

Introduction

Is manure an environmental risk or benefit?

Management of manure and other byproducts of livestock and poultry production is a complex environmental issue. Given the same facts, rational individuals can often arrive at distinctly different conclusions. Is manure . . .

A source of pathogens, oxygen-depleting compounds, and nutrients that degrades the quality of our water for drinking and recreational use?

OR

A source of organic matter that improves the quality and productivity of our soil resources?

One of our nation's largest remaining sources of water pollution?

OR

A source of plant nutrients required for growth that can replace commercial nutrients both finite in supply and energy intensive in their production?

A source of gaseous emissions that reduces the quality of life in rural communities and contributes to possible neighbor health concerns?

OR

A means of recycling and sequestering carbon in the soils, contributing to a reduction in atmospheric carbon and global warming?

Both sets of conclusions about manure can be true. Manure can produce both substantial benefits and severe environmental degradation. The actual environmental results often depend upon choices that the producer makes.

Why are we here?

The livestock and poultry industry is facing a growing scrutiny of its environmental stewardship. Emotion and lack of understanding by the general public contributes to this scrutiny. Problems also result from a few producers who have contributed to highly visible impacts on the environment due to ignorance or outright disregard for the environment. These situations create a negative and often biased public view of livestock and poultry's impact on the environment.

However, real environmental concerns also result from livestock and poultry operations owned or managed by well-intentioned producers. Animal production has the potential to negatively affect surface water quality (from pathogens, phosphorus, ammonia, and organic matter); groundwater quality (from nitrate); soil quality (from soluble salts, copper, arsenic, and zinc); and air quality (from odors, dust, pests, and aerial pathogens). Manure and other byproducts of animal production, if not carefully managed, will have a significant negative impact on the environment.

On May 5, 1998, Secretary of Agriculture Dan Glickman stated that animal waste is "the biggest conservation issue in agriculture today, bar

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“none” at the National Summit on Animal Waste and the Environment. Agricultural production has been identified by the U.S. Environmental Protection Agency (EPA) as the largest single contributor to water quality impairment for rivers and lakes (Table 1-1).

The purpose of this curriculum is to encourage a proactive stewardship response based on good science among those producers who recognize the seriousness of this environmental issue and expand the awareness of producers not familiar with current environmental concerns.

This educational program will assist you in

- Self-assessing your operation’s current environmental strengths and weaknesses.
- Identifying choices that minimize manure’s risk as a pollutant and enhance manure’s value as a resource.
- Reviewing your operation’s compliance with environmental standards established by regulatory processes.

Table 1-1. Five leading sources of water quality impairment.

| Rank | Rivers | Lakes | Estuaries |
|------|-------------------------------|---------------------------------|-------------------------------|
| 1 | Agriculture | Agriculture | Municipal point source |
| 2 | Municipal point sources | Urban runoff and storm sewers | Urban runoff and storm sewers |
| 3 | Urban runoff and storm sewers | Hydrologic/habitat modification | Agriculture |
| 4 | Resource extraction | Municipal point sources | Industrial point sources |
| 5 | Industrial point sources | Onsite wastewater disposal | Resource extraction |

Source: EPA 1998.