

POINT BY POINT RESPONSES TO *TIME* MAGAZINE INACCURACIES

The following was written by Brent Searle, Special Assistant to the Director of the Oregon Department of Agriculture in response to the March 27, 2008 article "The Clean Energy Scam."

TIME: "An explosion in demand for farm-grown fuels has raised global crop prices to record highs, which is spurring a dramatic expansion of Brazilian agriculture, which is invading the Amazon at an increasingly alarming rate..."

RESPONSE: This statement makes a huge assumption that the increase in global "crop prices" are a direct result of demand for biofuel crops. Bunk! The increase in many crop prices is from production shortages due to drought (Australia, China, Europe) or other natural disasters, population growth demand (China and India), and record low wheat acreage worldwide due to years of low prices that led growers to plant less, increases in labor prices (40% of the retail food price in the US is for labor after it leaves the farm), increase in petroleum prices (affecting food prices 3-4X that of biofuels because it permeates the entire food chain), and corporate profits (Kroger, 4th quarter 2007 sales up 10% and profits up 18%. Kroger stated it paid 3% more for products. *"In our view, periods of moderate inflation is a positive for our business because inflation tends to improve sales."*-- VP Rodney McMullen, Jan. 2008. Safeway, sales up 3%, profits up 12%.)

TIME: "Corn ethanol, always environmentally suspect, turns out to be environmentally disastrous. Even cellulosic ethanol made from switchgrass, which has been promoted by eco-activists and eco-investors as well as by President Bush as the fuel of the future, looks less green than oil-derived gasoline."

RESPONSE: No data, no specifically cited studies. All emotional statements. Corn production has shown significant land and production technological improvement in the past decade. Every study I've seen on cellulosic ethanol shows it being significantly more "green" and life-cycle positive for energy and green house gases. I'm not sure what data the author is looking at.

TIME: "Meanwhile, by diverting grain and oilseed crops from dinner plates to fuel tanks, biofuels are jacking up world food prices and endangering the hungry...."

RESPONSE: People generally don't eat field corn -- animals do. The increase in corn production in the US in 2007 more than offset all ethanol use in the US. If ethanol were eliminated from the picture, along with that additional production that was stimulated by ethanol and other demand, the pricing dynamics of world grains and food prices would be relatively the same as they are now.

TIME: Blames biofuels for the tortillas price rises and riots in Mexico...

RESPONSE: Wrong kind of corn. Most tortillas in Mexico are made from **white** corn, not US yellow field corn. US exports of white corn to Mexico are limited under trade agreements (being phased out under NAFTA) and farmers in Mexico are protesting any increase in US exports! They don't want more. Mexico produces millions of acres of **white** corn; the US less than 1

million acres. White corn production declines in Mexico, coupled with worldwide demand influences in commodities, caused the tortilla price incident. US exports of yellow corn to Mexico were higher in 2007 (8.2 m. metric tons) than in 2006 (7.8mmt) -- how does that create a shortage?

TIME: "...But the basic problem with most biofuels is amazingly simple, given that researchers have ignored it until now: using land to grow fuel leads to the destruction of forests, wetlands and grasslands that store enormous amounts of carbon."

RESPONSE: There is no destruction of forests, wetlands or grasslands in the US for biofuel production. This is land that would either be growing soybeans, cotton, corn, or wheat. It isn't virgin land -- it's been cropped for years and will continue to be. It's simply a matter of pricing signals to farmers. The US is fulfilling almost all its biofuel needs domestically with corn or soy oil or canola oil. Some canola is imported from Canada for biodiesel production. It isn't demand in the US that is driving actions in other countries on planting decisions.

TIME: "Malaysia is converting forests into palm oil farms so rapidly that it's running out of uncultivated land..."

RESPONSE: Malaysia has had land use laws in place since European rule on forest, ag, and urban designations. The amount of land that will always be held in forest reserves is fixed. The land designated for agriculture was not all developed at the time of European rule. These lands are developed over time as population and economics afford it. In an undeveloped stage, they are quickly overgrown in trees/forest in the climate. While various interests may debate the land use policy in Malaysia, it is important to recognize that land use isn't "out of control," responding only to market forces; there is a definite limit to the ag production because it can only occur on lands designated for such, even though they may be undeveloped forest at a point in time. And, as the Time article indicates, the uncultivated land is limited and will reach its maximum at about 10 million hectares, about 45 percent more than is currently in production. The main crops are palm and rubber -- both trees, both capture carbon, and both account for 90% of export earnings for these nations.

TIME: "So unless the world can eliminate emissions from all other sources--cars, power plants, factories, even flatulent cows--it needs to reduce deforestation or risk an environmental catastrophe..."

RESPONSE: We probably had as much carbon released from catastrophic wildfires in the Northwest in the past decade as the new ag production "deforestation" in other areas. Carbon comes from many sources, some by man, some by nature (volcanoes) which can drastically fluctuate from time to time.

TIME: Blames Amazon/Brazil deforestation on fewer soybean acres in the US.

RESPONSE: Where is world demand growing for soy products that is creating the incentive for more soybean acres? China and India for livestock feed, the EU for biodiesel production, etc. It isn't the US. -- 75% of US biodiesel plant capacity is sitting idle now because of the high price of soy oil. The Brazilian soybean demand is not being driven by fewer US soy acres -- it's from

world population growth and production problems in other parts of the world. That all may be reflected in the Chicago Board of Trade pricing, but it isn't driven by them. Economics work the other direction.

TIME: "Sugar growers here have a greener story to tell than do any other biofuel producers. They provide 45% of Brazil's fuel (all cars in the country are able to run on ethanol) on only 1% of its arable land. They've reduced fertilizer use while increasing yields, and they convert leftover biomass into electricity...."

RESPONSE: Brazil produces about 4.5 billion gallons of ethanol which meets about 45% of the nation's fuel supply. The US now produces about 7 billion gallons of ethanol -- blended at 10% into 50% of the US transportation fuel supply -- that meets about 5% of the nation's fuel need. The size of the US economy in scale and number of vehicles, etc. is orders of magnitude larger than Brazil. It's an apples and oranges comparison. US producers have also reduced fertilizer use, increased yields, and are converting leftover biomass into electricity and doing all sorts of innovative things. The author has such a biased view on all this it's incredible.

TIME: "One groundbreaking new study in Science concluded that when this deforestation effect is taken into account, corn ethanol and soy biodiesel produce about twice the emissions of gasoline."

RESPONSE: The assumptions of the study are inaccurate. As noted, the US corn and soy production are not driving Brazilian planting decisions; other factors at play in the world market are driving it, as well as government policies in Brazil. They need to take responsibility and determination for their own situation, rather than seeking another culprit. Not all "science" is in agreement with the "experts" cited in the Times article:

BIOFUELS AND LAND USE

http://www.europabio.org/Biofuels/PressBrief/land_use_March08.pdf

In its Fact Sheet on Biofuels and Land Use, the European Association for Bioindustries (EuropaBio) offers some insights on land use issues related to biofuels development. (1) the use of second generation biofuel feedstocks (non-food based feedstocks, like cellulosic biomass) has the potential to reduce pressure on food crops and reduce land use, (2) it is possible to increase biofuels production without using more land by increasing land productivity (biomass per hectare) through improved agricultural practices, and improving crop quality (i.e. develop crops with high stress tolerance or those with high fermentable carbohydrates for ethanol production) through modern biotechnology. The Fact Sheet also stresses the need for "more data and common methodology to measure land-use-change input and agricultural-practice impact on the GHG (greenhouse gas) balance".

<http://www.renewableenergyworld.com/rea/news/story?id=51959>

The REFUEL project, a report commissioned by the EU's Intelligent Energy Europe program to examine the biofuels potential in Europe, concludes that EU biofuels targets can be met with conventional feedstocks and current technology without major agricultural land use changes or environmental consequences. The two-year REFUEL-project is coordinated by the Energy research Center of the Netherlands, and implemented by a consortium of seven European institutes with different disciplinary backgrounds.

Biofuels targets can be met, says the report, without compromising food and feed supply. It also will not require conversion of forestland, grassland and nature conservation areas into arable land. Because there are new opportunities for increasing crop and livestock yields in some new EU member states, there will be more agricultural land for biofuel feedstock cultivation.

However, the report also says that while the EU's 10 percent target for biofuels by 2020 can be met by with first-generation biofuels and moderate imports, only advanced, second-generation biofuels will deliver a substantial contribution to reducing greenhouse gas emissions and increasing energy security.

TIME: "The lesson behind the math is that on a warming planet, land is an incredibly precious commodity, and every acre used to generate fuel is an acre that can't be used to generate the food needed to feed us or the carbon storage needed to save us. Searchinger acknowledges that biofuels can be a godsend if they don't use arable land..."

RESPONSE: We grow many things on arable land that are not food -- Christmas trees, nursery and landscape products, grass seed, etc. In fact, 45% (by value) of what is grown on ag lands in the Oregon is non-consumable. There are other lands that grow non-consumable products to humans, but that go into livestock feed and ultimately become human food. Should we also include hay, pasture, grazing land in this this equation, none of which directly produce food? There is plenty of land to grow food, and technology will dramatically change productivity over time, as it has in the past (500% more corn is grown on less land in the US in 2007 than in 1930). Land is an increasingly precious commodity. We want to keep ag land in ag production. That is as big a challenge as deforestation -- conversion to urban use, paved over, creating hot traps of pavement and asphalt, less green space, less food production, less carbon sequestration. It's happening at alarming rates. Millions of acres a year. Where's the outcry?

TIME: "There's a frontier feel to the southern Amazon right now. Gunmen go by names like Lizard and Messiah, and Carter tells harrowing stories about decapitations and castrations and hostages. Brazil has remarkably strict environmental laws--in the Amazon, landholders are permitted to deforest only 20% of their property--but there's not much law enforcement. "

RESPONSE: And this is the fault of the US and our energy policy? I think it's a problem of the Brazilian government and their policies and allocation of resources to law enforcement.

CONCLUSION: More of the same stuff regurgitated and recycled. The article is full of false assumptions, little data, lack of understanding of US agriculture productivity and policies (other than "biofuel incentives"), selectivity of research and sources on land use impacts, and no familiarity with international influences on commodity prices. While the frontier mentality in Brazil may be at work, it isn't new and it isn't the sole result of biofuel demand. There are lots of things at play in the market, including \$100/barrel oil. Clearly there are areas for improvement, and much is being done. But the sky isn't falling because of biofuels.