

Program: Bio-Diesel Use in Farm Equipment



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In Partnership With Natural Resources Canada AgriFood Canada Transport Canada

Objective:

To determine the environmental, industrial and commercial potential of bio-diesel fuel on farm equipment.

Background:

What is Bio-Diesel fuel?

Bio-Diesel fuel is created through a chemical process called "transesterification", where glycerin is separated from a fat of vegetable oil. The process leaves behind two products – methyl esters (the chemical name for bio-diesel) and glycerin (a by-product found in soaps and other products). Bio-diesel is a clean burning alternative fuel produced from domestic, renewable resources. Since it contains no petroleum it can be blended at differing levels with petroleum diesel to create a bio-diesel blend. Bio-diesel can be used in diesel engines with no engine modification required.

This project began as a simple student project. However, after realizing its potential it quickly became a serious research initiative. With a new 5325, 55 horsepower tractor, generously donated by John Deere, field testing on bio-diesel began. Allan Smith, the Kemptville College Agriculture Equipment Technician, supervises its operation and regularly monitors fuel quality.

So far, testing has been highly successful, and a B5 blend (5% oil from animal rendering) was settled on as the fuel for continued field testing since it met manufacturer's regulations and is viable for continued production.

CONCLUSIONS:

Long term industrial and commercial use of bio-diesel represents significant environmental gains through emission reduction and lower dependency on non-renewable fuel sources.



Support Appreciated from:



Ontario Soil and Crop
Improvement Association



Community Benefits Include: Environmental
improvements through reduction of non-renewable
fuel resources

