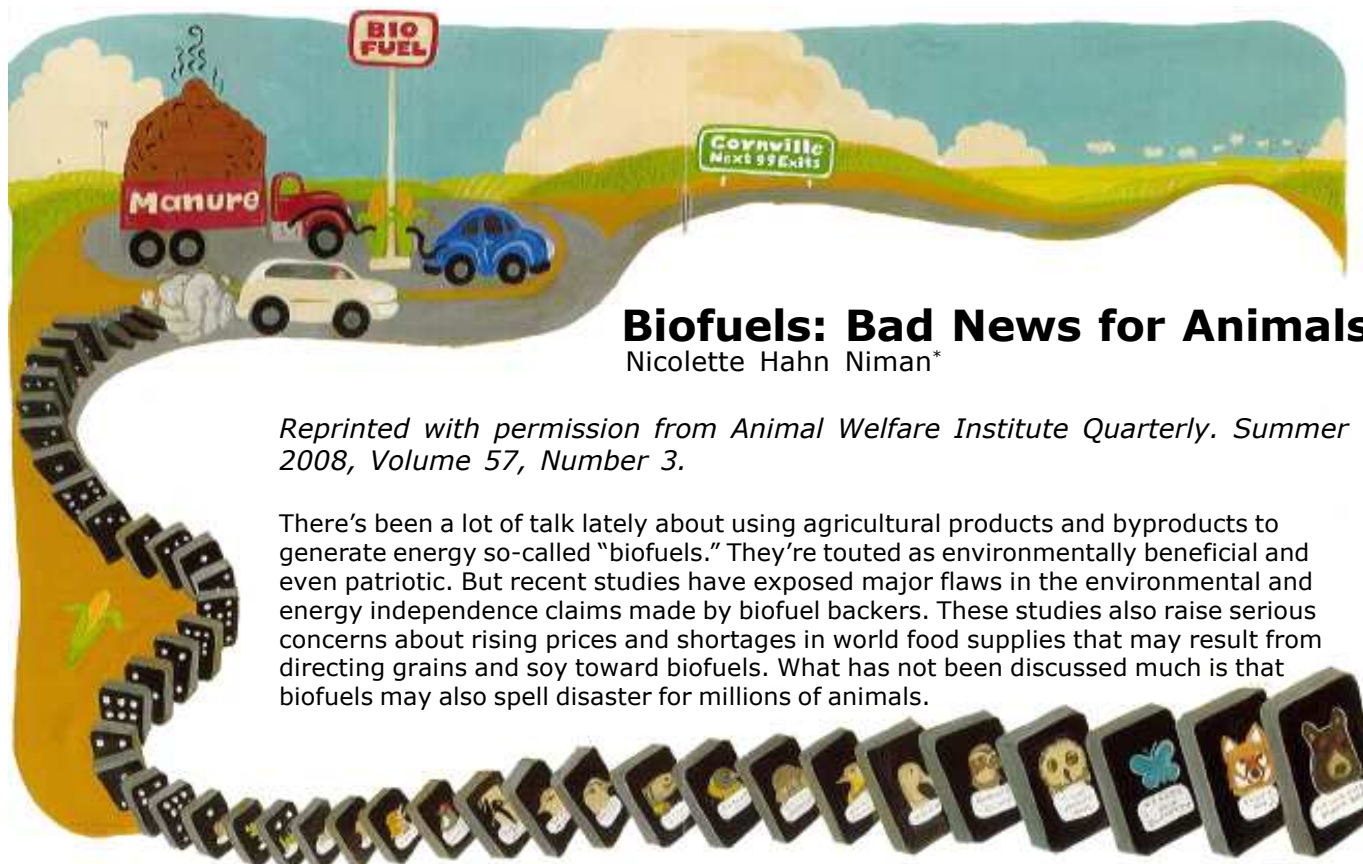




Biofuels: Bad News for Animals

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There's been a lot of talk lately about using agricultural products and byproducts to generate energy so-called "biofuels." They're touted as environmentally beneficial and even patriotic. But recent studies have exposed major flaws in the environmental and energy independence claims made by biofuel backers. These studies also raise serious concerns about rising prices and shortages in world food supplies that may result from directing grains and soy toward biofuels. What has not been discussed much is that biofuels may also spell disaster for millions of animals.

Illustrations
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Stampede of support for biofuels

Various agricultural crops or wastes can be used for energy, in making fuel for vehicles or as inputs in electricity generation. In the United States, corn is used to make ethanol, a liquid fuel usable for cars. Diesel fuel from agricultural products, referred to as "biodiesel," sometimes involves creating a gas from manure, then combining it with oil from animal fat or plants (often soybeans or corn). Animal wastes are also used to generate electricity in methane digesters and incinerators.

Supporters claim these various energy forms have multiple benefits. Biofuels, they say, cause less pollution than fossil fuels—so there will be cleaner air and less global warming. They also say biofuels are a smart use of resources because they are made from "renewable" crops, or from agricultural wastes like manure. Finally, biofuel backers often argue that using agricultural products will reduce our dependence on fossil fuels from foreign countries (especially post-September 11) and help us achieve energy independence. (That's where patriotism comes in.)

These myriad purported benefits have helped build broad political support. In 2005, Congress mandated US production of 7.5 billion gallons of biofuels by 2012. In 2007, President Bush quadrupled the goal in calling for 35 billion gallons of biofuels by 2017. To support a domestic industry, Congress has heavily subsidized biofuels and imposed a 54 cent per gallon tariff on imported ethanol.

Inefficient energy

However, not all biofuels are wise public investments. For one thing, they tend to be terribly inefficient ways to produce energy. Ethanol, for example, yields 35 percent less energy per gallon than gasoline, and a full acre of farmland produces only 375 gallons. Cornell University professor David Pimentel has calculated that even if we committed 100 percent of the US corn crop to ethanol, it would replace only 7 percent of vehicle fossil fuel usage. And a 2007 analysis in the journal *Science* concluded that substituting just 10 percent of the world's fossil fuels with ethanol and biodiesel would require 43 percent of US croplands and 38 percent of the European Union's croplands.

Equally inefficient are animal manures in methane digesters, incinerators and biodiesel plants. Manure simply does not contain enough energy to produce cost-effective power. Research at Iowa State University and elsewhere shows that these expensive projects are generally not viable without large public subsidies, and are likely to remain so in the future.'

Subsidizing factory farms

Additionally, manure power and other biofuel projects carry substantial downsides for animals and the environment. Publicly subsidizing manure power projects is tantamount to subsidizing the waste disposal costs of large concentrated animal operations. Thus, such subsidies bolster the factory farm industry. By lowering industrial facilities' cost of production, public payments for manure power push family farms further toward the brink of extinction. This is a blow to our natural resources because, by the Environmental Protection Agency's reckoning, industrial animal operations are one of the nation's largest air and water polluters. And the intensive confinement pig, poultry, and dairy operations that hold millions of animals in the United States are increasingly recognized as inhumane.

Ethanol may also further degrade diets at cattle feedlots. Ethanol plants are intentionally located near feedlots to sell their byproducts as feed. Yet studies at two Midwestern universities indicate that ethanol byproducts may increase the prevalence of a deadly form of *E. coli* in cattle. The US Department of Agriculture (USDA) is now studying the connection.

Pollution, erosion and fish kills

Moreover, growing soy and corn crops for biofuels causes tremendous erosion and water pollution. Those crops are now the United States' leading cause of both nitrogen water pollution and soil erosion. University of Iowa researchers warned in 2007 that raising more corn for ethanol would lead to significant increases in nitrogen pollution of drinking water wells, rivers and streams.² Professor Pimentel even argues that fuel from corn cannot be called "renewable" because corn production methods are environmentally unsustainable. Soil loss from corn cultivation is 20-times faster than soil reformation and the crop is the United States' largest user of polluting fertilizers, pesticides and herbicides, Pimentel notes.³ Biodiesel production operations can also cause oil spills. An Alabama biodiesel plant has been used for spilling oil into the Black Warrior River on 24 occasions. Earlier this year, a Missouri businessman was indicted for dumping biodiesel into a waterway, resulting in at least 25,000 dead fish and a devastated mussel population. In summer 2006, a Cargill biodiesel plant in Iowa Falls spilled 135,000 gallons of liquid oil and grease into a stream, killing hundreds of fish and other aquatic life.

Meanwhile, the stated air pollution benefits of biofuels may be offset by increases in other air pollutants. Manure incineration projects have generated significant air pollution, including sulfur dioxide, nitrogen oxides,

and particulate matter. And researchers from Stanford University reported in 2007 that fueling American cars with ethanol would actually increase formaldehyde and acetaldehyde levels. Burning ethanol, they also noted, can exacerbate the ill effects of air pollution by adding more smog-forming pollutants to the atmosphere. University of Minnesota researchers have determined that if just current croplands were used, corn ethanol would reduce greenhouse gases only 12 percent per unit of energy generated. Moreover, the researchers concluded that if croplands were *expanded* for increased ethanol production, there may be a zero benefit to global warming.¹⁴

Widespread habitat destruction

But biofuels' greatest threat to animals and the environment is from habitat destruction. Raising the mountains of crops needed for ramping up production of ethanol and biodiesel will require vastly expanding American croplands. And, as one commentator put it, growing corn and soy for biofuels "will come from clearing forests, plowing grasslands, or draining wetlands."⁵ In other words, it will eliminate ecosystems occupied by millions of animals.



In particular, the huge bump in biofuel production is expected to destroy millions of acres of grasslands. With substantial financial enticements to grow biofuel crops, farmers are expected to plow just about every available acre of land and abandon *en masse* the Conservation Reserve Program (CRP). CRP is a federal initiative that encourages farmers to convert highly erodible cropland or other environmentally sensitive acreage to vegetative cover. In return, farmers receive annual payments for the term of multi-year contracts, usually five or 10 years. Establishing wildlife habitat is specifically listed among the major program goals. CRP is the nation's largest private lands conservation program with more than 36 million acres enrolled.

CRP has been highly successful in conserving land and protecting and even re-establishing wildlife. Government studies document that the program has been critical for many species, including the bobwhite

quail, swift fox, short-eared owl, Karner blue butterfly, gopher tortoise, Louisiana black bear, Eastern collard lizard, Bachman's sparrow, ovenbird, acorn woodpecker, greater sage grouse, and salmon.

The program's beneficial impact on wildlife has even been quantified. A 2007 government study showed it was supporting millions of ducks and grassland birds. And, conversely, the research revealed that without CRP land in the Dakotas, there would be almost 2 million fewer sedge wrens, grasshopper sparrows, bobolinks, and western meadowlarks. Likewise, government research has shown that wetlands in CRP land resulted in an annual increase of more than 334,000 additional breeding ducks in the Dakotas from 1992 to 2004. "Grassland birds are declining more than any other bird group in North America," the research noted.

Biofuel expansion is now perhaps the greatest threat to the prairies and grasslands in which these birds live. Many CRP contracts expire in 2008. The USDA's chief economist has estimated that 7 million acres under the conservation program's protection could be plowed under in the next few years to grow corn for ethanol. Defenders of Wildlife has warned: "Utilizing [native prairie land] for biofuels production would further accelerate the destruction of this pristine, wildlife rich ecosystem."

Proper place for biofuels

Biofuels will certainly have some role in America's energy future. However, their benefits have been overstated while their costs to animals and the environment have been largely ignored. The good news is that energy conservation efforts can actually do more national good than ramped up biofuel production. "[F]rom the standpoint of energy

independence, even if the entire US corn crop were used to make ethanol, it would displace less gasoline usage than raising fleet fuel economy five miles per gallon, readily achievable with existing technologies," University of Minnesota economist C. Ford Runge has pointed out.⁶ The stampede toward biofuels must be replaced with thoughtful energy planning that considers animals and the environment.

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Today one of our greatest areas of emphasis is cruel animal factories, which raise and slaughter pigs, cows, chickens and other animals. The biggest are in our country, and they are expanding worldwide.

Another major AWI effort is our quest to end the torture inflicted on furbearing animals by steel jawleghold traps and wire snares. AWI continues its work to protect animals in laboratories including promotion of development of non-animal testing methods and prevention of painful experiments on animals by high school students.

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