

Fatality Assessment and Control Evaluation Project

Public Health

KY FACE #97KY028

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To: Carl Spurlock, Ph.D., Director, Kentucky Injury Prevention and Research Center

From : Amy Scheerer, Investigator, KY FACE Project

Subject: Farmer Killed When Tractor Slides Over Embankment While Mowing

SUMMARY

A 56-year-old part-time farmer was killed when the tractor he was driving overturned while mowing. Using a rotary mower attached to the John Deere 1520 tractor, the farmer mowed an area near the roadway that had a gradual downward slope. The tractor was not equipped with a Rollover Protective Structure (ROPS) or seatbelt. After mowing two rows, he made a left turn to begin the third pass when the back tire began to slip in the moist soil underneath the grass. Due to the momentum and weight of the tractor and attachment, the farmer was unable to stop the vehicle. It slid 18 feet toward the edge of a steep 9-foot embankment. The tractor flipped over the edge and landed upside down, pinning the farmer beneath it. An occupant of a car driving by saw the overturned vehicle and went to a nearby house to call for help. Rescue personnel were dispatched to the scene at 1:45 pm and arrived in 15 minutes. Finding no vital signs, the coroner was summoned to the scene to pronounce the victim dead. In order to prevent similar events from occurring, FACE investigators recommend that:

- Older tractors should be retrofitted with ROPS and seatbelts
- Prior to beginning work, the area should be assessed for hazards

INTRODUCTION

On 3 March 1997, FACE investigators were informed of a 56-year-old male who had been killed in a tractor rollover. An investigation was initiated and a site visit made on 27 May 1997. An interview was conducted with the coroner who was present at the scene. Photographs of the scene were viewed. Copies of select photos were obtained along with a copy of the coroner's

investigation report.

The victim was a longtime principal of a local vocational school and had retired two years ago from his position. He planned to farm part-time after retirement and enjoy the extra time off. He had been involved in farming all of his life and was experienced with operating tractors and other farm equipment. In a joint agreement with a close friend, the farmer leased land to raise cattle. The victim was married and had been in good health.

He owned a John Deere 1520 tractor that was reportedly in good condition. This model was manufactured during 1969-1973. It has a 45 hp engine and a weight of approximately 4400 pounds. The tractor was not equipped with a ROPS or seatbelt. The rotary mower attachment was manufactured by New Holland.

INVESTIGATION

On the day of the incident the weather was warm and pleasant. Since it was a nice day, the farmer decided to mow the pasture land that he leased to raise cattle. Although he had mowed this land many times before, this was the first time he was going to mow it this year. There had been some light rain during the previous day which made the ground moist. After lunch, he drove the 1520 model John Deere tractor with a New Holland rotary mower attachment to a section of land that was near the roadway. Although the tractor was kept in good working condition, it was not equipped with a ROPS or seatbelt. The section of land where he began mowing was bordered by a wire fence along the road and gently sloped downward to a wooded area about 40-50 yards from the roadway. The terrain was fairly even except for an embankment bordering a dirt path which led from the road toward the woods. The height of the embankment from the dirt path was 9 feet with a slope of 45 degrees. It was covered in tall grass and weeds so it was difficult to discern the edge when on top of the embankment.

It is estimated that the farmer arrived at the pasture shortly after 12:30 pm. He unhooked a section of the fence to drive the tractor through and then started mowing the first row parallel with the fence. He mowed two rows in this pattern and began to make a sharp left turn to begin a third pass when the wheels began to slip in the moist soil beneath the grass. At the point where he began the turn, he was 6-7 yards from the edge of the embankment. The tractor's wheel left a gouge in the grass indicating that he slid 18 feet toward the embankment then flipped over the edge. The vehicle and mower landed upside down, pinning the victim underneath the tractor.

An occupant of a passing car saw the overturned tractor and went to a nearby house to call 911 for help. Rescue personnel were dispatched at 1:45 pm and arrived on the scene at 2:00 pm. Finding no vital signs, the coroner was summoned to the scene to pronounce the victim dead.

CAUSE OF DEATH

Cause of death as given on the coroner's report is neck fracture and depressed head injuries due to tractor rollover.

RECOMMENDATION/DISCUSSION

Recommendation #1: Older tractors should be retrofitted with ROPS and seatbelts.

Discussion: A Rollover Protective Structure (ROPS) is designed to protect the operator in the event of a turnover. A ROPS is only effective when used with a seatbelt which ensures that the operator remains in the protected zone of the ROPS. A ROPS kit is available for this John Deere model 1520 tractor for \$375 plus shipping and installation charges. In this case, it is likely that if the tractor had been equipped with a ROPS and the farmer had been wearing a seatbelt, he would have avoided fatal injury.

Recommendation #2: Prior to beginning work, the area should be assessed for hazards.

Discussion: An assessment of the terrain in an area of land that had not been used over an extended period of time could alert the farmer to hazardous conditions. In this case, because this was the first time the area would be mowed since winter, an assessment of the land could have indicated any changes in terrain. It could have also revealed that even though the grass was dry because the weather was warm and sunny that day, the ground beneath was still somewhat wet which could have alerted the farmer to take extra care in driving the tractor.