The National Institute for Occupational Safety and Health (NIOSH)

Farm Youth Dies After Tractor She was Driving Rolled Over on Her

MN FACE Investigation 03MN021
Date: February 6, 2004

SUMMARY

A 12-year-old female (victim) died from injuries sustained when the tractor she was operating overturned. On the day of the incident, she was helping her father haul large bales from a farm field. Two flatbed wagons with bale racks were used to haul the bales and were hooked behind one tractor. Her father used the other tractor equipped with a bale fork to pick up the large bales and place them on the wagons. The victim's tractor was not equipped with a rollover protective structure (ROPS) and a seat belt. After the racks were full, the victim's father drove the tractor pulling the two wagons. His daughter drove the tractor with the front-end loader and began to follow him from the field.

The victim's father drove the tractor pulling the two racks from the field via a field driveway and onto the public road. He drove a short distance down the road and turned the tractor into the farm site driveway. After turning into the driveway, he looked back and saw his daughter drive her tractor onto the road. As it entered the road the tractor turned to the right and entered the road ditch. She tried to steer the tractor back onto the road, however as she did the tractor rolled over.

The victim's father returned to the scene and was met be a passing motorist. They used a towrope and the motorist's pickup to pull the tractor off the victim. Emergency personnel were notified of the incident and arrived approximately fifteen minutes after it occurred. They found that the victim was not breathing and did not have a pulse. During transport they were able to reestablish a pulse. She was then transferred to a major medical trauma center where she died three days after the incident. MN FACE investigators concluded that, in order to reduce the likelihood of similar occurrences, the following guidelines should be followed:

- **all tractors should be equipped with a rollover protective structure and a seat belt; and**
- **working youth should only be assigned age appropriate tasks.**

INTRODUCTION

On June 9, 2003, MN FACE investigators were notified of a farm work-related fatality which occurred on June 4, 2003. The county sheriff's department was contacted and a copy of their report of the incident was obtained. The report contained a detailed description of the incident which was witnessed by the victim's father. A site investigation was not conducted by MN FACE investigators. 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 helped her father haul large round hay bales from a farm field. Two farm tractors were used to load and haul the bales from the field. Two flatbed bale wagons were used to haul the bales and were hooked behind one tractor. The other tractor was a 10-12 year old Case-International Model 5140 with a wide front-wheel assist drive system. A front-end loader equipped with a bale fork was mounted on it. It was used to pick up the large bales and place them on the bale wagons. It was not equipped with a rollover protective structure (ROPS) with a seat belt or with a general purpose cab. The tractor was capable of a maximum speed of approximately 16-18 miles per hour however speed did not appear to be a factor in this incident.

The victim's father used the tractor and loader to load the two bale wagons with large bales. After the racks were full, he drove the tractor pulling the two wagons from the field. His daughter drove the tractor with the front-end loader and began to follow him from the field toward their farm site which was along a public road about 1/16th mile from the field.

The victim's father drove the tractor pulling the bale wagons from the field via a field driveway and onto the public road. He drove the 1/16th mile distance down the road and turned the tractor into the farm site driveway. After turning into the driveway, he looked back and saw his daughter drive the tractor equipped with the loader onto the road via the field driveway. After she turned it onto the road, the tractor continued to turn to the right and began to enter the ditch on the west side of the road. He observed that she tried to steer the tractor back onto the road, however as she did the tractor rolled over 180 degrees to the right side and into the ditch.

The victim's father returned to the scene and was met be a passing motorist who stopped at the scene. They used a towrope and the motorist's pickup to pull the tractor back onto it's wheels and off the victim. Emergency personnel were notified of the incident and arrived at the scene approximately fifteen minutes after it occurred. Rescue personnel indicated that the victim was not breathing and did not have a pulse when they arrived. While they transported her to a local hospital they were able to reestablish a pulse. She was then transferred to a major medical trauma center where she died three days after the incident.

CAUSE OF DEATH

The cause of death listed on the death certificate was multiple blunt force injuries due to tractor mishap.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: All tractors should be equipped with a rollover protective structure and a seat belt.

Discussion: Preventing death and serious injury to tractor operators during tractor rollovers requires the combined use of a rollover protective structure and a seat belt. These structures, either a roll-bar frame or an enclosed roll-protective cab, are designed to withstand the dynamic forces acting on them during a rollover. Seat belt use is necessary to ensure that the operator remains within the "zone of protection" provided by the rollover protective structure. Government regulations require that all tractors built after October 25, 1976, and used by employees of a farm owner be equipped with a rollover protective structure and a seat belt. Many older tractors in use on family farms do not have, nor are they required to have such structures to protect their operators in case of rollover. All older tractors should be retro-fitted with a properly designed, manufactured, and installed rollover protective structure and seat belt. If the tractor involved in this incident had been equipped with a rollover protective structure and a seat belt, and the seat belt had been in use, this fatality probably would have been prevented.

Recommendation #2: Working youth should only be assigned age appropriate tasks.

Discussion: Farm youth may often be assigned and perform many different work related tasks at a very young age. These tasks can range from simple chores such as providing feed and water to small animals to the operation of modern farm equipment. During their early teen years, some farm youth often perform tasks, such as operating machines similar to those that they are prohibited by government regulations from operating in other industries. This can result in youth being exposed to serious work place hazards at an early age and at times they may even perform tasks that are inappropriate for their age. Compared to adults, youth may lack work experience, physical size, and attention to task. The ability of youth to safely operate farm equipment may be compromised by cognitive abilities that are less well developed than in adults, by diminished visibility from operators' cabs designed for adults, and by control layouts that may not accommodate their reach. Whenever youth are assigned any work task, it is essential that the task is appropriate for the age and maturity of the youth. In addition, youth should always be trained to safely perform any assigned task and properly supervised by an adult until it is determined that the youth has learned how to safely perform the task.

REFERENCES

1. Office of the Federal Register: Code of Federal Regulations, Labor, 29 CFR Part 1928.51 (b), U.S. Department of Labor, Occupational Safety and Health Administration, Washington, D.C., April 25, 1975.

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