Farmers and other rural residents have heard it many times, and it’s true: New York State agriculture is a bulwark of our economy. It’s a keystone of rural, urban and suburban areas alike, a “glue” that holds our beautiful landscapes and environment together. But some New Yorkers are now playing a risky game with an energy technology that could do lasting harm to our farms and farmers, putting short-term, unfairly distributed profits ahead of the common good.

That technology is high-volume horizontal hydraulic fracturing, a method of extracting natural gas from deep shale formations that until recently could not be profitably tapped. “Fracking,” as it’s widely known, involves injecting huge quantities of fluids containing toxic chemicals and sand at extremely high pressure into the Marcellus Shale and similar geological features. The injected gritty mixture literally explodes the shale, sometimes thousands of feet below the surface, to release the methane and other components of gas that has lain there inert for millions of years.

The list of chemicals used in fracking is long — around 750 substances, many harmless, but a good number of them notoriously toxic, including lead, benzene and various solvents. What’s more, it’s often impossible to know which of the chemicals from this long list a particular driller has chosen to use, since the laws allow drillers to keep such “proprietary” information confidential.

In New York State, the “fracking” issue is coming to a head. The state Department of Environmental Conservation, under pressure from fracking opponents and proponents alike, and following directives from Governor Andrew Cuomo, continues to study the issue. Decision-making deadlines have been pushed forward, and many people believe that this is largely for political as well as technical reasons.

Pennsylvania Fracked: A Cautionary Tale
Fracking has been done extensively in other states, as far-flung as Texas and Ohio. But our neighboring state, Pennsylvania, provides the most revealing — and troubling — lessons. Several “Northern Tier” counties there have experienced how a volatile combination of risky technology, lust for private gain and short-term thinking can threaten agriculture and the environment.

For example:

- A 2012 Penn State Extension study by Riley Adams and Timothy W. Kelsey found that among Pennsylvania counties with at least 10,000 dairy cows, counties with at least 150 Marcellus shale wells experienced a 16 percent average decline in dairy cows between 2007 and 2010, compared to a 3 percent increase in dairy cows in counties without shale gas wells.

- Adams and Kelsey also found that, on average, the counties with at least 150 Marcellus wells suffered an 18.5 percent decrease in dairy milk production, while milk production in counties with no shale drilling increased.

- According to the Pennsylvania Department of Environmental...
Protection, in 2010 in Tioga County, a fracking wastewater storage pond leaked and spilled into a pasture where 28 cattle were grazing. As NPR reported the next year, eight of the 11 calves born the following spring from that herd were stillborn or were so weak at birth that they did not survive. (But exposure to fracking fluids can be lethal to livestock of any age: a 2012 study by veterinarian Michelle Bamberger and Cornell pharmacology professor Robert Oswald identified an incident where 17 cows died within an hour of direct exposure to these fluids.)

- In 2011 in Bradford County, a widely reported blowout in a gas well contaminated adjacent streams and farmland with thousands of gallons of drilling fluids.

**Well Beyond the Wellpad: Pollution on the Move**

Contamination is not just an on-site problem, of course. Traffic accidents, spills, well blowouts and leaks can all put farms and agricultural land in jeopardy. Fleets of trucks are used to ship hazardous wastewater and toxic materials, and traffic accidents have caused fracking wastewater to be released into nearby freshwater bodies and onto private property — an obvious threat to any farmland nearby or downstream.

The New York State Department of Environmental Conservation estimates that if the state allows shale gas development, each well will require 3,950 total trips of heavy trucks and 2,840 trips of light trucks.

**Competition for Resources**

Aside from the risks of water pollution, there’s the question of competition for water supplies. It takes millions of gallons of water to frack a single shale gas well, so widespread shale development could compete with agriculture for this vital — and sometimes scarce — resource.

Studies point to another form of competition, too: As demands on trucking increase to accommodate fracking operations, commodity trucking rates for agriculture could increase in tandem, to the disadvantage of farmers. In Pennsylvania, according to environmental writer Sue Smith-Heavenrich, many truckers have gone to work for the industry, causing dairy farmers in both Pennsylvania and New York to pay more for transporting their milk.

Resource competition may also present itself in other, unforeseen ways. For example, the oil and gas industry often purchases sawdust to mix with drilling waste before shipping the waste material to landfills. As Smith-Heavenrich notes, some Pennsylvania farmers in fracking areas have consequently been unable to purchase sawdust for their cattle bedding.

**Air Pollution From Fracking Harms Ag Yields**

Researchers, including well-known zoologist and environmental health scientist Theo Colborn, raise serious concerns about fracking’s effects on air quality. Volatile organic compounds,
including benzene and toluene, can be released during fracking and can mix with nitrogen oxide emissions from diesel-fueled vehicles and stationary equipment to form ground-level ozone. This, of course, damages crops — threatening agricultural economies and even, eventually, our communities’ food security. And this is anything but a localized problem: ground-level ozone can affect farmlands far (perhaps hundreds of miles) from the source of the pollution.

**Save New York’s Vital Farmland**

Given the multiple threats that fracking poses to agriculture, water resources and rural landscapes, it would be shortsighted to go forward with shale gas development in New York State.

Simply put, New Yorkers have much more to lose than they could possibly gain from fracking. And New York farmers would sustain the biggest net losses, especially in the long term.

New York agriculture, particularly as related to small farms that increasingly supply local markets, will depend on truly sustainable alternative technologies like solar power and appropriately scaled wind power — not on any kind of fossil fuel extraction that harms local ecosystems and contributes ultimately to destructive climate change.

For New York State’s agricultural sector to grow and thrive, the governor and state legislature need to impose a ban on fracking. And farmers, together with consumers and advocates for environmental protection, must work for local bans and moratoria and organize at the state level against this risky, and still largely experimental, technology.
Northeast Organic Farming Association of NY, Inc. (NOFA-NY) is an organization of consumers, gardeners, and farmers working together to create a sustainable regional food system which is ecologically sound and economically viable. Through demonstration and educational opportunities, we promote land stewardship, organic food production, and local marketing. NOFA-NY brings consumers and farmers closer together to make high quality food available to all people.

NOFANY.ORG

Food & Water Watch works to ensure the food, water and fish we consume is safe, accessible and sustainable. So we can all enjoy and trust in what we eat and drink, we help people take charge of where their food comes from, keep clean, affordable, public tap water flowing freely to our homes, protect the environmental quality of oceans, force government to do its job protecting citizens, and educate about the importance of keeping shared resources under public control.

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