



## Environmental Impact of Intensive Livestock Operations

### Ø Say No More to Liquid Manure Ø

#### What is an Intensive Livestock Operation?

Although an Intensive Livestock Operation<sup>1</sup> (ILO) or Confined Animal Feeding Operation (CAFO) has no industry or governmental definition, it is characterized by key elements including:

- A high animal density with more than 1000 hogs is typically considered an intensive operation. This characteristic is not sufficient alone as it does not describe the conditions within the operation, and allows for factory farms with 999 hogs to slip under the radar.
- The structure of the operation is more similar to the industrial framework than agricultural, illustrated by money leaving the region, absentee ownership, corporate control, and contracted land.<sup>2</sup>
- The third characteristic is illustrated by the term CAFO, in other words, hogs are confined to barns in a cage with no room to turn around, their sides often chafing against the side, without hay or bedding, dependent on antibiotics, all in the name of efficiency.

This method of food production breaks the cyclical nature of waste management that traditional livestock farms used. Solid manure produced in this system was seen as a valuable resource that livestock produced, and was returned to cropland owned by the farm, which in turn fed the livestock the next season. With ILOs however, the factory exists on a small tract of land and the operation owns little to no cropland. The key indicator is the ratio of hogs to hectares for a conventional farm the stocking ratio must not exceed 1.5 animal units per hectare regardless of the type of animal category.<sup>4</sup> In the case of hogs 1.5 animal units translates into 7.5 hogs per hectare as the absolute ceiling in stocking ratios although in practice small scale farmers tend to use the 5 hogs per hectare ratio as a rule of thumb. Intensive Livestock Operations have a ratio in excess of 2.5 animal units per hectare or 12.5 hogs per hectare.<sup>5</sup> The hogs produce immense amounts of manure, each animal produce 2000kg of waste per year<sup>6</sup>, which is liquefied as part of the barn cleaning process, and stored in open-air lagoons on site.

The eight million hogs in Ontario <sup>3</sup> produce two times the amount of raw sewage as the entire human population in the province of Ontario <sup>6</sup>
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#### What happens to the tonnes of manure?

- Walls of storage lagoons crack causing groundwater seepage. The debate over what construction material to use is a dead-end argument. Given time, all lagoons will leak.
- Hog's feed contains heavily metals, which leave the animal via waste. The heavy metals accumulate in the bottom of the lagoons, and cause serious disposal problems.
- Air quality is decreased due to the open air lagoons emitting a host of noxious gases, including over 400 volatile organic gases.<sup>7</sup> For this reason, ILOs are major contributors to the volume of greenhouse gases released into the atmosphere.
- Transportation of manure to fields has resulted in numerous spills.
- Manure is sprayed onto corn crops grown in monoculture. It is applied in such high concentrations that the corn crop cannot take up all of the nutrients, and the overabundance of nutrients actually decreases the soil fertility.
- Manure that is applied can runoff the field and enter surface waters contaminating them with *E.coli* and other bacteria as well as viruses.

- Manure is high in nitrates and phosphates, when these nutrients enter water systems in excessive quantities they lower the oxygen available for living organisms, leading to fish kills and algal blooms.<sup>8</sup>

### Antibiotics

The living conditions for a hog in an ILO, cramped in a stall the same size as its body, not seeing the light of day until its moved to the slaughterhouse, the lack of mental stimulation that a hog requires, cause immense stress and squalid conditions. Operators of factory farms combat the inevitable levels of disease that would occur by administering daily doses of antibiotics at subtherapeutic levels. The gross misuse of antibiotics has increased selection pressure on bacteria causing many members of the population to be resistant to antibiotics. Resistance has been shown to be transferable between different species of bacteria.<sup>9</sup> It is for this reason that the Canadian Medical Association is calling for Canada to ban antibiotic use for livestock growth promotion (subtherapeutic doses).<sup>10</sup>

Sweden has banned the subtherapeutic use of antibiotics and as a result, livestock operators were forced to change the way they raised livestock. Now, animals spend more time outdoors, toys for mental stimulation, and greater stall space. In other words, Sweden has gone back to biological systems of animal agriculture, rather than technologically based.<sup>7</sup>

### How can you make a difference?

- Write a letter to your MP, to the Minister of Agriculture, and to the Prime Minister, demanding strong legislation protecting Canada's precious water resources & demand a ban on the use of sub-therapeutic levels of antibiotics on farm animals;
- Write your provincial MPP (or MLA), the provincial Environment, Agriculture and Health Ministers and demand a moratorium be placed on the expansion of Intensive Livestock Operations;
- Contact the mayor and city council of your municipality to express your concerns. Encourage them to pass an anti-ILO declaration for their community and pass a by-law banning the construction of mega-hog barns;
- If you have well water or live near any type of factory farm, have your water tested; and
- Be a responsible consumer – if that means that you boycott Maple Leaf, only buy pork from small farms, don't eat pork, or buy organic pork – feel good about it;

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<sup>1</sup> Fulton A., Mausberg B., Campbell, M. It's hitting the fan: the unchecked growth of factory farms in Canada. Environmental Defence Canada. May 2002.

<sup>2</sup> Characteristics taken from an interview with Karen Hudson, consultant for GRACE factory farm project, by Prairie Farmer Magazine, January 2003.

<sup>3</sup> <http://www.hogwatchmanitoba.org/pig-stats-0201.html>. This is a conservative estimate based on Hogwatch Manitoba's 2001 statistics of 7.7 million hogs with a growth rate of 9%, at a time before the Quebec moratorium on new or expanded hog operations was in place.

<sup>4</sup> National Farmer's Union Submission to the Ontario government on Proposed Standards for Agricultural Operations, September 15, 2002. <http://www.nfu.ca/region3brief.htm>

<sup>5</sup> Tunnock, Glen, Tunnock Consulting Ltd, "Hog Tied or Hamstrung...", June 1997, <http://www.oboa.on.ca/97junGT.htm>.

<sup>6</sup> Bruckmann, Elisabeth, Discussion Paper on *Intensive Agricultural Operations in Ontario*, Canadian Environmental Law Association, February 2000, p. 3.

<sup>7</sup> Halverson, Marlene, *The Price We Pay For Corporate Hogs*, Institute for Agriculture and Trade Policy, March 2001 (Second Printing), p. 61.

<sup>8</sup> 1998. Moss, B. *Ecology of Fresh Waters: Man and Medium*. 2nd edition. Blackwell Science. Oxford, England.

<sup>9</sup> *Antibiotic Use in Food Animals Contributes to Microbe Resistance*, National Academy of Sciences, July 1998, <http://www4.nas.edu/news.nsf/isbn/0309054346?OpenDocument>

<sup>10</sup> *Agricultural Antibiotics and Resistance in Human Pathogens*, Canadian Medical Association, November 1998