

Economic studies show that increased biodiesel production can help the profitability of livestock operations by increasing revenue, keeping costs under control, and mitigating risk through diversification.

Biodiesel helps to lower feed costs

Soybean oil remains a leading feedstock in the United States for biodiesel production. Oilseed meal, such as soybean meal, is used in livestock and poultry rations as a protein source. The way the oil and meal markets react to demand changes is often not easily understood.

Soybean oil and meal are co-products from oilseed crushing that are produced in fixed proportion to one another. If oilseed crush increases to meet additional demand for one co-product, it will simultaneously result in a greater supply of the other. Therefore if soybean oil demand increases due to biodiesel use, increased supplies of meal will put downward pressure on price:

- In a December, 2012 analysis, Informa Economics estimated livestock producers paid \$25 per ton less for soybean meal due to increased biodiesel production and use.
- On November 27, 2012, the U.S. Environmental Protection Agency noted in the Federal Register that waiving portions of the Renewable Fuel Standard (RFS) related to biomass-based diesel fuel would decrease demand for biodiesel, which could increase feed costs to livestock producers:

“We are aware of two quantitative studies that projected price impacts on soybeans and soybean meal as a result of a possible BBD waiver, Babcock-Iowa State and Cardno-ENTRIX. Babcock projects that a waiver of the BBD requirements might reduce soybean prices by \$0.61 per bushel or about 3.5 percent (assuming that rollover RINs are available), but would also increase soybean meal prices by \$22.00 per ton or about 4.2 percent. Cardno-ENTRIX finds, under an assumed 500 million gallon decrease in the BBD requirements, that soybean prices would decrease by \$0.74 per bushel or 4.5 percent, while soybean meal prices would increase by \$32.96 per ton or about 6.7 percent. Because most livestock are fed soybean meal, not whole soybeans, these projections would mean that a waiver of the BBD volumes would very likely increase feed costs.”
- Worked conducted by Centrec Consulting Group, LLC in September, 2012 determined that increased biodiesel production could result in potential total



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savings for the livestock and poultry industries of up to \$1,466.2 MM, although this was the high end of estimates.

- There have been multiple studies that examined the same question and reached a similar conclusion that biodiesel use has resulted in lower relative meal values.

Biodiesel helps to increase returns to the livestock sector

Animal fats and tallow have been a consistent and growing biodiesel feedstock source. As reported by ABF Economics, the U.S. has historically exported about a third of animal fats and waste grease and oils production. However, during the past five years the share of exports has declined to about 22 percent of production. This trend is expected to continue, leaving more pounds in the U.S. that will be used to produce value added products such as biodiesel.

- More than 1.1 billion pounds of animal fats were utilized in biodiesel production in 2013 by U.S. companies, an increase of 100 million pounds from 2012.
- Biodiesel producers utilized one-quarter of all of the animal fats generated in the U.S. in 2013. For example, 38% of the 1.2 billion pounds of choice white grease (CWG) produced in the U.S. was used to produce biodiesel last year.

While these byproducts (animal fats) are not primary drivers in determining the prices paid for poultry, fed cattle and market hogs, they do affect the profit margins in these industries by increasing what is referred to as the byproduct “drop value.” As a result, the increased prices received for the animal fats and tallow have helped support the prices paid for the animals:

- Analysis performed by Centrec Consulting Group in 2014 estimated biodiesel demand increased inedible tallow prices by approximately 10¢ per pound and generated approximately \$16 per head of increased drop value.
- The average estimated annual impact to the beef industry for 2009 through 2013 was \$530 MM, while the greatest estimated increase in beef drop value (\$773 MM) occurred in 2011.
- Biodiesel demand has also been estimated to increase choice white grease prices around 10¢ per pound. This increase in CWG value generated additional drop value of approximately \$1.24 per head. The same 2014 Centrec report stated, “The pork industry’s average estimated annual impact was \$136 MM; this industry also experienced the largest benefit due to use of its fat by-products as a biodiesel feedstock in 2011.”



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Since animal fats and tallow are used in animal rations (primarily in poultry rations and some beef feeding diets), concern has been expressed about the economic impact of the higher prices on feed costs. While the benefits attributed of increased demand for animal fats and tallow to the livestock industry is somewhat mitigated by the increased cost of the fats and tallow, the increased byproduct value outweighs the slightly higher ration costs.

Biodiesel co-products create an additional feedstuff

Another value to the livestock sector of a growing biodiesel market is the additional supplies of crude glycerine, a feed ingredient that can be utilized by livestock producers for energy in livestock rations. Crude glycerine is a byproduct of the biodiesel production process. It has a tentative definition for use as an animal feed ingredient by the Association of Animal Feed Control Officials. It has been evaluated by multiple universities in beef, pork, and poultry rations and represents another potential energy source for livestock feed rations.