
TO: Director, National Institute for Occupational Safety and Health

FROM: Iowa FACE Case No. 2006IA007 Report Date: 28 August 2007

SUBJECT: Farmer Attacked and Killed by Dairy Bull

SUMMARY

A lifelong dairy farmer from northeast Iowa was killed in the spring of 2006 when a 2-1/2 year old Brown Swiss dairy bull attacked him as he herded the dairy cows in for their evening milking. The farmer, who had moved to a nearby town, and his son continued to farm and do milking chores together. The father started to round up the cows from their open feedlot just before 4 PM. Shortly thereafter the son walked between the buildings of the farmstead, which blocked full view of the feedlot, on his way to join his father. He noticed several cows milling around near a building and gate at the southwest corner of the feedlot.

He rounded the corner of the building and discovered his father lying in the springtime mud among the cows, against a cluster of dead tree stumps, midway along the building's east wall (Photo 1). As the son moved in to help his father, the bull approached forcing him to scramble back under the gate and around the corner of the building. The son then summoned emergency assistance.

Although the bull had retreated to another part of the feedlot out of sight, rescuers remained anxious and watchful as they attended to the unresponsive victim, who had no pulse or spontaneous respiration as they prepared him for transport to the local hospital.



Photo 1 – A post remained standing in the cluster of dead tree saplings broken off in the bull's attack on the farmer, who was unable to hide behind them or escape.

The bull, which remained agitated throughout, was shot and killed by local law enforcement personnel with additional assistance from a local rifleman.

RECOMMENDATIONS

1. *Keep a safe distance from bulls, watch them carefully when with them in open yards, and learn to identify aggressive postures bulls exhibit before they attack.*
2. *Install protective obstacles and "person-gates", and plan escape routes from open cattle yards.*
3. *Cull aggressive bulls from the herd and, in general, do not keep bulls past 2 years old.*
4. *Protect rescue personnel by creating an effective barrier between the bull and the victim.*

INTRODUCTION

Mid-spring 2006 a 65-year-old Iowa dairy farmer was killed as he was rounding up dairy cows in an open cattle yard to move them toward the parlor for their evening milking. He was knocked down, pushed around, and butted repeatedly by an approximately 1700 lb (770 kg) Brown Swiss dairy bull that ranged freely in the cattle yard year around providing natural service to cows of the herd.

The victim was a longtime dairyman. Half a dozen years earlier, about 10 years after his son became fully active in farming, he had moved from the farm to a nearby town. He and his son had continued farming and sharing the milking chores. Together they farmed the two 160 acre (64.7 Hectare) they each owned separately plus another 80 acre (32.4 Hectare) parcel rented by the son. Together they cared for and milked their 40 head herd of mixed Holstein and Brown Swiss dairy cows.

The bull's attack was not witnessed, but the son arrived on the scene soon after it was over. Iowa FACE personnel were alerted by press clippings covering the incident and began their investigation within a week. Reports from the county, a visit to the incident site, an interview with the victim's son, contacts with livestock sales personnel and those who raise bulls, plus information gathered from dairy and animal behavior specialists contributed to this report.

INVESTIGATION

Arousing the cows in the open cattle yard and herding them into the milking parlor was a regular routine on this dairy farm. A 1700 lb (770 kg), 2-1/2 year old Brown Swiss dairy bull ranged freely with them in the cattle yard year-round to provide natural service to the 40 or so mixed Holstein and Brown Swiss cows of the herd.

The farmer carried a broken length of a pitchfork handle, similar to a policeman's baton or a bull stick, as he guided the cows. It came in handy to keep the cows moving in the right direction and to deter the bull if he wanted to barge into the parlor with the cows. Bulls can disrupt milking, feeding, and cleaning routines, especially in single-minded pursuit of cows in estrus. The pitchfork handle also provided some sense of protection for the farmer in case he needed to rap an aggressive bull across the nose, or catch its nose ring and the length of chain attached to it to give it a jerk and get the bull's attention.

The bull on this dairy farm came from an embryo transplanted into a heifer. He was born in October 2003 at a bull-raising enterprise. He was bottle fed, housed in a single-calf hutch two months, then moved into a group of 5-10 bulls and heifers of similar age for about seven months. He was subsequently penned with one or two other bulls or alone in a pen for parts of two months. Initially sold to a dairy farmer, this bull was most often cared for by the dairy farmer's wife as they approached the sale of their entire herd, at which time he was taken to a sale barn in July 2005, pastured for a time, and later resold to the victim and his son's dairy farm in October 2005.

Two weeks before this farmer was killed, he and his son were working among the cows in a smaller yard adjacent to the barn. The bull forced the son to jump into a hay manger to escape his charge. The father intervened, rapping the side of the bull's head with the pitchfork handle to divert the bull's attention and rescue his son. The bull had a nose ring with a length of log chain attached to it. This is done to deter and make it difficult for a bull to put its head down and charge forward because he will step on the chain, stumble, and jerk his nose ring. The farmer and his son considered lengthening the chain on their bull's nose ring.

Together the father and son had continued to farm 400 acres (162 Hectares), do the milking, and care for their cows, even after the father had moved to town and the son stayed on the farm. The wood-framed machine shed with sheet metal siding partially blocked the son's view of the cow yard as he walked on the gravel drive between buildings and bins on the farm that had been in his family for generations. He was heading to help his father push their dairy cows toward the parlor for their evening milking. His dad had gotten started early and was already in the feedlot.

Ahead in the southwest corner of the yard the son noticed the cows milling around by the gate that extended from the south end of the building. He rounded the southeast corner of the building and discovered his father among the cows. He was lying in the mud against the stump of a cluster of dead small tree trunks midway along the building's east outside wall. The bull had apparently challenged the farmer as the farmer began rounded up the cows. If the farmer had noticed aggressive postures by the bull in advance, he was unable to escape the bull's attack. The pitchfork handle and the cluster of dead tree trunks which were broken off during the melee were insufficient against the onslaught of the enormously powerful and quick bull. As the son moved to help his father, the bull again approached forcing the son to scramble back under the gate and around the corner of the building. The son then called for emergency help.

In the moments before the ambulance crew arrived at the scene, the bull had retreated to another part of the feedlot, out of sight behind the building. Emergency responders remained anxious and watchful anticipating the bull's return as they attended to the unresponsive victim, who had no pulse or spontaneous respiration as they prepared him for transport to the local hospital. He had signs of trauma to his head, chest, and lower extremities resulting from repeated butting by the bull's head and being pushed against the ground, tree stump, and building.

The Sheriff was on the scene at the same time as the ambulance crew. He walked to another gate that extended west from the northwest corner of the building. There he encountered the enraged bull much as the son had a few minutes earlier. The agitated bull, its eyes red and bulging, quickly chased the sheriff back over the gate. The bull was shot several times and was finally killed by a local rifleman who was summoned to help.

CAUSE OF DEATH

The cause of death was multiple trauma, including crushing of the farmer's thoracic cage.

RECOMMENDATIONS AND DISCUSSION

Recommendation #1 – *Keep a safe distance from bulls, watch them carefully when with them in open yards, and learn to identify aggressive postures bulls exhibit before they attack.*

Discussion: Dairy bulls are notorious in their behaviors to establish dominance, and to protect and possess their cow herd, especially during periods when cows are in estrus. Animal science experts say there is no totally safe bull, and therefore recommend artificial insemination, but the risks of a bull attack can be reduced by how they are raised and how dairymen work with them.

Bull calves raised suckling on a cow, socialized in groups of bulls or cattle of similar age and size, and those under 2 years of age are least likely to be aggressive toward humans. In addition, anyone who works around a bull should be vigilant, and have an escape route in mind especially when in open areas with a bull. It is important to recognize the signs of threat and aggression they exhibit. At a distance of approximately 20 ft (6 m) or less, a threatened or aggressive bull will turn sideways in an intimidating show of size and strength. Termed a broadside threat, this behavior is exhibited when another bull or a challenger (person) invades their “flight” zone. This broadside threat is followed by a head down posture, with the bull sometimes shaking his head from side to side, and his eyeballs may protrude. As the threat increases, the bull will paw the ground, sending dirt flying. He may also rub or horn the ground prior to an attack. In such circumstances, herdsmen should not turn and run but rather back away watching the bull at all times until reaching a fence or person-gate.

Recommendation #2 – *Install protective obstacles and “person-gates”, and plan escape routes from open cattle yards.*

Discussion: Obstacles behind which to hide intentionally placed in an open cattle yard and person-gates built into the yard’s fence can be vital if the bull is not deterred from attacking. Herdsmen working with a bull in an open yard should not do so alone and are well advised to keep a watchful eye on the bull as well as to have an escape route in mind at all times. Feed bunks, poles, gates, and other obstacles should be located in the cattle pen for refuge in case a bull attacks. Fencing with the lower rung 18 in (0.5 m) or more off the ground and easily-accessible person passages should be constructed in advance to afford quick escapes. Person-gate openings provide faster escape than climbing over a fence to get away from a charging bull. However, if there is no person-gate it’s generally quicker to drop and roll under a fence than to climb over one.

Recommendation #3 – *Cull aggressive bulls from the herd and, in general, do not keep bulls past 2 years old.*

Discussion: Any bull that charges a person should be culled from the herd as soon as possible. The probability is very high that they will do it again. Such a bull is a threat to anyone working on or visiting the farm and should get no second chance. Many producers follow an even more stringent rule of removing a bull at the very first sign of threat or aggression.

A young bull becomes mature at about 2 years of age and will challenge for dominance of the herd. Again, the most cautious producers do not keep a dairy bull past about age 2. Previous FACE and other information shows the prevalence of attacks by bulls age 3 and those 7 to 10 years old.

Recommendation #4 – *Protect rescue personnel by creating an effective barrier between the bull and the victim.*

Discussion: Agitated bulls are particularly likely to attack again. Those responding to a bull attack are rightfully wary. In a rescue after an incident, the bull is often euthanized. During rescue and recovery efforts the victim and attending personnel should be protected from the bull by creating a barrier of large equipment, vehicles, and other objects bulls cannot get over, under, or around. Bulls can jump over power take-off (PTO) shafts and wagon tongues. So, if a tractor and implement combination is used as a distraction, consider an additional vehicle or obstacle to block access over the PTO or tongue.

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Fatality Assessment and Control Evaluation FACE

Fatality Assessment and Control Evaluation, FACE, is a program of the *National Institute for Occupational Safety and Health* (NIOSH), which is part of the *Centers for Disease Control and Prevention* of the *U.S. Department of Health and Human Services*. Nationally, the FACE program identifies traumatic deaths at work, conducts in-depth studies of select work deaths, makes recommendations for prevention, and publishes reports and alerts. The goal is to prevent occupational fatalities across the nation.

The NIOSH head office in Morgantown, West Virginia, carries out an intramural FACE case surveillance and evaluation program and also funds state-based programs in several cooperating states. In Iowa, *The University of Iowa* through its *Injury Prevention Research Center* works in conjunction with the *Iowa Department of Public Health* and its *Office of the State Medical Examiner* to conduct the Iowa FACE program.

Nationally, NIOSH combines its internal information with that from cooperating states to provide information in a variety of forms which is disseminated widely among the industries involved. NIOSH publications are available on the web at <http://www.cdc.gov/NIOSH/FACE/> and from the NIOSH Distribution Center (1-800-35NIOSH).

Iowa FACE also publishes its case studies, issues precautionary messages, and prepares articles for trade and professional publication. In addition to postings on the national NIOSH website, this information is posted on the Iowa FACE site, <http://www.public-health.uiowa.edu/FACE/>. Copies of FACE case studies and other publications are available by contacting Iowa FACE, too.

The Iowa FACE team consists of the following specialists from the University of Iowa: Craig Zwerling, MD, PhD, MPH, Principal Investigator; John Lundell, MA, Co-Investigator; Murray Madsen, MBA, Chief Trauma Investigator; and Co-Investigator/specialists Risto Rautiainen, PhD, and Wayne Sanderson, PhD, CIH. Additional expertise from the Iowa Department of Public Health includes Rita Gergely, Principal Investigator, and John Kraemer, PA, from the Office of the State Medical Examiner.

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