

The production of swine can be a complex business. Producers must take into account not only the needs of the operation but also the concerns of consumers, which may affect their attitudes toward the industry and the consumption of pork. The swine industry is working to address these concerns.

### Consumer Concerns

The swine industry is similar to other American agricultural industries in that consumers have concerns about various aspects of the industry. Confinement swine production has increasingly come under public scrutiny. Producers raise hogs in confinement for a variety of reasons, including increased efficiency, the ability to control the environment and reduce stress, and ease of waste management and feeding. However, some consumers are troubled by the factory-like conditions in which swine are produced and the effects of raising hogs in this way. In particular, consumers focus on the environmental problems associated with swine production, food safety, animal welfare, and animal rights.

Large-scale confinement operations have increased concerns among consumers and producers about the effect of swine production on the environment. Confinement swine production can produce a large amount of waste. Producers must store these wastes until producers can properly apply them to the land as fertilizers. They can emit unpleasant odors. Consumers are concerned with odor emission and its effects and the potential for the pollution of groundwater and waterways from untreated wastes in leaking storage facilities.

The safety of pork is another issue that concerns consumers. Some consumers believe that producers give too many antibiotics. They worry that pork may contain residues from these antibiotics.

The welfare of pigs is another concern of consumers. In swine production, pigs are often raised inside and are not allowed to go outside. Consumers question whether the amount of room given to each animal is adequate and whether the buildings contain too many pigs. They also worry about the consequences for the pigs if temperature regulation fails in the confinement building or a fire breaks out and they cannot escape.

The debate over animal rights is also of interest to the American public. Some groups, such as People for the Ethical Treatment of Animals (PETA), believe that animals have rights. They feel that humans should therefore not use animals for food or research.

### Managing Manure Nutrients

To meet consumer concerns and protect the environment, pork producers must manage the disposal of animal waste products carefully. Because of the high volume of wastes resulting from hogs raised in confinement, producers must have an efficient system for handling manure that includes well-designed waste storage facilities. Manure is typically stored in lagoons or pit structures before being applied to the land as fertilizer.

Lagoons are artificial structures similar to ponds. They are designed to catch runoff from outside animal lots or to hold waste piped from buildings. While the waste is stored inside the lagoon, the solids are broken down by bacteria into liquid and gases. Lagoons have to be sealed to prevent leaking and may require a liner in some soils. The Department of Natural Resources must approve lagoons before construction.

Pit structures are concrete pits two to eight feet deep that are found directly below the confinement building. Liquid and solid wastes drop through the slotted floor of the building and are collected and stored in the pit. Nutrients are conserved during storage. Pit structures must be sealed with no leaks.

Land application of swine wastes occurs in two basic ways: irrigation or injection. For lagoons, most producers use irrigation systems to apply the remaining liquid onto farm land. In pit structures, the pit is emptied and applied to the soil using either irrigation or injection methods.

Irrigation involves pumping the liquid waste through sprinklers on top of the ground. Producers need to monitor irrigation equipment constantly to ensure that waste is not leaking from the equipment and causing runoff into waterways. Spring and summer are the preferred times to irrigate with swine wastes.

Injection is a mechanical procedure that involves injecting, or “knifing,” the waste into the soil. The manure is placed

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directly under the soil surface, allowing the nutrients to be used more effectively by plants. Injection reduces odor and runoff but it is more time consuming and labor intensive.

Maintaining a stable nutrient balance is a major key to using waste nutrients from swine production effectively. Manure can be applied to supply nitrogen, phosphorus, and potassium to the soil for use by plants, which take in these nutrients through their roots. Producers must properly balance the amount of nutrients in the soil with the amount of nutrients applied in manure and commercial fertilizers. They should first test the soil for nutrient composition and test the waste for nutrient content. These tests will allow them to gauge how much liquid waste can be applied to specific fields. Swine producers should work closely with the Soil Conservation Service (SCS) to develop and carry out a nutrient utilization program.

Producers must be careful not to oversupply nutrients to the soil. When excessive amounts of nutrients are applied, the potential for nutrient leaching increases. Nutrients can cause problems if seepage causes ground water contamination.

## Animal Welfare and Animal Rights

Animal rights and animal welfare are two terms that reflect a concern with the well-being of animals. They differ over the issue of use. Animal rights supporters believe that animals should not be used as resources by humans, whatever the benefits of their use to humans. Animal welfare, however, calls for the humane use of animals. People who support animal welfare believe that use of animals brings a responsibility to provide appropriate care to the animals to ensure their well-being.

Most pork producers are concerned with the welfare of the animals they raise. They assume responsibility for meeting the needs of their pigs for such things as food, water, shelter, and health care. Producers have an interest in meeting these needs, since ignoring them affects growth and production, which ultimately influences the profits received from the animals.

## Addressing Consumer Concerns

With the help of the National Pork Producers Council (NPPC) and state-level associations for pork producers, the swine industry has taken steps to ensure that consumer concerns are addressed. They have developed programs to educate producers to ensure the welfare of pigs, environmental safety, and the quality of pork. Consumers also need to be educated about the measures taken within the industry to deal with these issues.

The swine industry has moved to address the issue of pork production's effect on the environment in several ways. An Environmental Assurance Program has been developed to encourage producers to assess whether they are adequately protecting the environment. The NPPC and state associations have conducted research into reducing odor, protecting ground and surface water, and better utilizing the nutrients from swine wastes. Research has already provided suggestions for modifications to swine diets that can reduce odors and products that can be added to diets or to manure to decrease the amount of odor given off by the waste.

Through programs such as Pork Quality Assurance, producers are exposed to proper production practices to improve management, reduce costs, ensure proper drug usage, and learn about food safety issues. The final stage of Pork Quality Assurance allows producers to develop a Hazard Analysis Critical Control Points (HACCP) program for their individual farms. HACCP is a management tool that identifies potential problems in production practices that might reduce the quality of the pork produced. The producer can then work to eliminate these problems and produce higher quality pork that is more acceptable to consumers.

To help ensure that hogs receive humane care, the NPPC has developed the *Swine Care Handbook* for producers. It contains information on such topics as management practices, proper facilities, environmental management within confinement buildings, nutrition, and health. The industry must continue educating both consumers and producers so no grounds exist for allegations of mistreatment.

### Summary

Aspects of pork production, particularly those connected with large-scale confinement hog production, sometimes trouble the American public. Consumers are concerned about pollution of the environment, food safety, animal welfare, and animal rights. With the aid of state and national associations, producers are working to address potential concerns and produce safe, edible pork in a humane and environmentally conscious way.

### Credits

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