

SOME ADVANTAGES OF THE CANOLA OIL USED IN 'VSG' WICKET GATE GREASE

EXTRACTS FROM PUBLISHED WORKS

"Rapeseed and canola oil are the most common basestocks for vegetable-based lubricants."

"Canola is the term for genetically modified rapeseed plants which produce no erucic acid, the cause of poor cold properties in natural rapeseed oil."

"The polar nature of rapeseed oil and canola make good lubricants, as they readily fasten to metal surfaces. The triglyceride structure gives these esters a high natural viscosity and viscosity index."

"The advantages of rapeseed oil and canola are that the processing uses less energy resulting in reduced emissions to the environment, they are renewable resources, and their byproducts can be used as animal feeds."

Biodegradable Lubricants, Lubrication Engineering, July 1998

"Crop oils have the big attraction of being a renewable resource which can be substituted for mineral oil in many applications."

"Vegetable oils offer reduced volatile contents, they are biodegradable and non-carcinogenic."

Fats and oils are typically triesters, commonly called triglycerides or glycerides. Rapeseed oil can be designated as C22:1 where C is the number of carbon atoms and 1 the number of unsaturated double bonds.

Natural Oils to the Rescue, Industrial Lubrication & Tribology, Sep/Oct 1990

"Vegetable oil is better than mineral oil in reducing friction and wear. It also more thoroughly cleans sludge and dirt from the equipment being lubricated. This could cut the need for friction modifiers, antiwear agents and dispersants."

Seal compatibility testing with rubber, nitrile and fluoroelastomer material showed results similar to mineral oil.

Soybean oil has 61% polysaturated chains so its oxidation resistance is not as good as canola oil that has only 36% polysaturates. "A relatively high degree of monosaturates also gives canola oil acceptable low temperature properties.

"The flash point for canola oil is 50°F (28°C) higher than mineral oils."

Tractor Transmissions Like Canola Oil, Lubricants World, May 1995