



## The National Institute for Occupational Safety and Health (NIOSH)



# Farmer Dies After Being Pinned Between Large Bale and Tractor Loader

MN FACE Investigation 99MN02901

DATE: December 16, 1999

## SUMMARY

A 63-year-old male farmer (victim) died after he was pinned between a large bale and a tractor loader. The victim used a tractor equipped with a front-end loader to remove a large bale from the ditch of a public road. He apparently planned to use chains to pull the bale out of the ditch before lifting it with the loader. He turned the tractor perpendicular to the road and stopped it with the front wheels at the top of the ditch. The victim got off the tractor and entered the ditch with several chains to wrap around the bale. While the victim wrapped the chains around the bale, the tractor rolled into the ditch and came to rest against the bale. The loader apparently was raised high enough that it slid across the top of the bale and wedged the bale between the front of the tractor and the loader.

The victim was apparently along side the bale positioning the chains when the tractor rolled into the ditch. After the loader skidded across the top of the bale, the victim was pinned against the bale by the loader. Two passing motorists noticed the tractor against the bale, stopped to investigate and discovered the victim. One of the motorists got on the tractor and raised the loader while the other helped the victim to the ground. While one of the motorists stayed with the victim, the other drove to a nearby farm and placed a call to emergency personnel. Rescue personnel arrived at the scene shortly after being notified and transported the victim to a local hospital where he was pronounced dead several hours later. MN FACE investigators concluded that, in order to reduce the likelihood of similar occurrences, the following guidelines should be followed:

- operators should set vehicle parking brakes or shift transmissions to the park position when vehicles are stopped.; and
- machine engines should be stopped before workers leaving the operator's seat.

## INTRODUCTION

On July 21, 1999, MN FACE investigators were notified of a farm work-related fatality that occurred on July 17, 1999. The county sheriff's department was contacted and a releasable copy of their report of the incident was obtained. A site investigation was not conducted by a MN FACE investigator. During MN FACE investigations, incident information is obtained from a variety of sources such as law enforcement agencies, county coroners and medical examiners, employers, coworkers and family members.

## INVESTIGATION

On the day of the incident, the victim used a tractor equipped with a front-end loader to remove a large round hay bale from the ditch of a public road. The 66 horsepower tractor and the front-end loader were approximately 10-12 years old. The front-end loader was equipped with a bale spear that was designed for lifting large round bales. The bale spear was designed to securely hold a bale in a stable position during transport. The large round hay bale was approximately five feet in diameter. The weight of the bale wasn't known, however, the weight of large bales ranges from 750 to 1500 pounds or more.

Photographs of the scene indicated that the victim planned to use chains to pull the bale out of the ditch and onto the road before lifting it with the bale spear. He turned the tractor perpendicular to the surface of the gravel road and stopped it with the front wheels near the edge of the road and at the top of the grass covered ditch. The front of the tractor was positioned above and at a distance of 12-15 feet from the bale. After stopping the tractor, the victim got off of it and entered the ditch with several chains to wrap around the bale. While the victim was wrapping the chains around the bale, the tractor rolled into the ditch and came to rest with its front end against the side of the bale. The front-end loader apparently was raised nearly 6 feet high before the victim got off the tractor. Because of the height of the loader, the bale spear did not enter the side of the bale but instead slid across the top of the bale. After sliding across the top of the bale, the bale spear attachment dropped over the bale and caused the bale to be wedged between the front of the tractor and the loader attachment.

The victim was apparently along side the bale positioning the chains when the tractor rolled toward the bale. After the loader skidded across the top of the bale, the victim was pinned against the bale by the loader and he was unable to free himself. Two passing motorists noticed the tractor against the bale, stopped to investigate and discovered the victim who was conscious at the time. One of the motorists got on the tractor and raised the loader while the other helped the victim to the ground. While one of the motorists stayed with the victim, the other drove to a nearby farm and placed a call to emergency personnel. Rescue personnel arrived at the scene shortly after being notified and transported the victim to a local hospital where he was pronounced dead several hours after being found.

## CAUSE OF DEATH

The cause of death from the death certificate was not available when this report was completed.

## RECOMMENDATIONS/DISCUSSION

**Recommendation #1: Operators should set vehicle parking brakes or shift transmissions to the park position when vehicles are stopped.**

Discussion: Whenever any vehicle is parked, the operator should lock the brakes to prevent it from rolling. In addition, if it has a transmission that has a park position, the transmission shift lever should also be shifted to the park position before the operator dismounts. When the transmission is shifted to the park position the vehicle is locked in a stationary position and is prevented from rolling. Operators should not depend on leaving a manual transmission in one of the driving gears to keep a vehicle from rolling. Leaving a manual transmission in gear provides minimal protection from rolling and should never be considered or used as a safe and adequate means of preventing an unattended vehicle from rolling.

**Recommendation #2: Machine engines should be stopped before workers leaving the operator's seat.**

Discussion: Whenever a worker leaves a machine's operator seat or platform, they should stop the machine's engine and secure or activate all safety devices such as brakes to reduce the risk of injury to themselves or other workers. In addition, workers should never perform any machine service or repair with the engine running unless directed to do so by the operator's manual. If any service or adjustments require that a machine's engine be in operation, at least two persons

should be present to ensure that the tasks can be safely completed and all manufacturer's safety recommendations must be followed to safely complete the task. Although the victim in this incident wasn't doing service or repair work, a general safe work practice to reduce the risk of injury is to turn off the engine before leaving the operator's seat or station of a machine.

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Page last reviewed: November 18, 2015

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