# Support your local grass farmer

Google hits for "local food movement": about 40,000. Google hits for "local bioenergy movement": 0. We need to fix that.

The idea of locally-grown food resonates with many people for a variety of reasons, presumably a combination of misgivings about the "industrial" food system and support for positive aspects of local food and the farms that produce it. A relatively small carbon footprint is one benefit of local food.

Grass-fed beef holds a place of honor in the local food movement. Inorganic fertilizer began to replace manure on Illinois farms soon after World War II. Many of the ills associated with modern agriculture—including its heavy reliance on fossil fuels—are related to separating cattle from grass and can be mitigated by allowing these ruminants to eat their natural diet and recycle nutrients through their droppings.

In his 2006 bestseller, The Omnivore's Dilemma, Michael Pollan set out to trace the alternative agriculture food chain from field to table. He drew a distinction between "big organic" (which he also calls "industrial organic") and the smaller farms that sell their products locally. His big organic meal started at a few large farming operations in California and was purchased at a Whole Foods supermarket.

Pollan's local organic food chain started with "a single polyculture of grasses growing at Polyface Farm in Swoope, Virginia." There, Joel Salatin, who calls himself a grass farmer, produces beef, pork, poultry, eggs, and sweet corn for sale through farmers' markets, buying clubs, and nearby stores and restaurants.

As we increase the amount of renewable energy coming from agriculture, a parallel distinction between "big bioenergy" and "local bioenergy" is useful. The former includes ethanol and soy biodiesel. The latter includes burning biomass to make electricity or heat buildings.

Big bioenergy is getting bigger. Local bioenergy is trying to gain a foothold.

The energy bill signed into law by President Bush on December 19 contains mandates and subsidies designed to increase annual U.S. ethanol production from 7 billion gallons in 2007 to 36 billion by 2022. Most of the increase is expected to come from "cellulosic ethanol" made from waste wood, fast-growing trees, agricultural residues, and perennial energy grasses such as switchgrass and *Miscanthus*.

Increased ethanol production by current methods adversely affects water quality and wildlife. Higher corn prices lead to more acres of corn. That leads to loss of habitat and more nutrients and sediment in streams flowing to the Great Lakes and Mississippi River.

Scientists and policy makers view biofuels made from cellulosic plant material as part of the long-term solution to these problems. But this will take time. Technologies to convert cellulose into liquid fuel on an industrial scale at a competitive cost are still under development. Use of

corn stover—the stalks and cobs now left in the field when grain is harvested—as an energy feedstock will not help.

While the policy spotlight is on ethanol, some farmers and entrepreneurs are working to create a niche for local bioenergy from perennial energy grasses. They deserve our gratitude and support. Perhaps counter-intuitively, they deserve the support of corn growers and ethanol producers.

Here's why.

Biomass can be burned for power and heat with existing technology. Burning switchgrass along with coal has been successfully demonstrated at an Iowa power plant. At least two biomass-fueled power plants are planned in Illinois, including the Robbins Community Power plant in southern Cook County.

Small businesses and farmer co-ops in Illinois and neighboring states are pursuing plans to make grass pellets and specially-designed stoves and furnaces to burn them. As with Joel Salatin's pastures, grass polycultures including native prairie plants can form the basis of a local bioenergy system.

This is where the biofuels industry can benefit from synergies with "grass farmers".

Grasses planted on valley slopes and in stream buffers can reduce erosion, add carbon to the soil, keep nutrients lost from crop fields out of the streams, and provide wildlife habitat. Creating a market for energy grasses would help mitigate environmental impacts of biofuels made from annual row crops. It would also let some farmers start up the learning curve for producing the biofuel feedstock of the future.

Ethanol producers could buy energy grasses to burn along with coal or natural gas to power their plants. This would not increase the amount of ethanol they produce. But it would improve their net energy balance by reducing the amount of fossil fuel consumed in producing each gallon of ethanol.

Public policy should do more to encourage farmers to begin planting energy grasses. Increased incentives for using perennial biomass to generate power and heat would be a good start. Research is needed on new agricultural systems designed to produce food, energy, and environmental benefits such as clean water and biodiversity.

Consumers who make the extra effort and willingly pay a premium for grass-based meat and dairy products are supporting a healthy landscape. Individuals, businesses, and institutions that buy energy derived from perennial grasses—or carbon offsets tied to substituting biomass for fossil fuels—will play a comparable role as a local bioenergy economy begins to take shape.

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