

Save Big on the Farm by Conserving Fuel

One of the best ways to deal with rising gas prices is to conserve fuel on your farm. As with all savings, some simple changes can add up over time. Below are tips on reducing fuel consumption and on adopting alternative fuels. By incorporating these changes into your routine, you will use less fuel and save money!

- **Avoid unnecessary driving.** Use cell phones or other convenient technologies to answer emergencies and solve problems in the field.
- **Slow down your pace.** Rapid acceleration and braking reduces your vehicle's gas efficiency.
- **Choose the right vehicle for the right job.** Use smaller vehicles such as ATVs, motorcycles or bicycles for smaller chores that don't require the hauling power of a truck or tractor.
- **Match the capacity of your tractor to the job.** Using a large tractor for a small job can waste fuel; likewise, pulling a heavy load with a small tractor is also inefficient.
- **Reduce how often you till and consider trying no-till techniques.** Tilling, especially on compacted soils, requires larger amounts of fuel from your tractors.
- **Share distribution costs with your neighbors.** Establish a truck share with neighboring farms that sell at the same markets to reduce fuel costs and vehicle wear and tear.
- **Mulch in high traffic areas.** Reduce the time you spend mowing and prevent soil compaction by mulching with bark chips in heavily used areas.
- **Maintain your small engines, generators and tractors.** Check regularly for leaks, smoke and other signs of improper fuel combustion. Regularly check and replace air and fuel filters.
- **Clean your tractor's fuel injectors regularly.** Clogged injectors cause fuel to combust inefficiently.
- **Keep tire pressure at the lowest recommended level.** Tires supporting a full load should bulge out. Over- and under-inflated tires wear sooner and cause engines to work harder.
- **Avoid using new tires.** New tractor tires with long lugs work great in wet soils. However, on flat, dry soils new tires are less efficient in providing power on the ground and require more fuel for a given job. Use tractors with new tires on rainy days and in muddy conditions.
- **Balance your tractor's towing weight to reflect typical conditions, not worst case scenarios.** Over-ballasting your tractor can result in premature engine wear, burn more fuel and cause your tractor to respond sluggishly.
- **Limit engine idling time.** It is more efficient to restart your engine than to let it idle for extended periods of time. Idling typically consumes about 1 gallon of diesel fuel per hour.
- **Gear up and throttle down when you are not hauling weight.** For applications requiring less than 65-70% of full engine power, it is best to slow down the engine rpm and shift to a higher gear to maintain engine speed. This will reduce the amount of fuel used.
- **Avoid using winter fuels during the summer season.** Winter fuels are refined to be lighter and more viscous, but they contain about 3% less energy.

Biodiesel Fuels

Using alternative fuels, such as biodiesel, are becoming a very viable option for farmers interested in reducing their reliance on petroleum. Below are a few considerations to make when transitioning to a new fuel.

- Use fuels that meet American Society for Testing and Materials (ASTM) international standards to ensure fuel quality and engine performance. The standard for biodiesel is ASTM D6751.
- Biodiesel blends can be burned in existing engines with little or no modifications. However, biodiesel is a solvent, and overtime, will degrade seals, gaskets and fuel lines made of natural rubber. Vehicles older than 1994 may need to replace these parts with synthetic materials such as Vitron®.
- Biodiesel does not void engine warranties. Engine manufacturers warrant for parts and assembly of their engines, and do not warrant their engines for specific fuels. The fuel supplier is responsible for fuel-caused engine problems, so it is important to work with reputable suppliers whose products meet ASTM specifications. For more information on engine warranties, visit: (http://www.biodiesel.org/resources/fuelfactsheets/standards_and_warranties.shtm).
- Biodiesel is a strong solvent and will clean out fuel tank sediments during initial use. These sediments can plug the fuel filter, so it is important to inspect your filters and replace them as needed. Cleaning fuel tanks prior to using biodiesel will help to minimize this problem.
- Biodiesel can gel at cold temperatures. Fuel blends and additives can control this, so it is important to make sure that your fuel supplier is aware of your operating conditions.

For more great information on saving fuel around the farm, visit:

Alberta's AgTech Innovator [http://www1.agric.gov.ab.ca/\\$department/newslett.nsf/all/agin147](http://www1.agric.gov.ab.ca/$department/newslett.nsf/all/agin147)
Colorado State's Selecting a Fuel Efficient Tractor <http://www.ext.colostate.edu/pubs/farmmgmt/05007.html>
Energy Ideas Clearinghouse <http://www.energyideas.org/>
University of Kentucky's Extension: Fuel Saving Tips http://ces.ca.uky.edu/lyon/anr/fuel_saving_tips.htm
University of Minnesota Engineering Notes: Fuel Saving Ideas for Farmers <http://www.bae.umn.edu/extens/ennotes/enspr00/fuelsaving.htm>
WSU Extension Energy Program <http://www.energy.wsu.edu/>
WSU Climate Friendly Farming <http://cff.wsu.edu>

For more information on using biodiesel, visit:

Biodiesel Handling and Use Guidelines – US Dept of Energy <http://www.nrel.gov/vehiclesandfuels/npcf/pdfs/39451.pdf>
National Biodiesel Board <http://www.biodiesel.org/>
University of Idaho Biodiesel Fuel Education Program <http://www.uidaho.edu/bioenergy/index.html>
WSU Energy Program <http://www.energy.wsu.edu/projects/renewables/>
WSU Center for Sustaining Agriculture and Natural Resources <http://triplebio.wsu.edu/Research/index.html#biofuels>

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