



FINAL KY FACE #9406301

Date: 17 October 1994

Subject: Farmer Is Run Over By Tractor After Losing Control on a Public Roadway

SUMMARY

A 55-year-old male farmer was killed after the tractor he was operating left the roadway and ran over him. On the morning of the incident, the victim had been baling hay in a field seven miles from his home. After baling for about two hours, he left the field and proceeded home for lunch. About two miles from his home at 11:25 am, the victim's granddaughter (the witness), following the tractor and baler in a pick up truck, noticed the baler weaving in the road. It appeared the victim was having difficulty keeping the tractor in the right hand lane. The victim was traveling between 1720 mph when he veered far into the left lane on the two lane asphalt road. The witness reported the tractor then turned sharply to the right and veered off the road. After going down a steep embankment it came to rest about 30 feet from the paved road. The baler tongue broke when the top of the baler hit a tree. The tractor continued to roll 15 feet past the baler. The victim was found by the witness under the right rear tire of the tractor. She ran across the road to a house to summon help. The emergency squad was notified at 11:38 am. The victim was pronounced dead at the scene by the county coroner who estimated the time of death at 11:35 am. Cause of death was traumatic suffocation. The tractor, pulling a large baler, was not equipped with a seat belt or rollover protection. The Kentucky FACE investigator concluded that to prevent future occurrences, tractor owners and operators should:

- Equip tractors with rollover protection and seat belts
- Keep equipment in prime working condition

Additionally, specific efforts should be made to eliminate the exception of farm tractors from the seat belt law. 911 emergency calling service should be initiated county wide.

INTRODUCTION

On June 23, 1994, a 55-year-old farmer died after the tractor he was operating ran over him. On June 27, 1994, the Kentucky FACE investigator was notified by the Traumatic Farm Injury Surveillance in Kentucky (TFISK) nurse. On June 29, 1994, the Kentucky FACE investigator and the TFISK nurse traveled to the incident site to conduct an investigation. Photographs taken by the sheriff's office and the coroner were reviewed. The incident was discussed with the sheriff and EMS personnel. The witness, the victim's daughter and the victim's soninlaw were interviewed. The coroner, who was not available the day of the investigation, was interviewed later by phone. The coroner's report, police accident report and the medical examiner's autopsy were obtained. The tractor, baler, and the incident site were photographed.

The victim worked fulltime baling hay for farmers in the region. He had been farming all his life. One day a week he worked at a stock yard in a neighboring city. He had owned the tractor since 1975 and the baler since 1980. Both pieces of machinery were purchased new by the victim. About 4 years prior to the incident, the victim had sold his tobacco base and cattle and relied solely on baling hay as a means of income. According

to the victim's daughter, he had fallen off his tractor several years ago during an insulin reaction. She reported the victim was diabetic and also had a history of manic depression.

INVESTIGATION

The morning of the incident the victim left his farm after eating his breakfast and taking his medications. He arrived at the field in his pick up truck accompanied by his grand-daughter (the witness). The tractor and baler had been left at the field the previous day and he was returning to finish baling hay under agreement with the field owner. At 9:30 he arrived at the field. Shortly after 11:00 am, having completed the job, he began the trip home. Driving a 1975 Massey Ferguson 275 and pulling a 1980 New Holland 855 baler, the victim proceeded along a paved highway at about 18 mph followed by the witness in his pick up truck. The road was dry, weather conditions clear and close to 90 degrees. The tractor was not equipped with a seat belt or rollover protection. It was equipped with front end weights.

As the tractor proceeded along the road, the witness noticed a whipping action in the baler. She reported that this was often the case when the tractor was pulling the baler, however it seemed more pronounced the day of the incident. She also reported the tractor had frequently "cut out" during operations on preceding days but the fuel filter had been changed the previous evening and the fuel line had been changed the previous week. She reported the tractor was operating fine the morning of the incident. The sheriff reported other witnesses having heard the tractor "cut out" a few times just prior to the incident, however this was not confirmed by the granddaughter. She did report the tractor had been worked on a lot lately and the victim had complained of the diesel fuel quality.

On the morning of the incident, the cap to the power steering reservoir had been lost while baling the hay. The reservoir was replenished in the field. A rag was used to plug the reservoir and the baling operation continued.

At the completion of the baling job, the victim began the drive home followed by his granddaughter. Traveling westward, about two miles from the victim's home the road sloped gradually uphill. The tractor weaved far into the left lane then turned sharply to the right. It left the road, turning northward and went down a steep brush covered embankment. The witness reported the victim was standing up on the tractor just prior to leaving the roadway. The top right edge of the baler hit a large tree causing the baler tongue to break loose. The tractor continued for 15 feet and came to rest with the right rear wheel on top of the victim's chest.

The witness did not see if the victim had tried to jump from the tractor. Death occurred within minutes according to the coroner's report.

The witness went to a house approximately 150 feet away on the south side of the road to summon help. Emergency medical services received the call at 11:38 am. Two paramedics arrived at the scene at 11:58 am. Noting no pulse or respiration, the county coroner was notified. A wrecker lifted the tractor off the victim. The tractor was found in road gear with the key on. Both the tractor and baler were removed from the scene by the wrecker.

A long skid mark, caused by the left front wheel, was noted in the center of the east bound lane. Brush had been cleared from the embankment to allow for removal of the baler directly to the road. The tractor was pulled from the scene via another route. A barbed wire fence had been erected at the base of the embankment parallel with the road.

The 1975 Massey Ferguson 275 (67 horse power pto, 60 hp draw bar) suffered moderate damage during the

incident. Its left front wheel was broken off. The right front wheel and tie rod were intact. The hydraulic steering reservoir had a rag stuffed into the entry port. It was half full when checked by the investigator. A damaged seat was noted which was reportedly bent while removing the tractor from the scene. The tractor draw bar was bent downward about 5 inches from the neutral position. Attached to its end was a metal bracket from the baler. Attached to the power take off was half of the drive line from the baler. With the engine off, a complete rotation of the steering wheel was possible with little resistance before the right front wheel began to move. The tires were about 60% fluid filled. The engine started and ran smoothly. With the 600 pounds of added front end weight total tractor weight is estimated at 7500 pounds.

The New Holland 855 baler had an indentation on the upper right front corner. The tongue was broken near the point of attachment. The jack used to park and disconnect the baler from the tractor was missing. According the witness, this is stored at the victim's farm. The baler was in overall good condition. It weighed 5568 pounds.

CAUSE OF DEATH

The medical examiner ruled the cause of death as compression asphyxia sustained in a farm vehicle accident. Blood alcohol was negative and urine detected no drugs.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Owners and operators should contact their local equipment dealers to see if retro-fit rollover protection and operator restraint systems are available for this equipment.

Discussion #1: Since 1976, newly manufactured tractors are required to have operator restraints and rollover protection (19 CFR 1928.51). This tractor was manufactured in 1975. It can be retro fitted with roll over protection and a seat belt. (CDC NIOSH Update Jan.29,1993) A seat belt could have prevented the driver from falling off, or being thrown off the tractor when the baler hit the tree. (National Safety Council)

Recommendation #2: Owners and operators should maintain equipment in top working order.

Discussion #2: In this case the tractor steering wheel rotated with little resistance, turning one complete rotation before the wheel began to move. This excessive play in the steering wheel would make the tractor difficult to handle. Steering at 18 mph going up a slight grade, the false action of the steering wheel could cause an operator to over steer. Once the power steering pressure increased, the steering engaged. The tractor turned right, causing the skid marks in the road and leaving the operator no alternative but to proceed with the turn.

Additional comments:

Based on circumstantial evidence of this case five other possibilities are suggested.

1. The steering motor failed
2. The steering cylinder malfunctioned

2. The engine cut out and power steering was lost
4. The independent right rear brake was inadvertently pressed in an attempt to stop the tractor.
5. Low power steering fluid gave false action. The whipping action of the baler combine with continuous correcting caused the operator to overcompensate. This delay in wheel movement caused the operator to steer too far to the right. When the pressure in the hydraulic system built up, the wheels turned.

REFERENCES

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

National Safety Council Data Sheet I6222Reaf. 85 Tractor Operation and RollOver Protective Structures 1978.

Centers for Disease Control and Prevention National Institute for Occupational Safety and Health. Update. NIOSH Reports on the Preventability of Tractor Rollovers. January 29, 1993.