

Biofuels Impact on Food Supply

Editor's Note: With the growing demand for energy and the world price of oil surging past \$100 per barrel, questions about the impact on food supply are now heard daily. The high price of fossil fuels, environmental concerns, and geopolitical instability in some major oil producing nations have spurred intense global interest in alternative fuels, especially from renewable energy sources. The utilization of agricultural crops, especially grain crops, to produce fuel for internal combustion engines has dramatically increased.

Crop-based fuel production has been the main focus of interest in developing as well as developed countries. In US and European countries ethanol and biodiesel are made from food or inedible crops, including corn, sugarcane, maize, cassava, rapeseed (canola oil), soybeans, and palm oil.

Large scale production of biofuel has put tremendous pressure on global grain prices. In the short- and medium-term, ethanol can do little to affect oil consumption, but the diversion of grain from food to fuel has already exerted a widespread and profound ripple effect on various food commodities.

The United States produced 3.9 billion gallons of ethanol in 2006 and expanded its output to 6.5 billion in 2007. By the end of 2008, the United States' ethanol production capacity will reach an estimated 11.4 billion gallons per year. This took millions of hectares of land out of food production. In 2007, 54% of the world's corn was grown in the USA, and 38% of US corn crop ended up in gas tanks instead of stomachs. The amount of corn required to produce a gallon ethanol is enough to feed a human being for two weeks. Corn is mainly used to feed chickens and cattle, so the price of poultry, eggs, beef and dairy products will continue to rise.

In December 2007, President George W. Bush signed into law the "Energy Independence and Security Act," which mandates that 36 billion gallons of biofuels to be produced in America every year by 2022, a nearly fivefold increase over current production levels. The European Union has also announced it will replace 10% of its oil consumption with biofuels by 2020.

Tightening the world's food supply by diverting major quantities of its grain stocks into fuels will likely drive up the prices of all food.

Impact On World Food – According to the United Nations Food and Agriculture Organization (FAO), global food prices rose an incredible 40% in 2007 alone. FAO has announced that 36 countries are in crisis as a result of

higher food prices. Record world prices for most staple foods have led to an 18% food price inflation in China, 13% in Indonesia and Pakistan, and 10% or more in Latin America, Russia and India. Wheat has doubled in price, maize is nearly 50% higher than a year ago and rice is 20% more expensive, says the UN.

Alternative Energy Sources – Although interest in other energy sources is of paramount importance, developments in solar panels and wind farms favored by eco-activist groups have been severely hampered in developing countries by their high initial costs. Nuclear power for developing countries is still viewed with suspicion.

In some countries such as Pakistan, the price of sugar is high therefore, there is very little possibility of using cane sugar to produce alcohol. However, Pakistan is producing ethanol from sugar cane molasses, the only major raw material for alcohol production. Molasses, which is a byproduct of the sugar industry, contains about 45–50 percent fermentable sugars. Presently 16 distilleries are in operation with installed alcohol production capacity of 400 thousand tons, which require on the order of 1,600 thousand tons of molasses. In Pakistan, the distillery industry normally operates for 250 days with the alcohol production efficiency of 250 liters (240 Kg) per ton of molasses. The ease with which this can be fermented into ethanol and its low price has made this raw material ideal for ethanol production. As a consequence, no other raw material at present in Pakistan can match the economics of molasses for ethanol production.

The push for ethanol and other biofuels has spawned an industry that depends on billions of dollars of taxpayer subsidies, and not only in the United States. In 2005, global ethanol production was 9.66 billion gallons, of which Brazil produced 45.2% (from sugar cane) and the United States 44.5% (from corn). Global production of biodiesel (most of it in Europe), made from oilseeds, was almost one billion gallons.

The industry's growth has meant that a larger and larger share of corn production is being used to feed the huge mills that produce ethanol. According to some estimates, ethanol plants will burn up to half of U.S. domestic corn supplies within a few years. Ethanol demand will bring 2007 inventories of corn to their lowest levels since 1995 (a drought year), even though 2006 yielded the third-largest corn crop on record. Iowa may soon become a net corn importer.



Garry Smith can be reached at garrypatsysmith@msn.com