

*Public Health*

*KY FACE #96KY05001*

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*To: Carl Spurlock, PhD, Director of the Kentucky Injury Prevention and Research Center (KIPRC)*

*From: Ellyn Moon-Hampton, MA, Fatality Assessment and Control Evaluation (FACE) Field Investigator*

*Subject: Front End Loader Overturns on Seed / Fertilizer Store Owner*

**SUMMARY**

*A 53-year-old farmer and partner in a seed and fertilizer business was loading fertilizer for a customer. He was driving the store's old front end loader, which had no roll over protective structure (ROPS) or seatbelt. After coming around to the back of the building where fertilizer was stored, he failed to turn the loader into the bin; instead it continued forward almost 50 feet to a ditch. When the front tire went over the edge of the ditch, the loader overturned, coming to rest on top of the victim. He died within minutes.*

*In order to prevent similar incidents, FACE investigators recommend that:*

- all mobile loading equipment should be equipped or retrofitted with rollover protective structures (ROPS) and seatbelts;*
- equipment should be maintained in good working condition; and,*
- when possible, operators of heavy equipment should not work alone.*

**INTRODUCTION**

*On May 21, 1996, FACE investigators were informed of the May 18 death of a 53-year-old farmer/businessman. An investigation was immediately initiated. The coroner who investigated the case was interviewed by telephone, and copies of his report and the autopsy report were obtained. On June 6, the FACE investigator travelled to the scene. Interviews were held with the manager of the seed/fertilizer store and with another employee, and photographs and measurements of the scene were taken. There were no eyewitnesses to the incident.*

*The victim was a farmer, and was a partner with other family members in the seed/fertilizer store founded by their grandfather in the 1880s. The store had been incorporated in the 1960s, and regularly employed five people: a manager, two office workers, and two yard workers.*

**INVESTIGATION**

*On the morning of the incident the weather was clear and cool. It was approximately 8:00 a.m.*

*when the victim offered to finish loading fertilizer for a long-time customer and friend, in order to allow the yard worker to get another job done and save the customer time. The victim was often on the premises and enjoyed driving the old end loaders. The one he drove on this particular morning was a Hughes loader manufactured about 1939. According to the manager, the loader was well maintained, and had had a recent brake job. The worker who had used it earlier that morning reported that it had been working properly.*

*In order to reach the fertilizer bin, the victim had to drive the loader around the end of the storage building, and then turn right, into the second bin. However, for an undetermined reason, the loader continued on its forward path rather than turning into the bin. It went about 50 feet further, straight past the fertilizer bins, until it reached a ditch. When a front tire went over the edge, the loader flipped, landing on the victim and pinning him underneath.*

*The manager and yard workers were on the other side of the fertilizer storage building. When the victim did not immediately return, they went to check on him. Emergency medical services (EMS) was called, but could detect no vital signs. The victim was pronounced dead by the coroner at 8:20 a.m.*

#### **CAUSE OF DEATH**

*Cause of death was traumatic asphyxia due to compression of trunk by heavy blunt object (front end loader).*

#### **RECOMMENDATIONS/DISCUSSION**

*Recommendation #1: All mobile equipment should be equipped or retrofitted with rollover protective structures (ROPS) and seatbelts.*

*Discussion: The 1939-model end loader in this case was not equipped with a ROPS or a seatbelt. Had such a system been in place, it is likely that the victim would have been secured within the ROPS-protected zone and not pinned beneath the loader. Following this incident, the manager of the store stopped using the old equipment and began using new, rented loaders which are equipped with ROPS and seatbelts.*

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

*Discussion: Although the loader in this case was believed to be in good working condition, it was very old. It is possible that the victim was having some mechanical difficulty which prevented him from turning or stopping when he should have. This is merely supposition, however; it has not been shown that any equipment malfunction was involved.*

*Recommendation #3: When possible, operators of heavy equipment should not work alone.*

*Discussion: The large proportion of occupational fatalities that are attributable to machines such as the end loader in this case indicates the need for another person to be present when such machines are operated. In many cases, immediate notification of emergency medical personnel could make a crucial difference.*