

Summary

Most regulations and regulatory programs are designed to reduce the risk of illness to the consumer. While it might not seem apparent why certain regulations exist as basic requirements, most regulations have been created based on the best practices to reduce the overall risk.

For a slaughterhouse owner, the easiest way to reduce this risk and to strengthen their “hand” is to diligently follow and adhere to the regulations and guidelines. Additional food safety programs are also excellent measures to help ensure that the products being made are the safest they could possibly be. These programs systematically address many common hazards from a scientific perspective and attempt to reduce and control these hazards through effective prerequisite programs and hazard analysis.

For more information, please contact your Food Safety Specialist or Food Safety & Quality Coordinator (Livestock).

Other information pamphlets are available online from the Department of Natural Resources at:

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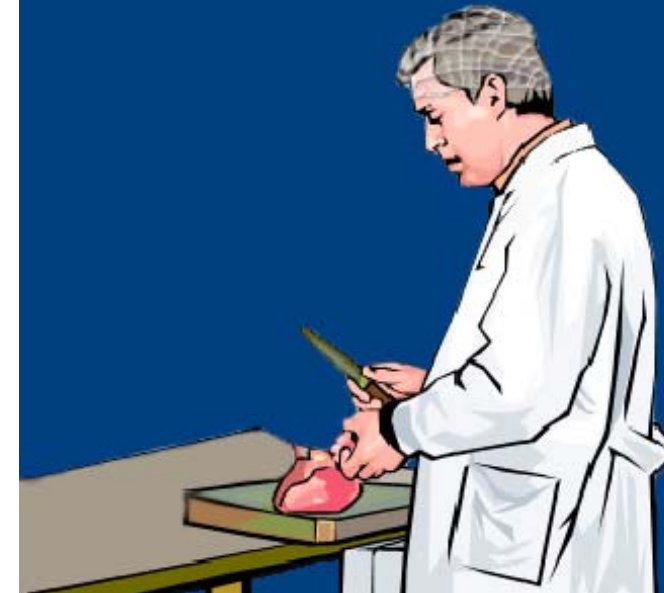
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Meat Slaughtering Risks



Introduction

Risk in food safety can be defined as the chance of something undesirable happening. To use an example, in a poker game you risk chips in the hope that the hand is better than the opponents hand. You base the risk on how good the hand is, because you do not know what the opponent's hand is. Food safety systems work the same way. The "hand" as it would be called is the plant's manufacturing practices and programs, and the better the "hand" the lower the risk. The difference of a plant with many regulatory deficiencies and one that has a great food safety program is the same as playing with a pair of threes compared to a full house. Winning is still possible with the low hand, but the risk is much higher that you will lose.

Knowing Your Risks

In meat plants, food safety risks come in three categories: microbiological, chemical, and physical. These three categories essentially cover all the risks associated with slaughtering.

Microbiological Risks

Any form of bacteria, viruses, mould or poisons created from these organisms (normally called toxins) fall into the microbiological risk category. An excellent example of this is Hamburger Disease.

Hamburger disease is caused by a specific type of bacteria called *E.coli* 0157:H7. *E.coli* lives in the intestines of cattle and other slaughter animals and can be transferred to the outer surface of meat when an animal is butchered.

The process of grinding can then spread the bacteria throughout the meat. There is no definitive way to tell the difference between contaminated or non-contaminated ground beef by the way it tastes, smells, or looks.

Two of the most common ways to come into contact with *E. coli* 0157:H7 are by directly handling raw ground beef without taking precautions, and by eating ground beef that is undercooked. People who get *hamburger disease* often report that they ate ground beef before they became ill.

While cooking the product thoroughly can eliminate some of the risks here, consumers cannot be relied on to eliminate all the risks. Improperly handling the uncooked product can also result in illness. Additionally there are also a number of bacteria that can produce toxins that can survive being cooked, such as *staphylococcus* toxins which can cause illness in people.

In order to ensure that the risk of people becoming ill is very low, we must take steps during slaughtering to ensure that these pathogens are minimized. This comes in the form of, but is not limited to, hot water sanitizers for utensils, proper hand-washing, and good manufacturing practices to reduce contamination.

Chemical Hazards

In a meat plant, chemical hazards usually come from three sources: antibiotics, cleaning chemicals, and industrial components such as gasoline, oil, or lubricants.

Some chemical hazards may sometimes be detectable, such as a product doused with bleach or gasoline; but other hazards such as antibiotics are invisible to all but those who are allergic to them. Chemical hazards cannot usually be "cooked out" so the consumer usually has no way to lower the risk unless the chemicals are easily detectable by sight, taste, or smell.

In the case of chemical hazards, it is the processor who must ensure that all the risk is minimized. Removal of products such as gasoline and oil from the plant, and utilizing only approved chemicals in approved ways according to manufacturer instructions, are good ways to minimize risks associated with cleaning chemicals and industrial components.

With antibiotics, the processor must know the background of animals before slaughter to ensure that they are not being treated for any conditions. Every drug has a withdrawal time and once the animal is dead, the antibiotic will persist for a very long time. Processors should not kill animals which they believe have been recently treated or have recent needle marks, and they should contact a veterinarian for the best course of action with that animal according to the drug taken. A person allergic to a drug can most certainly become ill and possibly die if they unknowingly ingest the drug they are allergic to.

Physical Risks

Physical risks are usually in the form of foreign material that becomes lodged in the product by accident. Examples may include a screw falling off a machine, a piece of broken glass, splinters of wood or flakes of paint. Sometimes these materials can be so small as to be very hard to detect but still be able to cause damage to anyone who ingests the material. People can choke, become poisoned, and in the case of splinters and other sharp objects, the digestive tract can be heavily damaged by these objects.

The best way to reduce this risk is to keep the building properly maintained, replace broken windows, and remove wood where possible from the facility. Programs like preventative maintenance, regular inspections, and adherence to regulations will go a long way to ensuring that products remain free of hazards.