

DATE: April 13, 1994

FROM: Minnesota Fatality Assessment and Control Evaluation (MN FACE) Program
Minnesota Department of Health

SUBJECT: MN FACE Investigation 93MN06301
Farmer Dies After Becoming Entangled in Hay Baler

SUMMARY

A 48-year-old male part-time farmer (victim), died from injuries he sustained when his left arm became entangled in the rollers of a large round hay baler and was amputated. The power-take-off (PTO) of the tractor pulling the baler had not been disengaged, and the baler was still operating at the time of the incident. After completing the first round of a hay field, the victim dismounted the tractor and was apparently attempting to engage the bale tier at the front of the baler. He became entangled in the bale rollers behind the pickup mechanism and was pulled over the baler's front frame and through the belts to his waist. His left arm was eventually amputated from the motion of the rollers. MN FACE investigators concluded that, in order to reduce the likelihood of similar occurrences, the following guidelines should be followed:

- > operators should observe and follow all applicable safety precautions when operating PTO-powered equipment; and
- > operators should not reach into a hay baler while it is running.

INTRODUCTION

MN FACE was notified of an October 13, 1993 farm work-related fatality on October 14, 1993. The county coroner was interviewed, and the county sheriff's report and photos of the incident were obtained. A site investigation was conducted by MN FACE investigators on November 3, 1993, but the hay baler involved in the incident could not be inspected.

The victim was a part-time farmer. He was baling hay on a 10-acre land parcel owned by another family when the incident occurred. He had harvested the field in past years and had spent the previous two days cutting and raking the hay. He was alone at the time of the incident.

INVESTIGATION

The victim was using a PTO-powered hay baler pulled by a farm tractor. The baler was approximately 19 years old and produced large round bales. Baler features included feed rollers for pulling the crop into the baler from the pickup mechanism and a twine wrap system for tying the hay bales. The baler was not purchased new by the victim. It is unknown whether he possessed a manufacturer-supplied operator's manual for the baler.

The victim was last seen alive by residents of the property as he began making the first round in the field with the tractor and baler. Residents noticed the equipment at a standstill about 30 minutes after completion of the first round and bale. They did not see the victim. Upon investigation, they found the tractor running and the PTO engaged with the baler still operating. The victim had been pulled into the baler's belted front opening. The victim's body was on top of the front horizontal frame of the baler and through its belted front opening to about his waist. His left arm had been pulled into the feed rollers behind the hay pickup mechanism and amputated at the shoulder from their motion.

The tractor and baler were shut off, and a 911 call was placed. First responders arrived within ten minutes but the victim was dead at the scene. It was necessary to remove the hay bale and to disassemble portions of the baler to remove the victim.

The victim's son told other investigators that sometimes the baler's tying mechanism would not engage. His father would then activate it by manually tossing hay into the baler. It is possible that he was attempting this when the incident occurred. In photographs, the twine was tightly wrapped around the same rollers that entangled the victim's left arm.

CAUSE OF DEATH

The cause of death listed on the death certificate was multiple traumatic injuries due to hay baler accident.

RECOMMENDATIONS/DISCUSSION

***Recommendation #1:** Operators should observe and follow all applicable safety precautions when operating PTO-powered equipment.*

***Discussion:** When operating PTO-powered equipment, the operator should observe and follow all*

applicable safety precautions. The PTO should be disengaged and the tractor engine shut off before dismounting, for any reason, from a tractor operating PTO-powered equipment. These precautions provide the operator three-way protection: 1) from shaft rotation; 2) from moving machine parts; and 3) from the unexpected engagement of power by another person when an operator is cleaning, servicing, adjusting, or repairing the equipment. The operator should wait for all machine movement to stop before servicing, adjusting, cleaning, or unclogging the equipment. Moving machinery parts present hazards which may result in entanglement in the equipment.

Recommendation #2: Operators should not reach into a hay baler while it is running.

Discussion: High speed feed rollers are used to quickly pull the crop from the pickup mechanism and force it into the baling chamber. The feed rollers may suddenly pull a worker's hands and arms into the baler before they can react.

REFERENCES

1. Agriculture Safety, *Fundamentals of Machine Operation*, 1987, Deere & Company, Moline, Illinois, Third Edition.

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