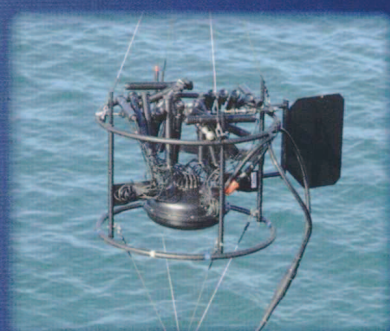
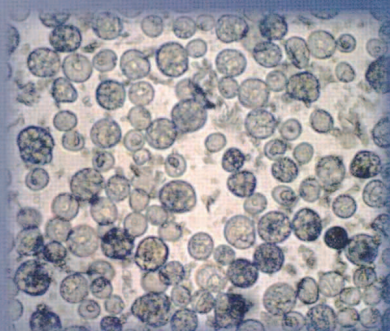
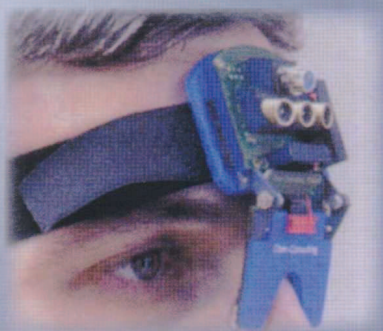


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RESEARCH FINDINGS
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OF SCIENCES**



2008

BIODEGRADABLE VEGETABLE OIL FOR CHAIN LUBRICATION IN WOOD-CUTTING CHAINSAWS

This project aimed to solve the problem posed by the release into the environment of noxious petroleum-based lubricating oils used in wood cutting by means of motor chainsaws. The lubricating oil of a chainsaw works in an open system and after performing its lubricating function it is ejected from the machine into the environment. The widespread use of chainsaws in forestry, the tending of green areas, and in construction activities leads hundreds of tons of various lubricating oils to be released into the environment, thus contaminating it due to their long period of degradation.

The objective of this project is to develop a method for producing a biodegradable vegetable lubricating oil based on mustard oil.

Oil obtained from mustard seed, due to its high content of erucic acid, cannot be used as a food product and is therefore considered a waste product in mustard production. The utilization of mustard

oil for such a technical application, in the form of the Sinapis oil, offers a way to solve the problem of its utilization in a manner favorable for both the economy and the environment. The Sinapis oil is produced at the Vinegar and Mustard Producing Plant in Parczew from waste mustard oil that is a byproduct in the process of white mustard seed expression for the production of mustard.

Patent No. P-371638.

The Sinapis oil:

density	896 kg/m ³
kinematic viscosity at 100°C	4.7 mm ² /s
sulfur content	25 mg/kg
water content	460 mg/kg
content of solids	109 mg/kg
flash point	203 °C
cloud point	-7 °C
flow temperature	-16 °C
acid number	2.5 mg KOH/g

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