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## Top 10 List For Reducing Tractor Fuel Consumption

1. Gear up and throttle back. This will increase fuel efficiency.
2. Reduce the number of trips by combining field operations when feasible. "Recreational" trips across the field are costly.
3. Match the implement to the tractor size. A tractor oversized to the equipment will use more fuel than one matched to the equipment.
4. Operate at efficient speeds. The most efficient speeds are from about 4 to 7 miles per hour. (*not too slow or not too fast*)
5. Try to operate with the most field efficiency possible. Ways to increase this are to reduce the amount of turning, minimize overlap (consider GPS steering) and use appropriate sized implements.
6. Use tillage that reduces the power requirement. No-till or minimum till will likely reduce the power requirement. Don't till more deeply than necessary.
7. Keep tractors maintained and tuned.
8. Tractors and tires should be maintained to optimize wheel slippage at about 10- 15%.
9. Avoid long engine idling times.
10. If your budget allows, shop for a more fuel efficient tractor. Nebraska tractor tests are useful in comparing energy use of various tractors.

<http://tractortestlab.unl.edu/>

*Author: Don Day, Natural Resource Engineer*



## Corn Following Corn

From an agronomic perspective, corn following corn typically can have more problems and a lower yield than corn in a crop rotation, typically following soybeans. There are strategies that can be used to minimize the potential for problems. Bob Neilsen and several associates at Purdue have identified a plethora of issues with corn following corn.

**Nitrogen issues.** Optimum fertility rates for corn following corn are higher than for corn following soybeans. Estimates range from 30 to 50 additional pounds of nitrogen per acre required, but yields may be 7 to 10% lower. Higher nitrogen prices must be figured into budgets when comparing cropping alternatives.

**P and K fertility issues.** Corn removes more phosphorous and less potassium per acre than soybeans. Second year corn will have little effect on P & K levels but over a number of years levels should be monitored and adjusted accordingly.

**Stand establishment.** Higher levels of residue can lead to slower warming and drying of the soil. Delayed stand establishment resulting from delayed or uneven germination and emergence can increase the exposure of seedlings to insects and diseases. Select hybrids with superior seedling vigor. Avoid suboptimal soil temperatures by not planting too early. Manage the residue by burying it or using row-cleaners.

**Disease management.** Corn residue can harbor inoculums for diseases such as gray leaf spot and northern corn leaf blight. Select hybrids with emphasis on resistance to specific diseases as well as on overall good plant health. Consider burying the residue where possible. Consider using a foliar fungicide. Experimental data from replicated trials suggest that economic benefits of fungicide applications occur 60% of the time when significant levels of disease are present.

**Insect management.** Corn rootworm is spreading throughout the cornbelt and should be addressed where it has a history. Delayed emergence and growth results in lengthier exposure of corn seedlings to secondary soil pests such as wireworms, seedcorn maggots, white grubs and slugs. Crop residues and live winter annual weeds can be attractive to cutworm and armyworm moths for egg laying. Greater populations of corn borer moths may not be expected because of the transgenic corn grown in the area. The judicious uses of soil-applied insecticides, insecticide seed treatments or transgenic resistance for rootworm are options.

**Hybrid selection.** Good hybrids for rotation corn tend to

be good hybrids for continuous corn. Chose hybrids that demonstrate consistent high yield performance across multiple environments. After you identify good yielding hybrids, select for disease resistance, stalk strength, stalk and root health, seedling vigor and overall stress tolerance.

**Weed management.** Continuous corn limits weed control options compared to a rotation. Soil applied herbicides should be used at full rates and post emergent herbicides should be applied before weeds are more than 6 inches tall. A combination of preemergence and post emergence weed control strategies will usually result in the most effective weed program.

**Glyphosate resistant weeds.** With the increasing number of weeds showing resistance to glyphosate, alternating weed control programs and herbicide modes of action should be considered in continuous corn. Tillage can also be an alternative.

**Harvest season issues.** More corn acres will effectively lengthen the harvest season. Losses can increase and disease becomes a problem as the crop remains in the field. Select hybrids with superior plant health and stalk strength. Prioritize harvest to fields that show signs of deterioration.

**Bottom line.** The decision whether to plant soybeans or plant continuous corn should be made cautiously with careful attention to both the economics and agronomics.

*Wayne Crook, Agronomy Specialist*



### Missouri New Herbicide Update For 2008

University of Missouri has released the new herbicide updates for 2008. This year it will be available online at:

<http://ppp.missouri.edu/newsletters/ipcm/archives/v17n22/a1.pdf> or by request from your local county office. The integrated crop management newsletter includes this listing and is available free electronically or in hardcopy form for \$30 / year.

## Dealing With Ice Damaged Trees

Homeowners should wait to cut down or prune trees damaged by winter ice storms. Unless they are an obvious hazard, it is wise to wait. It is difficult to predict how storm-damaged trees will respond. Ice storms can cause several types of tree injury due to the increased weight load. High winds aggravate the situation. Damage can be categorized as broken branches, bent branches or limbs, and main trunk or massive branch damage.

The most common damage is broken branches. Because of their year-round foliage, evergreen trees are particularly susceptible to this type of damage. When small- or medium-sized branches break off the main trunk, the tree forms a protective barrier of wound tissue. Lateral branches may grow from the remaining portion of the original branch and produce new foliage.

Do not be in a hurry to start pruning a branch that is bent out of shape. Do not try to remove ice from a tree's limbs, since additional damage due to breakage may occur. If you must remove damaged limbs, cut the damaged branch just above the limb's branch collar. The branch collar is the "donut-shaped" ring of growth around the limb as it attaches to a larger limb or the tree's trunk. If you remove this collar, then the tree cannot naturally close the wound, and you have an entry point for disease organisms and insects. If the damage is high up in the tree, you should call a certified arborist who has the experience and proper equipment to safely remove the affected limb(s).

The most serious damage, breaks or splits on the main trunk and on massive branches, usually occurs on large mature trees, such as silver maples and other trees where the branches grow at a narrow angle from the trunk. While not causing rapid tree death, such damage exposes large areas of wood to decay, which can progress rapidly and make the tree susceptible to further storm damage. As a rule of thumb, a tree that has lost less than 50 percent of its branches stands a reasonably good chance of recovering.

Trees bent over by a storm can sometimes be straightened by staking them upright. However, the tree may develop longitudinal cracks and splits that may not be obvious but serve as entry points for insects and diseases. Even trees that appear to straighten up within a few months are susceptible to this sort of damage.

More detail can be found in at MU Extension publications: <http://extension.missouri.edu/explore/agguides/>

- [First Aid for Storm-Damaged Trees](#) (G6867)
- [Felling, Bucking and Limbing Trees](#) (G1958);
- [Basic Chain Saw Safety and Use](#) (G1959)
- [Pruning and Care of Shade Trees](#) (G6866)

Source: Chris Starbuck, 573-882-9630; H.E. 'Hank' Stelzer 573-882-4444

## Taxation Tidbit: CRAT AND CRUT

If you have not met them previously this is an introduction to CRAT and CRUT. CRAT is the acronym for charitable remainder annuity trust and CRUT is the acronym for charitable remainder uni-trust. While there are a number of ways for making charitable transfers, from the financial security and income tax saving perspectives, CRAT and CRUT have a lot to offer.

CRATs and CRUTs are tax planning tools that almost allow you to have your cake and eat it too. As an example, let's say you would like to leave your favorite charity \$50,000. Instead of making this provision in your will, you could set up a \$50,000 charitable remainder annuity trust (CRAT) during your life. This trust could be set up to provide you with a yearly income as a percentage of the value of the trust assets. For our example, if six percent interest was paid on the principle - then you would receive \$3,000 per year for the rest of your life.

Upon your death, whatever property remains in the trust would go to your designated charity. Even though the charity won't get the trust assets until your death, you are entitled to a current income tax deduction for the present value of the calculated remainder interest of the property placed in the trust for the charity. The value of the remainder interest is based upon published actuarial tables and interest rates. The older you are at the time of transfer of assets to the trust, the greater the remainder interest value. These tables do provide for joint lives, so the trust could be established to pay the fixed percentage income to you for life, then for your spouse's life, with the remainder interest going to the charity upon the last to die.

The charitable remainder uni-trust (CRUT), for the most part, only varies from the CRAT in that the periodic percentage payout is based on the periodic value of the trust, rather than the value of the trust property at the time it was established. This feature offers some income protection from inflation.

These types of transactions are gaining popularity with people who desire to recognize charities in their estate plan. While CRATs and CRUTs have many advantages, they should be utilized only after due consideration to insure they accomplish your estate planning goals and objectives.

*Author: Parman R. Green, Ag Business Management Specialist*

## Budgeting For 2008

2008 Livestock, Crop and Forage Budgets can be found at:

<http://agebb.missouri.edu/mgt/budget/index.htm>

In addition, the Food and Agriculture Policy Institute (FAPRI) generate budgets to represent medium sized farms. Their budgets can be accessed at:

[http://www.fapri.missouri.edu/farmers\\_corner/budgets/index.asp?current\\_page=farmers\\_corner](http://www.fapri.missouri.edu/farmers_corner/budgets/index.asp?current_page=farmers_corner)

FAPRI also has a Budget Generator you can download. It can be found at:

[http://www.fapri.missouri.edu/farmers\\_corner/tools/index.asp?current\\_page=farmers\\_corner](http://www.fapri.missouri.edu/farmers_corner/tools/index.asp?current_page=farmers_corner)

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## AG CONNECTION

**Ag Connection** is published monthly for Central Missouri Region producers. Ag Connection can be found in the Internet at:

<http://extension.missouri.edu/agconnection/index.htm> .

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