# Agriculture and High Volume HydroFracking Are NOT Compatible

### Soil Contamination
Explosions, spills, flares and leaky gas pipes are all have negative effects on agricultural soils. Gas flaring adversely affects soil fertility, causing the soil to become more acidic and reducing total organic carbon, nitrate, and phosphate content. Methane from pipeline leaks changes the oxygen and bacterial composition of the soil, altering plants' ability to fix nitrogen, successfully complete cellulose conversion, and maintain an adequate hydration level.

### Radioactivity
Radioactive materials brought to the surface contributes to widespread contamination of oil and gas production areas. Contamination may be severe. Marcellus shale is very rich in Radium 226. Uranium, radon and other radioactive decay products may be prevalent in the air, in soils and even in drinking water at or near natural gas sites. Taken up by crop plants, these radioactive elements accumulate in the foodchain, eventually appearing in milk and dairy products.

### Heavy Metals
Heavy metals like strontium, arsenic, barium, cadmium, chromium, lead, and mercury may be found in drilling waste and can be absorbed by plants and incorporated into the food chain. While it is possible to decontaminate soil, it takes a minimum of four years of specific successive plantings to get these metals out.

### Soil Erosion and Compaction
Soil erosion from well site construction is not as detrimental as compaction from hundreds of heavy truck trips, but in either case, farmers are finding restoration difficult, if not impossible.

### Openings for Invasive Species
When native grasses die out, invasive species move in and can overtake even healthy native plants simply due to their aggressive nature.

### Farmland Fragmentation
Every time a well pad or access road cuts across a farm field, it fragments productive farmland. As parcels become smaller, there are fewer contiguous acres available to operating farms. Eventually farms may become too small to operate profitably. Every farm going out of business reduces the critical mass necessary to support nearby supply and service providers. As a result other farms will inevitably fail simply from being caught up in a downward spiral

### Water Usage
The natural gas industry points to agriculture's water usage, but in making a comparison neglects to mention that their use is a consumptive one. Water used in agriculture remains in the hydrologic cycle, while most water used in gas drilling is lost forever.

### Ozone Impacts on Crop Yields
Gas drilling emissions lead to increased ground level ozone. Many studies document serious impacts to agricultural productivity due to ground level ozone . Declining crop yield depends upon the specific crop sensitivity. Grapes are particularly sensitive, as are soybeans, alfalfa, clover and other native New York grazing grasses. Loosing such crops would harm farmers economically and reduce food production.

### Falling Reproductive Rates
At least 40% of the chemicals used for fracking are known endocrine disruptors. Scientific findings indicate adverse effects of endocrine disruptors on abortions, fetal death and irregular cycles. It is the primary reason for breeding failure. It has been found in the blood and urine of livestock and humans living in close proximity to a natural gas field. If reproduction rates fall, it will have severe consequences on agriculture and food production.

### Livestock Poisonings
Livestock often drink surface water from ponds and streams easily contaminated in the process of handling fracking fluids at the surface---injecting, withdrawing, collecting, storing and disposing of massive amounts of highly toxic liquids. Small spills can have very big effects on livestock by contaminating their drinking water or the grasses that they eat. Livestock are attracted to the saltiness of these fluids. There are growing documented reports of livestock illness and death from acute toxicity poisoning from exposure to these spills.

### Toxic Compounds Throughout the Foodchain
Bioaccumulation is the process by which compounds accumulate or build up in an organism at a rate faster than they can be broken down by the body's liver.
Toxic chemicals and radioactive elements taken up by and accumulated within plants travel throughout the food chain from one living organism to the next, eventually reaching human consumers.

### Inadequate Food Safety Inspections
Even in cases with known exposure to fracking chemicals, there is no system in place for the testing of affected crops or meat for such toxins. The Government Accountability Office reports that the National Residue Program - responsible for monitoring chemical residues – is missing known heavy metal residues and chemicals present in meat and poultry. The USDA, FDA, and EPA, all responsible in part for the program, may not have complete information on fracking chemicals; therefore, the extent to which potentially harmful fracking chemicals may affect our food are unknown. Some food buyers already have concerns about the safety of food produced in close to fracking activity.

## BETTER SAFE THAN SORRY ...

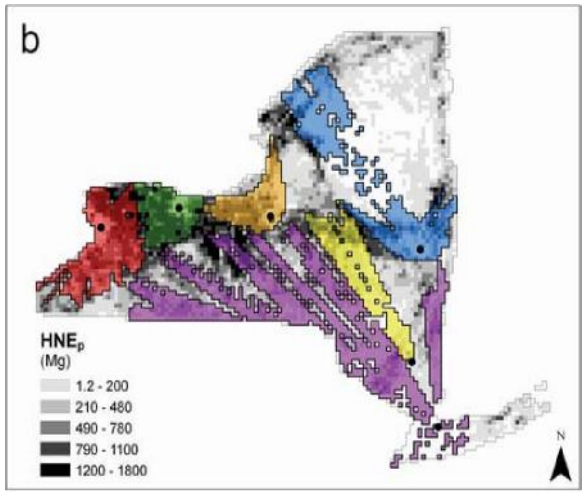
*"Ommegang is proud of our accomplishment in building a thriving, sustainable and environmentally conscious business in upstate New York. We are a company that enjoys a national reputation for super-premium quality beers produced in upstate New York and we hope that the state and local regulators attach value to what we do for the region in terms of employment and our representation of upstate New York in restaurants and grocery stores across the nation. We are deeply concerned at the threat posed by development of drilling in the region and the risk to the purity of the water on which we depend, and which is a key reason we are located here."*
**-- Simon Thorpe, President/CEO of Brewery Ommegang, Cooperstown, New York**

*"I want to alert you to a less obvious effect that hydrofracking will have on us and on the NYS farms whose products we make a great effort to buy. We are very responsive to the needs of our shoppers. If hydrofracking is allowed to go forward our shoppers are certain to be asking us if the fruits, vegetables, dairy products, eggs and meats from New York State are produced in areas where hydrofracking is taking place. It will not take many inquiries for us to start researching alternatives to NYS products."*
**-- Joe Holtz, General Manager of Park Slope Food Coop Inc, Brooklyn, New York**

*"At the Co-op, we work hard to support our Western New York farms. Our business depends on their survival. But if our customers tell us to source clean natural foods from non-hydrofracking regions, we and other grocers will shift our purchasing dollars elsewhere. Hydrofracking may create a few jobs in the energy industry, but it will put at risk our Co-op and all of local partners we do business with."*
**-- Tim Bartlett, General Manager of Lexington Co-operative Market, Buffalo, New York**

### Concern For Our Foodshed

A foodshed outlines a particular area from which food is grown, processed, purchased and consumed. Researcher Christian Peters and others at Cornell University mapped potential foodsheds for the largest upstate cities. Map b shows where grass-based agricultural products (meat) might travel in a more localized foodshed for the cities of Buffalo (red), Rochester (green), Syracuse (gold), Albany (blue), and Poughkeepsie (yellow). Notice the area in purple which indicates an excess of meat production for the southern tier cities (Alfred, Elmira, Binghamton) sufficient to supply NY City, but which overlies the Marcellus shale.




You can help. Get involved. Find an organization near you at:
www.DamascusCitizens.org

**Sources quoted can be found at:**
https://acrobat.com/#d=nZsSXQ3jSFGOpOf41XyczQ

# FRACKING THE FARM

## Local Food Production Incompatible with Gas Drilling and Production

Photo by Sue Smith-Heavenrich

**A Shrinking Agricultural Base**
Pennsylvania agricultural agencies report that 25% of farmers receiving royalty payments discontinued farming, while another 25% converted from dairy farms to grazing operations. Agencies question whether the remaining small dairy farms provide enough of a critical mass to remain viable.