

2016 UPDATE

ETHANOL is Fueling and Feeding the World



Corn is a minor ingredient in retail food items.

When corn is \$4/bushel, there is just 5 cents worth of corn in a box of corn flakes.



Ethanol biorefineries transform each bushel of corn into a variety of products beyond ethanol, including high protein feed, corn oil, and CO₂ gas.



Biorefineries only use the starch in the corn to make ethanol.

The protein, fat and fiber in the corn returns to the livestock feed market as dried distillers grains (DDG) or other co-products. DDGs are fed to beef cattle, dairy cattle, swine, poultry, sheep and fish.



Farmers harvested

13.6 bil.

bushels of corn in 2015 — roughly double the size of the average corn crop in the 1970s and 1980s.



Ethanol is made from field corn, not sweet corn that humans consume. More grain is available for food and feed use worldwide today than at any time in history.



1 bushel
of corn produces
16.5 + 2.8
lbs. of animal feed
gallons of ethanol.



A record

12.6 mil.

metric tons of distillers grains were exported. Global demand expanded

3 mil.

metric tons since 2013.

2.95%

On a net basis, the U.S. ethanol industry will use 2.95% of global grain supplies — a six-year low.



An estimated

40 mil.

metric tons of animal feed was produced by ethanol plants in 2015. That's enough to produce **7 quarter-pound hamburgers** for every person in the world.

Source: USDA

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Food Prices Driven by Oil, Not Ethanol



Farmers have stepped up to the challenge of the RFS. Eight of the ten largest corn crops in history occurred after the expansion of the RFS in 2007.



Farmers are doing more with less. The increase in production since the RFS has come from crop switching and increased yields. In fact, the RFS prohibits the use of new land for growing crops.



Corn prices are lower today than they were when the RFS2 was signed into law in 2007.



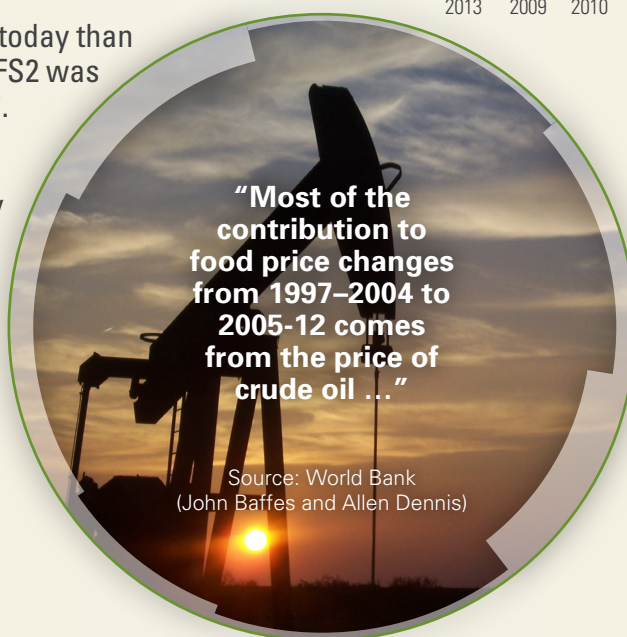
Food prices have increased more slowly since passage of the RFS in 2005.



Food price inflation has averaged 2.6% annually since 2005, the year the RFS was enacted, compared to the 3.5% average from 1980–2004.

20 largest corn crops in U.S. history

(in millions of bushels)



17¢

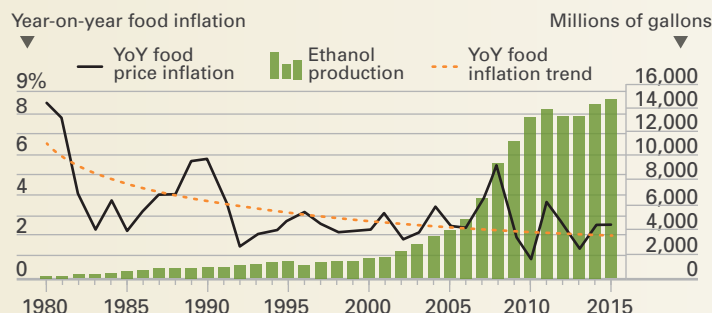
of every dollar spent on food pays for the value of the farm product in the groceries.



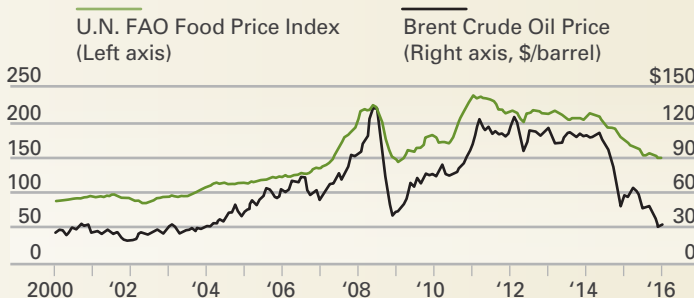
83¢

pays for labor, packaging, energy and other costs.

U.S. food price inflation and ethanol production



A near-perfect correlation: U.N. Food Price Index and Brent Crude Oil prices



Sources: USDA; UN, FAO & EIA; Consumer Price Index; Energy Information Administration; U.S. Dept. of Agriculture

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Note: All data are of 2015 unless otherwise noted.