the Patrick Hulshof farm outside of Bell City. Patrick is one of a handful of Southeast Missouri producers who are growing this crop this year. The meeting featured Dr. Rob Myers of the University of Missouri. I have known Rob for several years now, and we put in a canola demonstration at Dexter a few years ago.

Canola, which is low erucic acid rapeseed, is a crop that may be of considerable interest in the Mid-South again. What seems to be pushing this demand is the increased use of canola oil for cooking. Canola has advantages over other cooking oil in that it is higher in omega-3 fatty acids, which are good for heart health. I personally use canola and rice oil for cooking over other types for this reason.

As the demand for canola increases, so increases the potential for production in Southeast Missouri. In Oklahoma, there is over 200,000 acres of canola now being produced. In central and western Oklahoma, single crop wheat is the dominant commodity, and canola allows for a rotation. This has facilitated the development of a canola crushing plant now located in Oklahoma City. If canola becomes commonplace in this region, the development of infrastructure would ensue.

Canola could be added to the Southeast Missouri cropping system. There is data that suggests canola in rotation will reduce nematode presence. Additionally canola, like rapeseed, does have some herbicidal properties when plowed under as a green manure.

The profitability of growing canola is not bad, as described in the following budget from Dr. Myers.

There are opportunities for canola contracts with delivery in 2013. There will be canola meetings this summer – so keep watch.

Van Ayers, Agriculture and Rural Development Specialist, University of Missouri Extension, Bloomfield, MO.

<b>Winter Canola Cost-Return Budget</b>	
<b>Estimated Returns per Acre</b>	
Estimated Yield/Acre (lbs.)	2,500
Price (per pound)	\$0.25
Freight	\$0.01
Net Price (per pound)	\$0.25
<b>Estimated Total Returns/Acre</b>	<b>\$612.50</b>
<b>Estimated Operating Costs/Acre</b>	
Seed	\$40.00
Fertilizer	
N	\$94.50
P	\$33.00
K	\$33.00
S	\$0.00
Crop Chemicals/Fungicide/Insecticide	\$35.00
Machinery fuel & oil	\$13.30
Machinery repair	\$12.00
Custom hire and services	\$11.00
Operator and Hired Labor	\$9.09
Misc.	\$5.00
Operating interest (7% for 6 months)	\$10.01
<b>Total Operating Costs/Acre</b>	<b>\$295.90</b>
<b>Estimated Ownership Cost/Acre</b>	
Machinery depreciation	\$36.65
Real estate taxes, depreciation, and interest (or rent)	\$125.00
<b>Total Ownership Costs/Acre</b>	<b>\$161.65</b>
<b>Estimated Total Costs/Acre</b>	<b>\$457.55</b>
<b>Estimated Production Costs/Acre Excluding Land Charges</b>	<b>\$332.55</b>
<b>Net Return over Operating and Machinery Costs, Excluding Land Charges (per acre)</b>	<b>\$279.95</b>

# Powdery Mildew in Melons

On watermelon, look for pale yellow, oval spots without clearly defined edges.



*Damage from powdery mildew in watermelon. Notice the death of tissue near the crown.*

Melon growers should be cautious of powdery mildew in southeast Missouri. Anthony P. Keinath, Vegetable Pathologist from Clemson University believes the warm, dry weather conditions are responsible for the earlier occurrence of the disease, which hits our area each year.

Look for pale yellow, oval spots on watermelon that have no clearly defined edge. They may have white powdery fungus growing on the underside of the leaf at the reverse side of the yellow spot. Leaves near the crown may die first as there is less air movement near the center.

Growers should have put down more than one application of preventative spray by now. Chemical choices for powdery mildew include: Fontelis - newly registered in 2012, Quintec, or Procure. Switch and tebuconazole (many generic formulations of Folicur) also control powdery mildew on cucurbits. For more information, see the Midwest Vegetable Production Guide: <http://www.btny.purdue.edu/pubs/id/id-56/>

Other cucurbits should be scouted for powdery mildew and sprayed if any spots are found. Dr. Keinath states “the protectant fungicides chlorothalonil and mancozeb offer little control of powdery mildew. These fungicides cannot reach powdery mildew on the leaf undersides.” Use recommended herbicides in rotation to prevent resistance. Organic options recommended by Dr. Keinath include sulfur, horticultural oil, Organocide (fish oil + sesame oil), and potassium bicarbonate.

Sarah Denkler, Horticulture Specialist, University of Missouri Extension, Poplar Bluff, MO.

The Southeast Missouri Food Bank is eager for donations of specialty crops. The food bank will bring a 24 foot box truck to pick up available produce. Edible produce (seconds are welcome) should be in a crate or box.

Contact James Landewee, Operations Director at 573-651-0400 several days ahead of time if possible and specify if a refrigerated truck is needed. He will provide you with a tax receipt for anything you donate to use as a tax right-off.

## Fall Calving Show-Me-Select Heifer Sale Breaks Record

*Information taken from Duane Daily, University of Missouri Cooperative Media Group*

A record-high price of \$3,400 for an individual Show-Me-Select Replacement Heifer was set at the spring sale at the Fruitland Livestock Auction, May 5. The overall average of \$2,170 also set a new state price average since the sales started in 1997.

In all, 157 heifers sold. All had followed the protocols set for the program by the University of Missouri Extension. Two-thirds of the heifers were bred by artificial insemination (AI). That indicates that top proven high-accuracy sires could be used.

Thirty of the bred heifers sold for \$2,500 or more. For the sale, heifers are sorted into matched lots with similar calving dates. All were bred to calve between Aug. 25 and Nov. 29. Most were commercial heifers. However, the two top-selling heifers were registered Angus, both from Lazy P Ranch owned by Greg and Steve Pleimann, Oak Ridge, Mo. Two consignors who had the largest number of heifers had sold in the first sale at Fruitland, 14 years ago. Kasten Farms sold 32 head. Masters Farms, Cape Girardeau, sold 29 head. Black dominated the sale, as

95 percent were black or black white-face heifers.

The main attraction early in the Show-Me-Select program was the calving-ease genetics added to the breeding program. This reduced death loss of calves and first-calf heifers. Now, other genetics such as marbling and yearling weights are added as well.

Owners of the heifers enroll in a yearlong educational program. All heifers are examined by a veterinarian, before breeding, to determine



reproductive tract scores and pelvic areas. After breeding, they are checked for pregnancy, the last time within 30 days before the sale. All are sold guaranteed to be pregnant for 30 days after the sale. The heifers are examined by graders of the Missouri Department of Agriculture on arrival at the sale barn. Heifers that had blemishes or did not have proper muscling or condition are sent home. The quality keeps going up, as

producers stay in the program and build herds of cows that have been through the Show-Me-Select program.

Almost a quarter of the heifers sold were classified Tier Two. The heifers are sired by high-accuracy AI sires with large numbers of progeny in production. These heifers should perform more predictably for the five traits that distinguish heifers as Tier Two replacements. Saturday, the Tier Two AI heifers brought a bonus of \$134 above the Tier One AI heifers.

Near the end of the sale, Patterson told the crowd that more producers should enroll heifers in the program. "There is a shortage of good heifers. The price will go up as drought areas in Texas and Oklahoma recover. Ranchers will come here looking for replacement heifers.

"Missouri can supply quality heifers they need."

At the Southwest Show-Me-Select heifer sale in Joplin, the 268 heifers, due to calve this fall averaged \$1818. This was the southwest regions highest average since the program began in 1997. The previous high was \$1716 last May.

Kendra Graham, Livestock Specialist, University of Missouri Extension, Greenville, MO.

# Crop Report 2012

## Soybeans:

Monitor emerged soybeans for bean leaf beetle activity. Bean leaf beetle action



threshold is an average of 5 beetles per foot of row and one plant per foot of row is destroyed. Check fields that border wooded areas or thick fence rows since these are overwinter sights. For more information on bean leaf beetle review the following MU guide: <http://extension.missouri.edu/p/g7150>.

Some areas received a rain last night. I have been told the rain ranged from 0.25 inches to 3 inches. Those soybeans that received 0.25 inches may have some stand emergence issues as well as the other extreme of 3 inches. Monitor soybean stand populations. Populations falling below a uniform stand of 80,000 plants per acre should be considered for replanting. Other factors that influence soybean replant is uniformity of stand and replant date. A good uniform, thin stand in May will typically be more economically feasible than replanting in June. For more information on replant decisions review the following MU guide: <http://extension.missouri.edu/explorepdf/agguides/crops/g04091.pdf>.

## Corn:

With the much needed rain came some wind and hail in isolated areas. Hail damage is typically more cosmetic, especially during the rapid vegetative growth stages. It appears that the wind



damaged corn that I have observed did not experience green snap, instead plants are laying at an angle fully intact.

Non-GMO corn growers may need to start a little earlier on scouting 2<sup>nd</sup> generation southwestern corn borer. Moth flights of first generation began 2 weeks earlier this season. Most damage from corn borer comes from the second generation which typically emerges in early July. For more information on southwestern corn borer review the following MU guide: <http://extension.missouri.edu/p/G7111>.

Anthony Ohmes, Agronomy Specialist,  
University of Missouri Extension, Charleston,  
MO.

Soybean picture, top left, courtesy - Ohio State University; Corn picture, above by Bill Grove

## Discuss Missouri Export Opportunities

The Missouri Department of Agriculture, in cooperation with the Department of Economic Development, is arranging **ONE-ON-ONE MEETINGS** between Missouri producers and Hank Ma, Missouri Taiwan Office Director, to discuss export opportunities in Taiwan and Vietnam. The meeting times are limited - please respond to Shelley Haslag 573-751-4339 early to secure a time.

The following meetings are available for your opportunity.

### ST. JOSEPH - JUNE 5

St. Joseph Chamber of Commerce  
3303 Fredrick Avenue

### KANSAS CITY - JUNE 6

Taipei Economic & Cultural Office  
of Kansas City  
3100 Broadway, Suite 800

### JOPLIN - JUNE 7

Joplin Chamber of Commerce  
320 E. 4th Street

### SPRINGFIELD - JUNE 8

Springfield Chamber of Commerce  
202 South John Q. Hammons Prky.

### JEFFERSON CITY - JUNE 11 & 12

Missouri Department of Agriculture  
1616 Missouri Blvd.

### PERRYVILLE - JUNE 13

MU Extension Office  
321 N. Main , Suite #1

### ST. LOUIS - JUNE 14

Missouri Partnership  
120 S. Central Ave. Suite #1150



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## Future Meetings & Events -

**2012 Women in Boots and Blue Jeans:** An Ag Risk Management Conference, June 20, 2012 from 9:30am to 3pm in Jackson, MO at the Cape Girardeau County University of Missouri Extension Center. To register fill out the form at <http://extension.missouri.edu/bootsconf/pdf%20files/WIBBJ%20Brochure%202012-June.pdf>

**Missouri Blueberry Workshop:** Saturday, June 2, 2012 from 9:00am-3:00pm at Highland Blueberry Farm in Perryville, MO. Call 573-883-3548 to register.

**Missouri Rice Field Day:** Thursday August 23 at the Missouri Rice Research Farm near Glennonville, MO. To register call Sam Atwell at 748-5531.

**Missouri Viticulture Field Day:** Tuesday, June 5, 2012 at Eckles Hall, University of Missouri Columbia. To register go to <http://iccve.missouri.edu/events/2012vit-field-day.pdf>

For information on commodities and markets visit - <http://extension.missouri.edu/>