IOWA ENVIRONMENTAL COUNCIL

"Together for the Earth we share"

Five ways we must improve Iowa's manure management laws to protect human health and our environment

Iowa's livestock laws need to be changed in five ways:

1) **Water quality monitoring** must be required around earthen basins.
2) **Anaerobic lagoons and aerial spraying of manure** must be phased out.
3) **Vulnerable water resources and other local conditions** must be taken into account.
4) **Both phosphorus and nitrogen** must be used in determining manure application rates.
5) **Contractors and growers must share responsibility** for their livestock manure.

Iowa's rural citizens and all other Iowans are facing threats to their health and our natural resources are being harmed by inadequate livestock manure management practices. By making certain improvements to Iowa's manure management laws — and providing assistance to farmers to help them make the changes — the Iowa Legislature will help protect our health and protect our environment.

1. Monitor water around earthen basins

Federal health investigators have found potentially harmful bacteria and other pollutants commonly associated with hog manure in wells and waterways near Iowa hog confinements. A recent Iowa State University study funded by the Legislature found that over half of earthen manure storage structures studied were leaking more than allowed by current state standards. The study also found that many of these structures were located over shallow groundwater and in other areas vulnerable to contamination. Monitoring around all earthen basins should be required, so that problems are caught before they put Iowans at risk.

2. Phase out anaerobic lagoons and aerial spraying

Lagoons lose 70-80 percent of the original nitrogen in manure to the atmosphere; with aerial spraying, another 20-30 percent of the remaining nitrogen is lost to the atmosphere. This nitrogen contaminates our air and falls back to the earth, damaging rivers and other natural areas. Anaerobic lagoons and aerial spraying also are sources of intolerable odors and other air quality concerns. The two practices should be phased out in favor of systems that treat manure as a resource rather than a waste. For example, injecting the manure into the soil to maximize its nitrogen and phosphorus value benefits both the environment and farmers' bottom line.

3. Consider vulnerable resources and other local conditions

Anaerobic lagoons and other manure storage structures are located and manure applied in areas that are particularly sensitive to contamination. For example, we are putting ourselves at risk by allowing manure structures directly over shallow groundwater and in floodplains. Also there are no guidelines to avoid unique habitat and recreation areas. The Iowa Department of Natural Resources needs the authority to make case-by-case permitting decisions in site location and manure management plans that recognize the vulnerability and value of important local resources.

4. Use both nitrogen and phosphorus standards

When land application rates of manure are based solely on the nitrogen needs of the soil, phosphorus accumulates. When dissolved phosphorus leaches into groundwater or, when it attaches to eroding soil and washes into waterways, phosphorus stimulates the growth of bacteria, plants, and algae. Algal blooms, or eutrophication, lead to oxygen depletion and the death of aquatic species. To protect Iowa's waterways, a phosphorus standard — as well as a nitrogen standard — must be used to determine manure application rates.

5. Contractors and growers must share responsibility for their livestock manure

When individuals or corporations contract with local growers to raise cattle or pigs to market weight, responsibility for manure management generally rests with the grower. To protect the environment and assure more fair assignment of responsibility for good manure management practices and potential cleanup costs, contractors and growers must share responsibility for manure management and legal responsibility for any environmental damage.

Improvements needed in Iowa's manure management laws

Answers to some common questions

Q: What does recent research on earthen manure lagoons tell us?

A: In 1997, the Iowa Legislature was concerned about the possible effects of earthen manure basins and lagoons on our waters and asked Iowa State University to research the issue. ISU's study found that Iowa's groundwater is at risk from leaking earthen lagoons. More specifically:

■ 72 percent of the lagoons studied do not meet the Department of Natural Resources' current seepage standard for earthen structures.

■ 18 percent of the lagoons studied were built on top of shallow, vulnerable aquifers.

■ Another 20 percent were built in areas where water table levels are likely to reach the bottom of lagoons.

■ Management practices at 76 percent of the lagoons studied "could lead to higher water quality risks."

We need to make sure our groundwater, which supplies the drinking water for more than 75 percent of Iowans, is adequately protected. Monitoring around earthen basins will help us catch problems before they put our citizens and health at risk.

Q: What is an example of a vulnerable resource that needs protection from livestock manure?

A: Large animal confinement operations are located very near a number of Iowa's most treasured natural areas.

The Iowa River Greenbelt not only is one of Iowans' most popular places to camp, hike, and canoe; it also is a source of great pride to area residents. Many of the local residents have worked hard to protect their local treasure, yet their efforts may soon be sorely compromised because an animal confinement operation will be built just past the river's 100-year floodplain.

DNR needs the ability to increase setbacks or even deny permits for operations that threaten precious resources such as the Iowa River Greenbelt. In addition, DNR needs to have a greater say in where, how much, and how manure is applied.

Q: We know that waste lagoons and aerial spraying can harm our waters. Do they affect air quality as well?

A: Yes. Odors from waste lagoons and aerial spraying are not just nuisances; they put rural Iowans' health at risk. More than 160 chemical compounds have been identified in the air around swine production facilities.

Air quality concerns include odors, gases, and airborne particles. Odors and gases cause nausea, vomiting and headaches; shallow breathing and coughing; upset sleep and appetite; eye, nose, and throat irritation; and lead to depression.

The presence of particles and organic dusts containing microbial contaminants have been reported in air down wind from confinement facilities. The particles and organic dusts may produce inflammation and allergic reactions, especially in sensitive individuals.

Q: Why do we need to add a phosphorus standard?

A: About 70 percent of Iowa soils currently test high or very high in phosphorus, according to Iowa State University researchers. Adding phosphorus beyond this point does not increase crop yields — it only increases environmental risk.

Q: Why is shared responsibility between contractors and growers needed?

A: An example best illustrates the problem: A large contractor in Iowa has complete control over the construction of the confinement buildings his growers use. He provides the financing and the plans for the building design, and his construction company builds the building. Later, if there are problems with the manure piping, for example, only the grower — and not the contractor — will be liable, even though the grower had little control over the quality of work.

Requiring joint liability between contractors and growers will help stop problems before they occur. Contractors would have the incentive to provide training and education on manure testing, handling, and land application.

January 19, 2000

Iowa Environmental Council ■ 711 East Locust ■ Des Moines IA 50309 ■ 515/244-1194 ■ www.earthweshare.org