

## Incentives Offered to Reduce Farm Energy Costs

Missouri farms can take steps to reduce energy usage through a program that offers energy audits, loans and rebates to retrofit equipment and improve operations.

The Missouri Agricultural Energy Savings Team—A Revolutionary Opportunity, or MAESTRO, is targeting livestock and poultry farms that are small enough to not require a confined animal feeding operation (CAFO) permit.

The goal of the program is to provide farming operations with affordable ways to reduce energy use. Preliminary estimates indicate per-farm savings of \$500-\$600 per month after implementing new energy-saving devices and procedures.

Funding for the program comes from a \$5 million U.S. Department of Energy block grant. It is implemented through a partnership of University of Missouri Extension; the Missouri Department of Agriculture and Department of Natural Resources; the Missouri Agricultural and Small Business Development Authority; and EnSave, Inc., a private company that designs and implements agricultural energy-efficiency programs.



Farmers start with a comprehensive energy audit conducted by either EnSave or University of Missouri Extension. Results of that audit will include detailed recommendations on equipment and other improvements that will increase energy efficiency for the farm and the farm residence. New equipment could include more-efficient lighting, heating, cooling and ventilation, and improved animal waste treatment facilities.

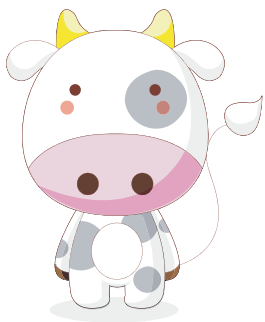
Loans of up to \$50,000 per farm are available to purchase energy-efficient equipment. Loan options include an interest rate buy-down to 3 percent or equivalent amount in a cash down payment. A 75 percent loan loss reserve (loan guarantee) program also is available.

For more information, call 800-732-1399 or see the website:  
[www.mda.mo.gov/abd/financial/maestro.php](http://www.mda.mo.gov/abd/financial/maestro.php).

**Source:** *Kent Shannon, Natural Resource Engineer Specialist*

## Producing Cattle that Grade Choice

Recently I attended the Show-Me Beef University, a program which had an emphasis on producing high quality beef. The training included sessions on live animal evaluation, carcass evaluation, yield and quality grading, and a discussion on meat quality and palatability issues. There was also a section on how nutrition and management affect meat quality. Here are a couple ideas from that session.



The starting point for producing cattle that receive carcass quality premiums from the packer is the genetic package the calf gets when it is conceived. Mating cows to bulls that have high accuracy for valuable carcass quality traits helps ensure the calf has a good genetic package.

Recent data on steers from the MU Thompson Farm and Greenley Research Center showed that 83% of the calves that were AI sired by bulls with high accuracy for carcass quality traits graded Certified Angus Beef (CAB) or Prime. AI sired calves bred to bulls with low accuracy for carcass quality traits had 64% grade CAB or Prime. Calves sired by natural service bulls only had 34% grade CAB or Prime. Significant premiums, more than \$150 per carcass, were received for steers that realized these premiums compared to those that did not. So getting the right genetic package in the calf is step one.

Step two in producing a high quality carcass occurs while the calf is still developing in the uterus of its mother. Nutrient restriction of cows has many negative impacts on the unborn calf. The effects of nutrient restriction on fetal development include a decrease in muscle fiber number and mass and fewer fat deposition sites being present in muscle. This can reduce carcass weight and marbling ability when the calf is placed in the feedlot.

Fetal programming was demonstrated by research at the University of Nebraska. Cows grazing either dormant range or cornstalks were either unsupplemented or fed 1 pound of a 28% crude protein supplement. The calves from the supplemented cows had heavier weaning weights and their carcasses were heavier and had higher marbling scores than calves from the unsupplemented cows. Other factors that impact the ability of calves to reach

a high carcass grade include age at weaning, creep feed ingredients, the age of the animal when it enters the feedlot and the implant program the animal has been on throughout its life.

I often hear producers talk about not wanting to feed grain supplements to cows prior to calving in the hopes of lowering calf birth weights. The bottom line is that you cannot starve calving difficulties out of cows and you will negatively impact the ability of the calves you produce to hang heavy, high quality carcasses after they are finished in the feedlot. There are a lot of opportunities to either enhance or mess up the ability of an individual animal to produce a high quality carcass. As a cow/calf producer, you control many of these factors.

For more information about CAB go to [www.cabpartners.com/facts/index.php](http://www.cabpartners.com/facts/index.php)

**Source:** *Gene Schmitz, Livestock Specialist*

## Apply Manure in the Fall to a Vegetable Garden to Reduce Risk of Microbial Contamination

Home gardeners often express interest in applying manure to build garden soil fertility. Once the fall season's crops have been harvested, apply any manure that has not been properly composted. This is the simplest and easiest way to reduce microbial contamination inherent with raw manure use. While there are no regulations regarding use of manure on home gardens there are regulations for organic production, guidelines for conventional production and these can provide direction to home gardeners.

The regulations from the National Organic Program (that certified organic growers must follow) are simple and safe to follow, and are:

- For vegetables whose edible portion has direct contact with soil- raw animal manure must be incorporated into the soil not less than 120 days prior to the harvest;
- For vegetables whose edible portion does not have direct contact with the soil surface or soil particles- raw animal manure must be incorporated into the soil not less than 90 days prior to the harvest.



Notice incorporation is required, so apply the manure before you fall plow or till. Gardeners should realize root vegetables, melons and squashes normally are in direct contact with the soil, but may overlook that the edible portion of many other vegetables do contact ‘soil particles’. Examples are leafy greens, green beans, and fruiting vegetables from rainfall splashing of soil, as well as any fruit that drops to the ground and then is picked up. *Worth noting is that microbial contamination is especially increased if the product is consumed raw- e.g. your lettuce and tomato salad!*

While commercial growers can separate fields or areas where sweet corn is grown from lettuce, most home gardeners won’t want to bother with this. Thus applying manure and incorporating it 120 days prior to the harvest of ANY vegetable is the safest bet. Since spring planted lettuce may be harvested as early as late April/early May, this would need to be before the New Year starts. Furthermore, manure applied and incorporated by the beginning of February would be needed for June harvested vegetables, which is generally a busy month for many. Since the soil is often frozen or muddy in the winter, fall is easily the preferred choice.

For conventional agricultural vegetable production the FDA has issued nonbinding food safety ‘guidelines’ which lack specific application restrictions. They are as follows:

- Consider incorporating manure into the soil prior to planting.
- Applying raw manure or leachate from raw manure, to produce fields during the growing season prior to harvest is not recommended.
- Maximize the time between application of manure to produce production areas and harvest.
- Where it is not possible to maximize the time between application and harvest, such as for fresh produce crops which are harvested throughout most of the year, raw manure should not be used.

There is a voluntary program some growers follow called ‘Good Agricultural Practices (GAPs)’. It recommends applying and incorporating manure and then allowing at least 120 days before crop harvest. Sometimes gardeners will say ‘the manure I use is aged, so isn’t it ok’ or ‘I compost the manure first’. Again the National Organic Program provides firm guidance on this issue, although some may complain it

seems too restrictive. It states:

- Producers using a windrow system must maintain the composting materials at a temperature between 131 deg. F and 170 deg. F for 15 days, during which time, the materials must be turned a minimum of five times.
- Producers using an in-vessel or static aerated pile system must maintain the composting materials at a temperature between 131 deg. F and 170 deg. F for 3 days.

Manure that is not composted following either of these procedures should be treated as raw manure. Aging of manure (no matter how long) is NOT a substitute for composting, and thus any and all aged manure is treated as raw manure.

Home gardeners can do as they please in how they apply manure, but for the sake of their family’s and friend’s safety, it seems fairly easy and certainly prudent to follow the National Organic Program guidelines. This fall is the time to apply manure to vegetable gardens, not next spring.

For more information: G6220, Organic Vegetable Gardening Techniques at <http://extension.missouri.edu/publications/DisplayPub.aspx?P=G6220>

*Source: James Quinn, Horticulture Specialist*

## **Taxation Tidbit: Keep Beneficiaries Current and Documents Coordinated**

Are your beneficiary designations current?

Are there any discrepancies between how you have titled assets and how you have planned for their distribution in your will or trust?

If your beneficiary designations are not correct or if there are discrepancies in planned transfers – someone is going to get the “mine” and someone else is going to get the “shaft”!

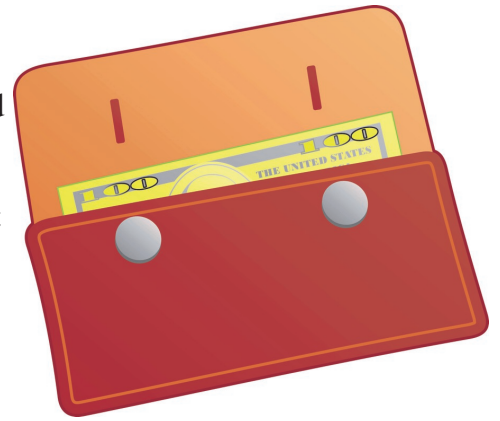
It is extremely important to keep your beneficiary designations current and to make sure all estate planning tools are coordinated with regard to planned asset distributions.

A couple of examples will help illustrate the importance of these points.

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A recently reported court case involved the distribution of a deceased person's retirement account to an ex-spouse. The surviving spouse and children sued claiming it was an obvious oversight the ex-spouse's name had not been removed from the retirement account. Regardless, the ex-spouse won the case because their name had not been removed as the surviving beneficiary and while the court stated they thought it was surely an oversight on the part of the deceased – the court did not have the authority to change the beneficiary designation. This case could just as easily involved a life insurance beneficiary designation.



In another example, a widow, several years ago, put a niece's name on a CD as the "payable on death" (POD) beneficiary. A few years later the widow drafted a will and stated the CD was to go to her daughter with whom she had recently reconciled their differences. The widow subsequently died – who inherited the CD? The niece – because her name was on the title and title designations take precedence over will or trust designations.

The take home message is to keep your estate planning documents current and coordinated.

**Source:** *Parman R. Green, Ag Business Mgmt. Specialist*

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