

Sustaining Farming on the Urban Fringe



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On-Farm Energy Savings - *the Devil's in the Details*

Tom Manning, P.E. & Jack Rabin

If your farm's energy conservation plan consists of changing to energy efficient light bulbs, you're throwing money away.

The problem is, figuring out the details of where your energy dollars are being spent and how to maximize efficient energy use is so complicated and time consuming most farm managers can't cope with the process.

Help is on the Way

Have you ever asked yourself, "What does an electric motor nameplate tell me about how a piece of equipment influences my farm utility costs?" Yea, neither has Jack – but it turns out nameplates are an important source of information.

This month the NJAES Ag Engineering team rolls out programming to help deal with electric energy conservation implementation on farms, including how to read a nameplate.

Two new fact sheets are available from our **Sustaining Farming on the Urban Fringe** web site **Energy Use** section:

- *Lowering On-Farm Utility Costs with Electricity Monitors*, includes a case about monitoring a typical NJ diversified farm operation.
- *Assessing On-Farm Equipment Efficiency & Energy Use*, details nameplate information and how to use it to calculate motor efficiency.

Together with the recently issued *Understanding On-Farm Utility Costs and Billing* FS1128, this series give specifics on how to approach your farm's individual energy usage and make some real changes to cut costs.

Partnering with NRCS NJ USDA, NJAES Bioresource Engineer Tom Manning will be presenting on-farm electric energy savings at three workshops. He will step through the process of assessing electrical equipment energy use, address the hot topic of electricity monitoring devices you can use on your own, and answer questions. NRCS will discuss their programs that assist growers in implementing these tools.

Attend One of Three Free Energy Conservation Workshops coming up next week

Mon. March 12, 8:30 am; Gloucester County Rutgers Ag Extension/NRCS Center, Route 47 Clayton; Call to register (856) 589-5250

Wed. March 14, 8:30 am; Monmouth County Rutgers Ag Extension/NRCS Center, Kozloski Rd. Freehold; Call to register (609) 586-9603

Thurs. March 15, 8:30 am; Essex County Rutgers Coop Extension; Eagle Rock Ave, Roseland; Call to register (973) 285-2953

Electricity Monitoring Devices

Electricity monitoring sensor devices are a cost effective method of identifying *time periods* of highest electricity use & *specific equipment* contributing to demand. Using these monitors you can pinpoint efficiencies, waste, and phantom losses.



Monitoring devices give feedback allowing specific cost cutting changes in the way your operation uses electricity, such as:

- staggering times of high demand equipment usage to lower peak rate charge
- avoiding equipment use during peak demand periods when energy is most expensive
- use of variable frequency drive devices to better match needs
- determining if the purchase of more energy efficient equipment vs. retrofitting equipment you already own makes sense for your operation.

With rapidly rising energy prices, conserving fuel around the farm goes a long way to help keep your bills in check. In field operations, reducing the number of tillage passes and the depth can save significant fuel.
-Extension Specialist, Zane Helsel

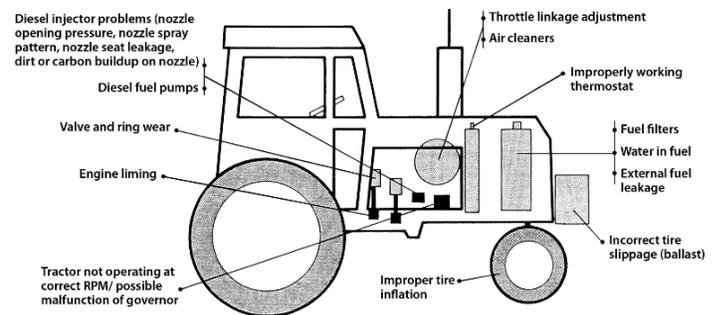
Other Opportunities to Conserve Energy

Of course fuel costs remain the other core energy consumption on the farm.

Whether fuel is used in tillage, in transportation, or hits you in the checkbook through in the rising costs of fertilizers, chemicals and packaging, a lot can be done to reduce fuel energy consumption.

Explore these Web Resources

- *Fuel Requirements and Energy Savings Tips for Field Operations* FS1068, Rutgers NJAES CE. njaes.rutgers.edu/pubs/
- *Farm Energy & Conservation*, eExtension. www.extension.org/ag_energy
- *Conserving Fuel on the Farm*, ATTRA. www.attra.ncat.org
- *Energy Use Section*, Rutgers NJAES CE Sustaining Farming on the Urban Fringe. njsustainingfarms.rutgers.edu/energyaudit.html



Source: Wyoming Energy Conservation

Dealing with your farm's energy conservation plan can be a big headache especially since you'd rather be farming. But, minimizing use of costly energy inputs on your farm is at the core of sustainable farming, and a reality of life farming on New Jersey's urban fringe. Rutgers NJAES is here to help grapple with the details.