

Public Health
KY FACE #97KY008
11 March 1997

Date: March 11, 1997
To: Carl Spurlock, PhD, Director, Kentucky Injury Prevention and Research Center
From : Amy Scheerer, KY FACE Project
Subject: Farmer Killed on Tractor During Logging Operations

SUMMARY

A 21-year-old male was killed when he and his 19-year-old brother were engaged in logging activities their grandparents' farmland. They both had grown up helping with the family farm and for the last two years their primary source of income was cutting trees on the land to sell for firewood. After cutting down the trees, the normal routine was for the younger brother to operate the tractor to pull the trees to a clearing where they would be cut into pieces. Although the victim had experience operating tractors, he had never performed that particular task. Because there was no drawbar on the 1950 Massey Ferguson (model 30) tractor they used to pull the trees, they hitched a chain at a higher point than is recommended. After working for about 30 minutes, the two brothers got into a small argument. The victim stated that he also wanted to perform the task of hauling the trees to the clearing and got onto the tractor to pull a log which had been secured with the tow chain. Nearly immediately the tractor reared backwards and flipped over onto its side, trapping the victim underneath the steering wheel and fender. The tractor was not equipped with a rollover protective structure (ROPS). The younger brother witnessed the incident and ran to the grandparents' house and called 911 then drove another tractor back to the site and pulled the tractor off his brother's body. By this time rescue squads arrived but the victim was pronounced dead at the scene.

In order to prevent similar events from occurring, FACE investigators recommend:

- tractors should be equipped with a rollover protective structure (ROPS) and seatbelt
- hitching points on the tractor for tow chains should be carefully selected
- obtain training or instruction from experienced workers before performing new tasks

INTRODUCTION

On 29 January 1997, FACE was informed of the death of a 21-year-old male killed two days prior while operating a tractor to pull felled trees. Access to the site was denied by the family due to difficulty dealing with the tragedy. The coroner was contacted to obtain details of the case and an interview was conducted on 26 February 1997. Copies were obtained of the death certificate, coroner's report and EMS report. Photographs of the scene taken by the coroner were viewed.

While growing up, the victim and his younger brother had been involved in helping on the

grandparents' 130 acre farmland, which was hilly and mostly covered with trees. Tobacco had been the main crop grown but this ceased several years ago. About two years prior to the incident, the two siblings bought a house together near their grandparents and began logging operations full-time on the farmland. In addition to their own business, they would also assist their grandparents with other chores on the farm as needed. The victim had been in generally good health.

INVESTIGATION

For about 2 years, the victim in this incident and his younger brother had worked together full-time on their grandparent's 130-acre farmland clearing trees to sell for firewood. After felling the trees, they would chain one to the tractor then pull it to a clearing for cutting. Their usual routine was for the younger brother to pull the trees with a tractor; although the victim had experience driving tractors on the family farm, he had never performed this task. The tractor they used to pull the felled trees was a 1950 Massey Ferguson which was not equipped with a rollover protective structure (ROPS). It did not have a drawbar and thus they secured the 25-foot chain they used to pull the trees to a hook located high on the back of the tractor.

Because it had been raining on the morning of the incident, the brothers did not begin their work until about 1 pm. Although the area was covered with grass, it was very wet and muddy due to rain over the previous days. They both worked cutting down the trees and then securing a felled tree with the chain on the tractor. They had only been working for about 30 minutes when the brothers got into a small argument. The older brother wanted to prove that he could also perform the task of pulling the trees with the tractor, although he had no experience doing that task. He got onto the tractor to pull the attached tree which was about 8-10 inches in diameter. The younger sibling was standing about 10 feet from away and attempted to shout directions to his brother. Almost immediately, the tractor reared backward and flipped over onto its left side. The victim was thrown off, landed on his back, and was trapped underneath the steering wheel and the left fender of the tractor. The younger brother witnessed the incident and ran back to the grandparent's house about 3/4 miles from the site to get help. He called 911. There was no one at home to provide any further assistance. He drove the other available tractor, a Ford 3600 (also not equipped with a ROPS), back out to the site. The rescue squad was dispatched at 2:01 pm and arrived on the scene at 2:13. Using chains that were already attached to the Ford, the overturned tractor was pulled off of the victim's body. The coroner was called and the victim was pronounced dead at the scene.

CAUSE OF DEATH

The cause of death on the death certificate is listed as suffocation due to compression of chest as a result of farm tractor overturning and resting on chest.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Tractors should be equipped with a rollover protective structure (ROPS) and seatbelt.

Discussion: The 1950 Massey Ferguson (model 30) tractor that was being used to pull the cut trees was not equipped with a ROPS. The ROPS, in conjunction with wearing a seatbelt, provides a protective zone for the operator in the event of a turnover. In this case, if the tractor had been retrofitted with a ROPS and the victim had been wearing a seatbelt, the victim would have been kept in the protective zone of the ROPS when the tractor reared up and overturned, thus likely avoiding fatal injury. A ROPS kit for this tractor is available from SAF-T-CAB for approximately \$490 (this price includes the seatbelt but not shipping or installation charges).

Recommendation #2: Hitching points on the tractor for tow chains should be carefully selected.

Discussion: Improperly attaching a tow chain to a point above the tractor's drawbar can cause tractors to suddenly flip backward. In this case, the tractor did not have a drawbar which is normally used to attach a tow chain. The chain was secured to a hook higher up on the back of the tractor than what is safely recommended.

Recommendation #3: Obtain training or instruction from experienced workers before performing new tasks.

Discussion: In this case, although the victim was experienced in operating a tractor, he had never performed the task that caused the fatal incident. Obtaining instructions from an experienced worker and learning the hazards before beginning a new task can help to decrease the risk of injury.

REFERENCES

National Institute for Occupational Safety and Health (NIOSH). "NIOSH Warns: Improper Hitching to Tractors Can Be Fatal." NIOSH Update; January 1997.

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