

Published October 9, 2007

Demand for fat plumps up pricing

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Millions of Americans are trying to avoid fat, but not Jason Christensen. He seeks it out every day - whether it's pork fat, beef fat, chicken fat, even French-fry fat.

A trader for a company called Agri-Trading, 60 miles west of Minneapolis, Christensen wants a lot of fat - 1 million pounds, in fact.

Fat is sizzling. And biofuels are cooking up the demand.

Today's higher prices for feed corn, fueled by increased ethanol production, are causing livestock producers to supplant more of their animals' diets with fat. Fats and greases also can be used to make biodiesel, and can be cheaper than making the fuel with soybean oil.

"When you tie food to fuel, it creates inflation and affects different segments of the economy that people never thought of," Christensen said.

At least two biodiesel plants in Iowa have begun to make biodiesel from animal fat, along with at least five plants in other states, according to the National Biodiesel Board. A dozen use waste grease or recycled cooking oil. Another 65 nationally have the potential to use fats or greases, although it's unclear how many do.

"The price of oil and biofuels, the price of corn, the price of soybeans, all these things are intertwined and linked together," said David Meeker, vice president of the National Renderers Association in Alexandria, Va., and a native of Muscatine. "We're excited we have another market. ... The future looks pretty bright for our industry."

In the last year, the price of animal fat - often called tallow or white or yellow grease - has about doubled. An example is beef fat, which went from 15 cents to 30 cents a pound because of increased demand.

When Christensen began trading about eight years ago, he said he sold a 46,000-pound truckload of pork fat for \$2,300; today it's worth \$11,500.

"That's pretty dramatic," said John Lawrence, an Iowa State University economics professor, of the increase. "It's clearly more



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More fat facts to chew on ...

How much fat does it take to make biodiesel?

It takes about 7.5 to 8 pounds of fat to make one gallon of 100 percent biodiesel. The amount varies based on the type and quality of fat.

Does more fattening feed equal more fattening food?

Probably not, according to John Lawrence, an Iowa State University economics professor. Animal fat is mostly used in pork and poultry feed, and the increases of fat in that feed are marginal, about 1 to 2 percent. That would have little effect on the final meat product, he said.

Grease bandits

Grease bandits are on the prowl in some parts of the United States. People who make biodiesel at home sometimes steal grease from restaurants that have contracts with renderers to collect the waste.

Reports of such thefts have gone up as waste grease has become more valuable, some industry officials say.

At least one rendering plant has hired private investigators to crack down on thieves pilfering grease from sealed and locked containers.

Some fat poachers even drive up in large trucks hauling trailers stocked with 55-gallon drums, said Rick Geise, director of marketing for Griffin Industries near

valuable."

Iowa's hog farms, meatpacking facilities and biodiesel plants make the state both a big supplier and consumer of animal fats. Christensen said Iowa's renderers will see the demand's push on price show up on their bottom line.

"For them, this is definitely a positive aspect because the value of their byproduct potentially will have doubled or tripled," he said.

Effect on poultry, beef, pork prices

Darling International, the nation's largest rendering company, saw its sales hit \$300 million in the first six months of 2007, almost double that of the first six months of last year. The Irving, Texas-based company acquired National By-Products, the Des Moines-based rendering company, in 2006.

Darling has 44 facilities nationwide, including four plants in Iowa, three of which produce animal fat.

"You can attribute part of it to biodiesel and to the price of feed," Darling spokesman Ross Hamilton said of the increased demand. "It's just a combination of all of them." The bubbling price of animal blubber also may be one small way for ranchers, hog farmers and poultry breeders to benefit from biofuels.

Lawrence said he believes the higher price for fats "is a demand that's here to stay." But finding a steady supply continues to be a challenge for those who use it.

Increased demand for fat around the world - including increased biodiesel production in Europe - has resulted in a fat squeeze.

"We have more demand for fat than we have fat," Meeker said.

Farmers won't raise plumper pigs and plants won't slaughter more steers just for more fat, experts say. Christensen said he's already noticed traditional consumers of fat, from chemical companies to livestock feeders, tightening the reins on an already slim commodity.

So biodiesel plants shouldn't expect their demands to be met with more supply even as the price climbs, he added.

Derek Winkel, general manager of Central Iowa Energy near Newton, said the company started making biodiesel using animal fats in June. He said the company must be flexible - using fats, soybean oil and other ingredients as they become available - because of varying supply and prices.

Renderers that build their own fuel plants, or forge partnerships in which they control the fat and fuel production, likely will fare better because they can manage supply and quality, Christensen said.

Griffin Industries, a rendering facility near Cincinnati, built its own biodiesel plant in 1997 as a way to create a new market for its fats and greases, said Rick Geise, director of marketing. The plant produces 2 million gallons of biodiesel annually, which helps the

Cincinnati.

"These grease bandits will cut the locks," Geise said. "There's property damage, stealing of product, and it creates a lot of frustration for companies like ourselves."

Sometimes people take grease without knowing it's stealing. They might, for example, ask a night manager who isn't aware of a rendering contract to let them scoop a couple of buckets.

David Meeker, vice president of the National Renderers Association in Alexandria, Va., said he's frustrated with people who think it's a great idea to take the used grease to make their own biodiesel. "They're actually stealing our members' grease," he said.

Pumping a little cow into your car

Fat is cheaper than soybeans, but it costs more to process. Animal fats and waste grease have more of what's called free fatty acids that have to be removed to make good-quality biodiesel.

A gallon of biodiesel requires about \$3.07 worth of soybean oil, compared to about \$1.70 worth of restaurant grease or chicken fat, or \$2.40 of pork or beef fat.

Turning vegetable oils into fat costs about 39 to 59 cents per gallon, compared to 61 to 81 cents per gallon for fats and grease, using late September pricing, said Alan Weber, a technology consultant for the National Biodiesel Board.

Plants using animal fats get the same \$1 per gallon tax incentive as those using soybean oil. Restaurant grease receives a 50-cent-per-gallon subsidy.

From candles to crayons

Although most people associate rendering with foul odors, the animal fat industry has an important place in history. Tallow was a valuable trade commodity in the 1700s and 1800s for pioneers who used it to make candles before electricity.

People also used tallow to make soap, which is now made from detergent, plant

company diversify its operations.

Griffin doesn't expand its production because of the uncertainty in the market, he said.

"Most biodiesel operations are at best operating on break-even margins," Geise said. "That's not a real windfall market to get excited about."

On a much larger scale, Tyson, the nationwide meat-processing company, recently started partnerships with ConocoPhillips oil company, and Syntroleum, a Tulsa, Okla., fuel technology company, to make a combined 250 million gallons of renewable diesel per year.

Once at full capacity, Tyson could divert about half of its fat to the renewable diesel project with ConocoPhillips. Tyson will use fat and other ingredients from a variety of sources, including some outside the company, for the project with Syntroleum.

Renewable diesel is similar to biodiesel, but it is made using a different process. The National Biodiesel Board has criticized the fuel, saying it doesn't benefit the environment and economy as much as biodiesel.

Farmers profit, air is cleaner

Tyson will divert about 50 to 60 percent of its fat to renewable fuels, and it also sells fat to about six biodiesel plants, said Bob Ames, Tyson's senior director of commercialization. Tyson, based in Springdale, Ark., has 10 locations in Iowa, five of which do rendering, although the fat used in Tyson's fuel partnerships mostly will initially come from plants farther south.

Ames said using animal fats in renewable diesel helps clean the air while profiting farmers. As the animal grows, it "soaks up all that carbon" in the air, and then its fat is used for a cleaner-burning fuel, he said. "It's a pretty awesome recycling story," he said.

Ames and others say using fat for fuel, whether renewable diesel or biodiesel, lets livestock producers in on the biofuels boom. Livestock associations have been critical of ethanol because the corn-based fuel has contributed to the rise in the price of feed corn.

But the higher price of fat increases the money farmers get for their animals, as much as \$25 for an average steer, according to some estimates.

"It probably isn't going to drive the market the way that demand for meat products can, but it can help maintain strong prices at a time when we're facing high operating costs," said Joe Schuele, spokesman for the National Cattlemen's Beef Association near Denver.

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oils or synthetic ingredients. Turkey and Russia still buy tallow from the United States for their sudsy bars.

Lard was once commonly used in cooking. Now the artery-clogging fat is used in lotions and cosmetics. Animal fats also are used in pet and livestock food, lubricants, rubber and crayons and as ingredients in some chemicals.

In the 1990s, the feed market was hit hard by concerns stemming from mad-cow disease, also called bovine spongiform encephalopathy, or BSE. After that, federal regulators limited the amount of processed animal parts that could go into animal feed. Several countries, including the European Union, banned imports of U.S. animal-derived proteins, including fat.

The EU lifted the ban on U.S. animal fats last year in light of Europe's growing demand for biodiesel. Today about 30 percent of inedible tallow, or beef fat, is exported, according to the USDA, and increased global demand is adding to the fat squeeze.

Fat facts

Renderers produce about 11 billion pounds of fat annually. That's enough to fill about 16,600 Olympic-sized swimming pools.

That animal fat comes from about 54 billion pounds of animal material, which also includes the hide, bones, fur, leftover parts and everything else that isn't destined for the meat aisle.

Rendering plants are either stand-alone independent operations or they are part of a meat-processing plant, such as Tyson.

The number of rendering plants has declined from 823 in 1921 to 273 in 2006.

There were nine rendering facilities producing animal fat in Iowa, according to the U.S. Census Bureau. California had the most, with about 23 plants. As many as 154 Iowa plants also process and slaughter livestock, which can include rendering.

*Sources: National Renderers Association
and the U.S. Census Bureau*

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