

Cattle Business in Mississippi – April 2010 “Beef Production Strategies” article

Safety on Beef Cattle Operations

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Agricultural production has long been one of the most hazardous occupations in the United States, consistently ranking among the four deadliest jobs, along with mining, transportation, and construction. The National Safety Council reports that in 2008 agriculture had the highest worker death rate at 29.2 per 100,000 workers compared to an average across all jobs of 3.5 deaths per 100,000 workers. Agricultural workers suffered 90,000 disabling injuries that same year.

Safety is something that most beef cattle producers know is important. However, producers sometimes tend to focus more on other aspects of the operation and do not place a high enough priority on safety. The common presence of children in the worksite is one of the main differences between agriculture and other industries. Like other agricultural industries, children are often raised on the operation and participate in cattle production activities starting at young ages. Over 100 children are killed and 23,000 seriously injured in agriculture-related events in the U.S. each year.

Equipment Safety

Agricultural equipment and machinery are a primary safety risk on cattle operations. This includes not only tractors but also all-terrain vehicles, feed mixing equipment, and implements such as hay balers. The Mississippi Bureau of Vital Statistics reported an average of 10 deaths per year where the occupant of special vehicle mainly used in agriculture was injured in a transport accident and 2.4 deaths annually from contact with agricultural machinery from 2004 to 2008.

Use equipment only for its designed purpose. Read the operator's manual before using equipment. Pay attention to warning decals. Inspect equipment for hazards and needed repairs before each use. Only allow trained, physically and mentally fit persons to operate equipment. Stay away from moving parts, and be aware of pinch points, shear points, crush points, wrap points, pull-in areas, thrown objects, and stored energy hazards. Take breaks to avoid fatigue during operation. Do not allow “extra riders”, particularly children. Minimize operation on public roads, particularly highways, when possible, and always follow proper safety regulations when using these roads.

The power-take-off (PTO) uses the power of a tractor engine to drive a variety of implements. The PTO is also a potential danger. Keep all PTO shielding in place and in good repair. Stay a safe distance from unshielded moving parts. Watch where stepping when moving around a machine in use. Stop the PTO when dismounting the tractor. Keep children and non-workers safely away from machinery. Loose ends of clothing, strings, and long hair can be caught up by machinery. Eliminate these risk factors.

When handling big round hay bales, it is critical to manage center of gravity. Keep the load as low as possible. Backward or side overturns often result from top-heavy loads. Avoid steep hillsides, and work from the downhill side when picking up a bale. Be aware that bale can roll down inclines, even gentle slopes. Avoid jerky movements and heavy braking when moving bales, and do not travel too fast. Do not lift round bales with a regular front-end loader unless the bale is properly restrained. The bale could roll out of the bucket, down the loader arms, and onto the operator. Agricultural tractor roll-over protective structures are not intended to protect against falling bales.

Animal Health Product Safety

Use caution when handling animal health products. There are inherent risks in using these products. For example, tilmicosin phosphate, marketed under the trade name Micotil[®], is often used by cattle producers to treat bovine respiratory disease. However, human exposure to Micotil[®] can lead to toxic effects on the human heart including reduced cardiac contractivity and rapid heartbeat severe enough to cause death. In case of human injection, immediately seek emergency medical care and apply ice to the injection site. Try to prevent human exposure to Micotil[®] in the first place. Exposure can occur through needle-stick injuries, skins cuts, puncture wounds, and contact with skin and mucous membranes.

Train workers in proper animal health product handling. Read, understand, and follow all directions on product labels. Do not work alone when using animal health products. Use proper needle sizes and product administration routes. Keep protective covers on needles until ready for use. Use puncture-proof sharps disposal containers for sharps disposal. Avoid carrying loaded syringes in pockets, clothing, or in the mouth. Wear protect gear such as gloves, and wash hands after product use. Immediately clean up spills. Do not allow children access to animal health product storage, preparation, or use areas. Keep food and drink storage separate from animal health product storage.

Chemical Safety

Always read packaging labels on agricultural chemicals, and adhere to label directions for proper handling, storage, and use. Obtain Material Safety Data Sheets (MSDS) for chemicals used on the ranch. These sheets contain additional health hazard warnings, spill or leak procedures, and handling information. Keep chemicals under locked storage. Make sure storage containers and associated hoses are free from holes, cracks, and rust and valves are working properly. Do not fill chemical storage tanks beyond the recommended capacity. Make sure that all chemical containers are appropriate and properly labeled. Check chemical application equipment for proper operation before use. Use appropriate personal protective equipment (PPE) such as chemical-resistant gloves, coveralls, boots, hat, apron, respirator, goggles, and face shield. Wash chemical-soiled clothing separately from other laundry and triple rinse.

Animal Handling Safety

Cattle can cause serious injuries and death to people. Being careless or in the wrong place at the wrong time can be costly. The National Safety Council reports that livestock are second only to machinery in the cause of farm accidents. Livestock are involved in

17 percent of all farm accidents. These are just the reported accidents. Many injuries are never reported.

The first consideration in working cattle should be safety for workers and livestock. Good facilities are important in providing a safe working environment for handlers and cattle. Adequate and well-maintained pens, gates, and equipment help prevent injuries. Proper restraint is critical when working with animals. If cattle are immobilized, they are less likely to be able to injure people during handling. Paying attention to what is going on will also help prevent injuries. Always know the positions of equipment and animals, and identify escape routes in advance. A person is more likely to be injured when distracted from the work at hand. Work cattle calmly using low stress handling techniques, and try not to get in too big a hurry or get frustrated.

Be aware of cattle temperament and warning signs of excitable cattle such as raised or pinned ears, raised tail or hair on the back, pawing the ground, and snorting. Male animals can be aggressive and dangerous, but protective females, especially new mothers, can be just as dangerous. Cattle use several different methods to protect themselves including flight, kicks, stomps, butts, and squeezes.

A spooked animal, even a small calf, can run into or over a person and cause severe injury. Mature cattle and calves kick and can pack a powerful punch. Cows tend to kick with a roundhouse motion, whereas calves tend to kick straight back. Leave plenty of room between cattle and people when working animals. Even tame cattle can injure handlers, especially if surprised. Standing behind a gate, even a latched gate, can result in injury if cattle kick or run into the gate. Cattle will also butt or intentionally run over people, particularly when provoked. Cattle restrained in squeeze chutes can still sling their heads, stomp, and cause injury. Standing between a gate and a fence or otherwise in the path of cattle can crush a person between the gate and the fence or between cattle and the fence. The weight of cattle can put a great deal of force on a person. Even an animal turning can press a person against a fence and cause injury.

Cattle can transmit diseases to humans either directly from contact or indirectly through the environment. Examples of such zoonotic diseases include anthrax, brucellosis, bovine spongiform encephalopathy, cryptosporidiosis, dermatophilosis, *E. coli* O157:H7, giardiasis, leptospirosis, listeriosis, melioidosis, pseudocowpox, Q fever, rabies, ringworm, Rift Valley Fever, salmonellosis, tuberculosis, and vesicular stomatitis. To limit disease risk, practice good hygiene and sanitation at all times. Use plastic sleeves or gloves when needed. Follow biosecurity practices for herd health and personnel protection. Zoonotic disease transmission risk also decreases with good herd health and disease control programs in place.

Plan for Safety

Have an emergency action plan in place including easy access to emergency contact phone numbers in the event of an accident. Keep a phone handy when operating machinery or handling livestock. Use the buddy system. Try to have more than one person on hand to handle livestock. When working alone is unavoidable, let someone else know the work plans including location and expected duration. Arrange for

someone to check-in on the equipment operator or animal handler periodically. Pursue training in CPR and first aid, and keep a first aid kit handy at all times. Do not overlook sun and heat exposure safety as well.

Develop and maintain common sense safety practices on beef cattle operations before they are needed. No one wants an accident to serve as a wake-up call to take safety seriously. Consider too that youth and employees on the ranch learn safety practices from experience. Make sure that these future ranch owners and managers are well versed in beef cattle operation safety. For more information about beef cattle production, contact an office of the Mississippi State University Extension Service.