Very, Very Big Corn  
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President Bush made a big push for alternative fuels in his State of the Union speech Tuesday night, calling on Americans to reduce gasoline consumption by 20% over 10 years. And as soon as the sun rose on Wednesday, he set out to tour a DuPont facility in Delaware to tout the virtues of "cellulosic ethanol" and propose $2 billion in loans to promote the stuff. For a man who famously hasn't taken a drink for 20 years, that's a considerable intake of alcohol.

A bit of sobriety would go a long way in discussing this moonshine of the energy world, however. Cellulosic ethanol -- which is derived from plants like switchgrass -- will require a big technological breakthrough to have any impact on the fuel supply. That leaves corn- and sugar-based ethanol, which have been around long enough to understand their significant limitations. What we have here is a classic political stampede rooted more in hope and self-interest than science or logic.

Ostensibly, the great virtue of ethanol is that it represents a "sustainable," environmentally friendly source of energy -- a source that is literally homegrown rather than imported from such unstable places as Nigeria or Iran.

That's one reason why, as Jerry Taylor and Peter Van Doren note in the Milken Institute Review, federal and state subsidies for ethanol ran to about $6 billion last year, equivalent to roughly half its wholesale market price. Ethanol gets a 51-cent a gallon domestic subsidy, and there's another 54-cent a gallon tariff applied at the border against imported ethanol. Without those subsidies, hardly anyone would make the stuff, much less buy it -- despite recent high oil prices.

That's also why the percentage of the U.S. corn crop devoted to ethanol has risen to 20% from 3% in just five years, or about 8.6 million acres of farmland. Reaching the President's target of 35 billion gallons of renewable and alternative fuels by 2017 would, at present corn yields, require the entire U.S. corn harvest.

No wonder, then, that the price of corn rose nearly 80% in 2006 alone. (See the chart nearby.) Corn growers and their Congressmen love this, and naturally they are planting as much as they can. Look for a cornfield in your neighborhood soon. Yet for those of us who like our corn flakes in the morning, the higher price isn't such good news. It's even worse for cattle, poultry and hog farmers trying to adjust to suddenly exorbitant prices for feed corn -- to pick just one industry example. The price of corn is making America's meat-packing industries, which are major exporters, less competitive.

In Mexico, the price of corn tortillas -- the dietary staple of the country's poorest -- has risen by about 30% in recent months, leading to widespread protests and price controls. In China, the government has put a halt to ethanol-plant construction for the threat it poses to the country's food security. Thus is a Beltway fad translated into Third World woes.

As for the environmental impact, well, where do we begin? As an oxygenate, ethanol increases the level of nitrous oxides in the atmosphere and thus causes smog. The scientific literature is also divided about whether the energy inputs required to produce ethanol actually exceed its energy output. It takes fertilizer to grow the corn, and fuel to ship and process it, and so forth. Even the most optimistic estimate says ethanol's net energy output is a marginal improvement of only 1.3 to one. For purposes of comparison, energy outputs from gasoline exceed inputs by an estimated 10 to one.

And because corn-based ethanol is less efficient than ordinary gasoline, using it to fuel cars means you need more gas to drive the same number of miles. This is not exactly a route to "independence" from Mideast, Venezuelan or any other tainted source of oil. Ethanol also cannot be shipped using existing pipelines (being alcohol, it eats the seals), so it must be trucked or sent by barge or train to its thousand-and-one destinations, at least until separate pipelines are built.

Even some environmentalists cry foul. Steve Sanderson, president of the Wildlife Conservation Society, tells us that intensive, subsidized sugar farming in Brazil -- where the use of ethanol is most widespread -- has displaced small tenant farmers, many of whom have taken to cutting down and farming land in the Amazon rain forest.

In the U.S., there is now talk of taking the roughly 40 million acres currently tied up in the Agriculture Department's conservation reserve and security programs and putting them into production for ethanol-related plants. "The land at risk under this ethanol program is land that's shown by the USDA to have had great results
for the restoration of wildlife," Mr. Sanderson says, pointing especially to the grasslands of eastern Montana and the Dakotas. Hello ethanol, goodbye bison.

But what about global warming, where ethanol, as a non-fossil fuel, is supposed to make a positive contribution? Actually, it barely makes a dent. Australian researcher Robert Niven finds that the use of ethanol in gasoline -- the standard way in which ethanol is currently used -- reduces greenhouse gas emissions by no more than 5%. As Messrs. Taylor and Van Doren observe, "employing ethanol to reduce greenhouse gases is fantastically inefficient," costing as much as 16 times the optimal abatement cost for removing a ton of carbon from the atmosphere.

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It's true that scientific advances will probably improve and perhaps even transform the utility of ethanol. Genetic modification will likely improve corn yields. And the President insists we are on the verge of breakthroughs in cellulosic technology, though experts tell us the technical hurdles are still huge. We'd be as happy as anyone if DuPont researchers finally discover the enzyme that can efficiently break down plants into starch, but betting billions of tax dollars and millions of acres of farmland on this hope strikes us as bad policy. If cellulose is going to be an energy miracle -- an agricultural cold fusion -- far better to let the market figure that out.

Not that any of these facts are likely to make much difference in the current Washington debate. The corn and sugar lobbies have their roots deep in both parties, and now they have the mantra of "energy independence" to invoke, however illusory it is. If anything, Congress may add to Mr. Bush's ethanol mandate requests.

So here comes Big Corn. Make that Very, Very Big Corn. Sooner or later, our experience with this huge public gamble may make us yearn for the efficiency, capacity, lower cost and -- yes -- superior environmental record of "Big Oil."