

# Penn State Extension

## Oilseed Fact Sheet: The Regional Picture

### Introduction

In a regional food system, the development of oilseed growth and processing forms a cyclical system. Every feature of the system can be utilized in multiple ways, as will be discussed in this factsheet. This system is one example of what can be done using oilseed in a regional setting.

### The Seed

The starting point of the regional oilseed system is the fields. Regional

farmers may grow canola or other oilseed crops as an alternative crop, or as a cover crop. The harvested seed is stored in bins and moved on to the next step of the process, the oilseed press.

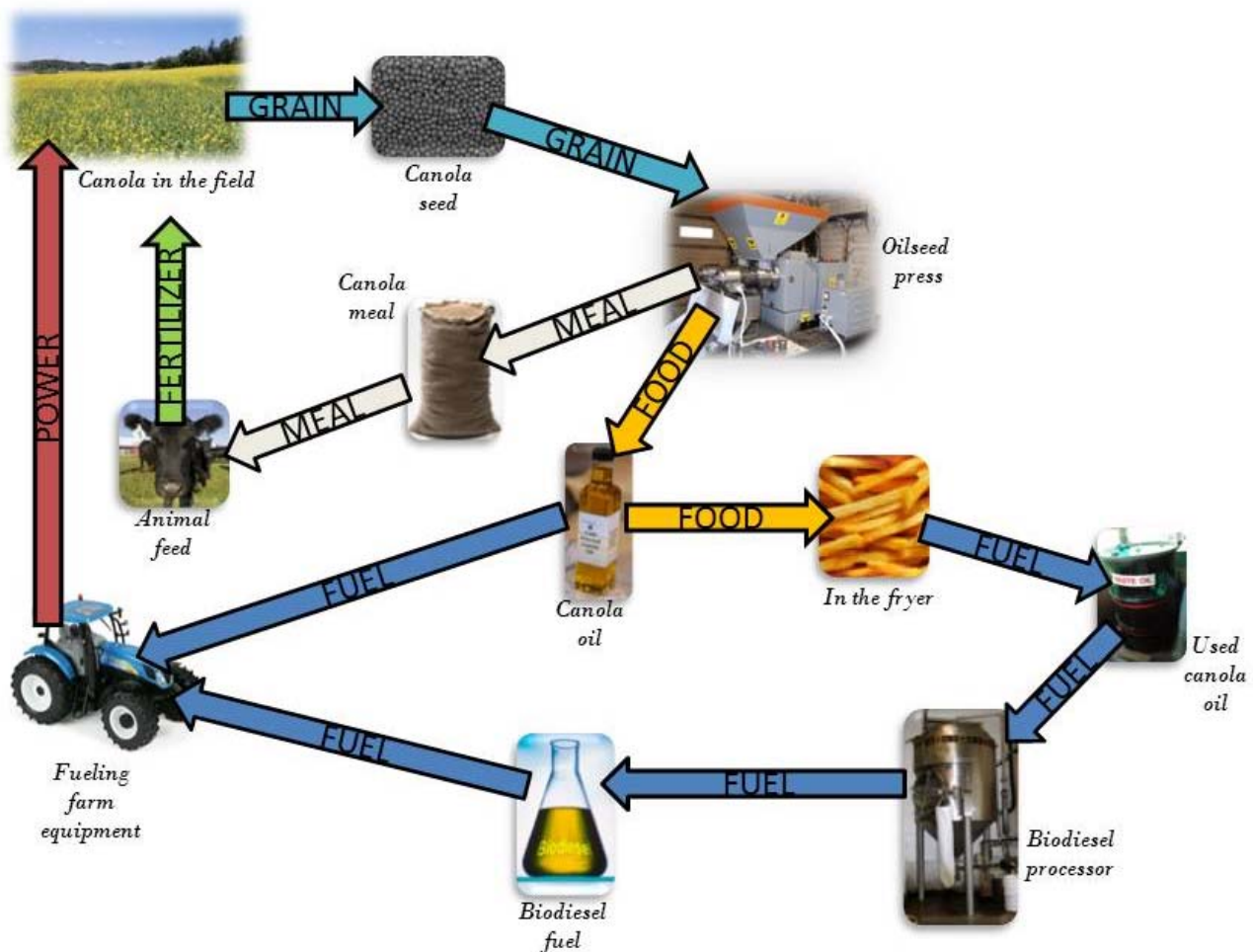
After the cleaning process the oilseed press presses the seed, creating two products. The first of these products is the meal. Meal is the remains of the seed after the oil is extracted. Meal is extruded from the tip of the expeller press, and collected, to be used as

feed for cattle and other animals. The meal is high in protein and other nutrients, and makes an excellent addition to the feed ration.

The extracted oil is collected and contained, where it branches out into two uses.

### The Uses of Extracted Oil

Oil extracted from the canola seed has two options for continued use. Some of the oil is further refined and bottled for use as cooking oil. The rest is pre-



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pared for use as engine fuel. A number of machines and equipment can be run on straight vegetable oil (SVO), through the use of modified diesel engines. The tractors that harvest the canola seed from the fields are designed this way. This creates a cycle in which the product feeds into the system that created the product.

The oil which is extracted as food oil is used in the fryers in the preparation of food. The system does not stop at this point. The oil which has been used for frying and cooking is collected as waste oil. The waste oil is refined in a biodiesel reactor, which converts the oil into biodiesel, a form of bio-fuel which can be used in many diesel engines without modification.



An example of a tractor run off of a combination of diesel and straight vegetable oil.

### Completing the Cycle

As with the oil originally collected for fuel, the refined biodiesel is used in local equipment. As a whole, this decreases the amount of non-petroleum fuels needed from the outside, making

the region a more sustainable system within the state.

### Summary

From the planting of the oilseed and harvesting, to the various uses of the oil extracted from the seed, to the final return of the oil to the origin of the system, a region's oilseed process forms a cycle. Everything that goes into the system is returned, from providing cooking oil to restaurants and meal to cattle and other livestock, to the refining of used oil into biodiesel.

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