

Public Health
KY FACE #95KY03901
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TO: Carl Spurlock, PhD, Director and Epidemiologist, Kentucky
Department for Health Services

FROM: Ellyn Moon-Hampton, Kentucky Fatality Assessment and
Control Evaluation (KY FACE) Field Investigator

SUBJECT: Farmer Killed in Tractor Rollover

SUMMARY

A 66-year-old male farmer was killed in a tractor rollover incident. The victim was discing a small tobacco plot near his home when he lost control of his tractor. It went over an embankment, rolled one-half turn and landed on the victim before rolling further down the embankment. It was not equipped with a rollover protective structure (ROPS) or a seatbelt; its brakes were inoperable. The victim was pronounced dead at the scene by the county coroner. In order to prevent similar incidents, the KY FACE investigator concluded that:

- tractors should be retrofitted with Roll Over Protective Structures and seatbelts;
- equipment should be kept in good working condition;
- operators of farm equipment should have regular medical examinations by a qualified physician.

INTRODUCTION

On 8 May 1995, KY FACE was notified by a coroner of the death on 7 May 1995 of a farmer. An investigation was immediately initiated. The case was discussed by telephone with the county coroner, and on 31 May 1995, a KY FACE investigator traveled to the scene to continue the investigation. The coroner and the victim's widow were interviewed, measurements and photographs of the scene were taken, and copies of the coroner's report and photo negatives were obtained and reviewed. The emergency medical personnel who had responded to the call were not available on the day of the investigation, but were later interviewed via telephone. There were no eyewitnesses to this incident.

INVESTIGATION

The victim had been a farmer all his life, raising tobacco on his 80 acres of

land. He had also been a maintenance supervisor for a state university until 1984, when he retired from that position. This was to have been the first season that he planted only a small portion of his land, a relatively flat plateau of ground behind his house. He had a history of heart disease (spasms), and was on several medications for this condition. He had complained of not feeling well for several days prior to this incident, but his wife reported that he seemed to have been all right when he went out that morning to disc the small field.

The International 424 diesel tractor was manufactured in approximately 1966. Its rear tires were half-filled with fluid and it had spread front wheels. Horsepower (PTO) was 36.91, weight 3888 pounds. It was not equipped with counterweights, seatbelt, or rollover protective structure (ROPS). Its brakes had not worked for some time, according to family members. Its only attachment was the disc that the victim had been working with just prior to this incident.

Although there were no eyewitnesses to this incident, the victim was working near enough to his home (1000-1500 yards) that his wife could hear the tractor's motor running. At about 1:45 pm she heard a "clang" and then the sound of the tractor idling, so she went to check. She found her husband gasping or attempting to talk, so she ran to call for help. Neighbors arrived and turned off the tractor; they believed the victim to be already dead. Emergency medical personnel, as well as the coroner, who received the call while on duty with the fire department, arrived at 2:03 pm. EMS personnel detected no pulse or respiration. The coroner pronounced the victim dead at the scene at 2:15 pm.

From the evidence available, the following scenario is offered as a possible explanation for this incident: The victim was working in a relatively small and level plot which drops off on one side at a slope of about 13 degrees for a distance of about three feet, and then continues to drop at a slope of approximately 25 degrees. His tire marks indicated that he had been turning around at the ends of the rows, very near this drop-off. Apparently the rear tires of the tractor went over the edge and the tractor rolled backward 180 degrees, landed on the victim, and then rolled another 180 degrees, finally coming to rest upright when stopped by trees on the hillside. The victim's body was found lying approximately 20 feet down the hill, with no open wounds.

He had scrapes, bruises, and displacement of the left side of the chest and stomach, indicating blunt-force trauma. The tractor came to rest another 30 feet farther down the hill (a total of 50 feet from the field).

CAUSE OF DEATH

Cause of death as stated on the coroner's report was (a) blunt force trauma to chest, (b) due to farm tractor accident, (c) possible MI. No autopsy was performed.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Tractor owners should contact their county extension

agent, equipment dealer or equipment manufacturer to see if retrofit rollover protection and operator restraint systems are available for their equipment.

Discussion: The tractor involved in this incident, manufactured in 1966, was not equipped with ROPS or a seatbelt, which protect the operator in the event of a rollover, and in this case might have prevented the operator being crushed by the tractor. ROPS first became available as optional equipment on farm tractors in 1971. These safety features were not required on tractors, however, until 1976, when OSHA Standard 29 CFR 1928.51 went into effect. Although this standard does not apply to tractors manufactured prior to 1976, and thus would not apply to the 1966 model tractor in this case, it is possible to retrofit older tractors with ROPS and seatbelts, and it is strongly recommended that this be done whenever possible. Tractor owners should contact dealers, manufacturers, or county extension agents for information on sources of retrofit ROPS and operator restraint systems.

Recommendation #2: Equipment should be kept in good working condition.

Discussion: The brakes on this tractor were in need of repair. Although it is not known whether it would have changed the outcome in this case, proper preventive and routine maintenance can reduce risk and minimize injury due to equipment failures.

Recommendation #3: It is recommended that operators of farm equipment and machinery have regular examinations by a qualified physician.

Discussion: Although the victim in this case had been under the care of a physician, he had not reported to his doctor that he had felt unwell in the days just preceding this incident. A physical examination might have revealed symptoms that would have caused his doctor to advise him not to operate his tractor or other farm machinery.

REFERENCES

Standard Number 1928.51, Subpart C, US Department of Labor, Occupational Safety and Health Administration, OSHA CD-ROM (OSHA A94-2), February 1994.