



FACT SHEET: FUELING A NATION, FEEDING THE WORLD

AN ANALYSIS BY THE RENEWABLE FUELS ASSOCIATION, MAY 2011

AS THE U.S. ETHANOL INDUSTRY HAS EXPANDED, SO HAS THE PRODUCTION OF HIGH-QUALITY ANIMAL FEED AS A CO-PRODUCT OF PROCESSING CORN STARCH INTO ETHANOL. IF COMPARED AS A "SEPARATE COUNTRY," U.S. ETHANOL REFINERIES PRODUCE THE WORLD'S FOURTH-LARGEST HIGH-PROTEIN "CORN CROP."

FEED AND FOOD

- The U.S. ethanol industry produced 35 million metric tons (mmt) of distillers dried grains -a high-protein, high-energy feed ingredient - in the 2009/2010 marketing year. In the marketing year 2010/2011, the amount of distillers grains produced is expected to rise to 39 mmt of distillers grains. Ethanol refineries are now one of the larger feed processing sectors in the country.
- The 35 million metric tons produced in 2009/2010 exceeds the total amount of grain consumed by all of the beef cattle in the nation's feedlots
- The 39 million metric tons projected for 2010/2011 would rank as the world's fourth-largest corn crop, trailing only the U.S., China and Brazil, based on USDA supply estimates. Another way to look at it, the projected feed production by the ethanol industry in 2010/2011 would produce:
 - nearly 50 billion quarter-pound hamburgers -- that's 7 patties for every person on the planet, or
 - enough chicken for every American to eat one normal-sized chicken breast every day of the year.
- Each bushel of corn produces 17 pounds of high-energy, nutrient-rich distillers grains and 2.8 gallons of ethanol.

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ETHANOL'S REPLACEMENT VALUE

- Ethanol co-products are a more efficient source of energy and protein than the ingredients they are replacing in livestock diets. Distillers grains provide approximately 130-150% of the energy of an equivalent amount of corn when feed to beef cattle.
- Only two-thirds of every acre of grain used for ethanol production is actually used for fuel production. The remaining one-third of the acre is more accurately characterized as producing feed, not fuel.
- The USDA estimates 5 billion bushels of corn will be used for ethanol production in 2010/2011. However, factoring in the production of ethanol feed products, the NET usage of corn will be closer to 3.5 billion bushels, providing approximately 1.5 billion additional bushels of corn for other uses, such as exports, starch, corn sugar, and corn oil. Including distillers grains in calculating the percentage of the U.S. corn crop devoted to ethanol processing, 26% of the total crop goes to ethanol instead of the 40% figure typically used by the media.
- One acre of corn produces about 475 gallons of ethanol and nearly as much protein as one acre of soybeans.
- Distillers grains typically replace corn and/or soybean meal in livestock and poultry rations, providing a measure of price relief on the replaced products and extending feed supplies.
- Research indicates distillers grains can account for 40% of beef cattle rations, 20-30% of dairy rations, 20-25% of swine rations, and 15-20% of poultry diets.
- Since only the starch portion of the kernel is used to produce ethanol, the remaining protein, fat, fiber and other nutritional components are available for animal feed. In distillers grains, these remaining nutritional components are essentially concentrated by a factor of three, giving typical distillers grains triple as much protein and fat as an equivalent amount of corn.
- The 10.2 mmt of ethanol co-products exported in 2010 were the volumetric equivalent of about 400 million bushels of corn, or 20% of total 2009/2010 corn grain exports.
- Many dry mill ethanol plants have installed the technology to extract crude corn oil from the distillers grains. This crude corn oil can be sold into the feed market or used to produce biodiesel. When used as a biodiesel feedstock, corn oil displaces higher value vegetable oils that are typically used in food or feed applications.

For the complete analysis, go to: www.ethanolrfa.org