

DATE: October 4, 1996

FROM: Minnesota Fatality Assessment and Control Evaluation (MN FACE)
Program Minnesota Department of Health

SUBJECT: MN FACE Investigation 96MN04901
Farmer Dies Of Injuries Sustained While Trying To Stop A Rolling Tractor

SUMMARY

A 61-year old male farmer (victim) died from injuries sustained while apparently trying to stop a rolling tractor. On the day of the incident, the victim used a tractor and sprayer to spray thistles in his soybean fields. After he applied one tank of spray, he returned to an area near a wooden storage building. He stopped the tractor on the south end of the building to refill the sprayer tank. After he stopped the tractor engine he dismounted the tractor but did not lock the brakes or leave the manual transmission in gear. He apparently was working along the left side of the tractor, and slightly ahead of the left rear wheel when the tractor began to roll backward. After the tractor began to roll, the victim apparently tried to stop it from a position between the left rear wheel and the loader frame on the left side of the tractor. He may have stumbled as it rolled and struck the side of his head on the axle of the tractor or the loader frame fastened to the tractor axle. A short time later, the victim's wife discovered the tractor and sprayer about twenty feet from the southwest corner of the wooden storage building. She noticed her husband lying on his back underneath it with the front wheels of the tractor against his right hand and arm. She immediately returned to the house and placed a call to emergency personnel. Rescue personnel arrived shortly after they were notified, removed the victim and pronounced him dead at the scene. MN FACE investigators concluded that to reduce the likelihood of similar occurrences, the following guidelines should be followed:

- operators should set vehicle parking brakes or shift transmissions to park when vehicles are stopped; and
- farm workers and farm family members should be trained to stay clear of and move away from all "run away" tractors, vehicles, and machinery.

INTRODUCTION

On July 12, 1996, MN FACE investigators were notified of a farm work-related fatality that occurred on July 10, 1996. The county sheriff's department was contacted and releasable information obtained. Information obtained included a copy of their report of the incident, witnesses' statements, and copies of their photos of the incident site. A site investigation was conducted by a MN FACE investigator on August 14, 1996. 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

The victim's house was located on the north side of a public road and within several hundred feet of the road. Directly across the road was a small grove of trees and one small wooden storage building that was also located within several hundred feet of the road.

On the day of the incident, the victim used a tractor and sprayer to spray thistles in his soybean fields. The tractor was approximately 30 years old and was equipped with a front end loader. The sprayer consisted of a 14-gallon plastic tank and an electric sprayer pump placed in the loader bucket. A four nozzle sprayer boom was clamped to the leading edge of the loader bucket. After filling the sprayer tank, the victim drove through his bean fields and sprayed localized areas within the fields that contained thistles.

While the victim applied one tank of spray, his wife worked in the house until about 12:05 when she walked to their mailbox to get the mail. She noticed the tractor and sprayer about 20 feet from the southwest corner of the wooden storage building. She did not see her husband near the tractor and returned to the house. About 15 minutes later she walked back to the tractor and noticed her husband lying underneath it near the front wheels. He was lying on his back and the front wheels of the tractor were against his right hand and arm. An adjustable wrench was lying on the ground near his right hand. She immediately returned to the house and placed a call to emergency personnel. Rescue personnel arrived shortly after they were notified, removed the victim and pronounced him dead at the scene.

The victim's usual weed spraying routine, the location of the victim when he was found and evidence at the scene indicated the following probable sequence of events. After the victim

applied one tank of spray, he returned to the area near the wooden building. He stopped the tractor on the south end of the small building to refill the sprayer tank. After he stopped the tractor engine, he dismounted the tractor but did not lock the brakes or leave the manual transmission in gear. He apparently was tightening or loosening the hydraulic hose couplings that were located on the left side of the tractor, and slightly ahead of the left rear wheel. While working on the couplings, the tractor began to roll backward down terrain that dropped 30-36 inches over a distance of 45-50 feet. After the tractor began to roll, the victim may have tried to stop it from a position between the left rear wheel and the loader frame on the left side of the tractor. As it continued to roll, he may have fallen and struck the right side of his head on the left rear axle of the tractor or the loader frame and attachment bracket fastened to the tractor axle. It appeared that this was the most likely scenario that would have resulted in the victim being found in a position on his back underneath the tractor with the front wheels against his right hand and arm. There wasn't any evidence that he had been run over by any of the tractor's wheels.

CAUSE OF DEATH

The cause of death listed on the death certificate was massive head injury with basilar skull fracture.

RECOMMENDATIONS/DISCUSSION

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

Discussion: Whenever any vehicle is parked, the operator should lock the brakes to prevent it from rolling down sloping terrain. 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 used or considered as a safe and adequate means of preventing an unattended vehicle from rolling.

Recommendation #2: Farm workers and farm family members should be trained to stay clear of and move away from all "run away" tractors, vehicles, and machinery.

Discussion: Sloping terrain on many farms and farm yards can increase the potential for “run away” tractors, vehicles, and machinery. In addition, machinery which is not self-propelled does not have any type of steering or breaking mechanism. These factors increase the risk of injury and death to farm workers and family members who may instinctively run toward a unit to attempt to stop it or change it’s direction of travel. The risk is increased further if a unit is traveling across a farm yard toward a building, creating the potential for the individual to be pinned or crushed between the unit and the building. Through farm safety training and safety warnings published in farm journals, farm workers and family members should be made aware of the dangers of “run away” equipment. Farm workers and family members should be taught to stay clear of and move away from all “run away” tractors, vehicles, and machinery, even if the unit is likely to collide with farm buildings or other machinery.

REFERENCES

1. Agriculture Safety, Fundamentals of Machine Operation, 1987, Deere & Company, Moline, Illinois, Third Edition.

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