

DATE: August 20, 1993

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

SUBJECT: MN FACE Investigation 93MN00501
Man Dies After Falling From a Horse-Drawn Wagon and Striking a Tree

SUMMARY

A 36-year-old male laborer (victim) died of injuries he received after falling from a run-away horse-drawn wagon and striking a tree. He was driving the wagon through a wooded area collecting maple sap from five sap-collecting workers for syrup processing. He was hauling a large oval 250-gallon tank in a wooden wagon with four rubber tires. He stood on the wagon, behind the tank, during travel. The wagon, approximately 3 x 8 feet long and 3 feet high, was pulled by a 5-year-old, 2,200 pound Belgian-mix gelding. Horses were used for hauling in the area to minimize disruption to the trees' root systems. The five sap collectors were not prepared to empty maple sap into the tank when the wagon passed by the first time. The driver proceeded to a small clearing in the woods and began turning the wagon sharply to travel past the collectors again. As the wagon was turning the horse bolted and ran. The wagon hit a tree and the driver was thrown from it. He hit an adjacent tree and sustained abdominal and chest injuries; he died two days later in a hospital. The ground was still frozen at the time of the incident. The noise created by the wagon as it travelled over frozen ground and/or seeing the large tank behind him as he turned sharply may have frightened the horse. MN FACE investigators concluded that, in order to prevent similar occurrences, the following guidelines should be followed:

> drive horses from ground level, or simply lead them, when maneuvering loads
in close quarters.

INTRODUCTION

MN FACE began an investigation of an April 3, 1993, fatal work-related fall incident after becoming aware of it while reviewing death certificates on June 21, 1993. MN OSHA, the county coroner, the attending physician, and the funeral director involved with the incident were contacted and information was obtained. A site investigation was conducted July 1, 1993.

The victim had been employed as a general laborer for three years at a company whose main enterprise was packaging and shipping wild rice. The company also sold Indian beadwork, birch bark products, and maple syrup, which was processed on site. The syruping process, which included tree tapping and hauling and cooking maple sap, occurred between the beginning of March and mid-April. The number of workers employed and the number of hours worked varied, depending on the season. At the time of the incident, six workers (the victim and five sap collectors) were employed. The victim had been provided on-the-job training for driving horses during maple sap collection.

INVESTIGATION

The incident took place in a low wet wooded area where maple sap was collected for processing maple syrup. Horse-drawn wagons were used on narrow trails in the area for hauling to minimize disruption to the maple trees root systems. Trees were tapped in early March; hauling and processing of sap continued through mid-April. The operation consisted of 5,000 taps or 2,500 pails (2 taps/pail) and, this season, a total of 480 gallons of syrup had been produced.

Sap was collected from trees in 4-gallon stainless steel pails. It was transferred from these pails into 5-gallon plastic pails with handles. Sap collectors carried the sap to a wooden wagon holding a large oval metal 250-gallon tank; it was poured into the tank through a filtered opening at the top. Sap from the 250-gallon tank was then pumped with gas powered engines from one of two stations in the woods to the processing building about one-half mile away. The wagon was approximately 3 x 8 feet long, 3 feet high, and had rubber tires. The wagon driver stood on the wagon behind the tank during travel.

The victim, who was driving the wagon, and five sap collectors were in the woods at the time of the incident. Sap collection was just beginning at approximately 9:00 a.m. and the 250-gallon tank was empty. The ground was still frozen at that time of the morning. A 5-year-old, 2,200 pound Belgian-mix gelding was pulling the wagon. He had been used for logging and had pulled sleighs in the past, but it was his first syruping season hauling the maple sap tank. He wore blinders and had pulled the wagon for four days previous to the incident.

The sap collectors were not ready to unload sap when the victim drove by them so he continued to a small

clearing to turn the wagon around to pass by them again. As he turned the wagon, the horse bolted and ran. The noise created by the wagon going over the frozen ground and/or seeing the large tank behind him as he turned sharply may have caused the horse to bolt. The wagon hit a tree, and the victim was thrown from it. He hit an adjacent tree and sustained abdominal and chest injuries.

Another worker ran for help and a 911 call was placed. A visitor on the scene, who had some Red Cross training, went to the incident site immediately to calm and care for the victim. Hay and blankets were brought out for the victim to lie on while waiting for the ambulance. He was conscious and attempting to stand at this time. He was transported to a local hospital and later air-lifted to a larger one, but he died two days after the incident from complications arising from his injuries.

CAUSE OF DEATH

The cause of death listed on the death certificate was blunt trauma to abdomen and chest due to or as a consequence of injuries after riding a horse. The death certificate also listed "fell from horse-drawn wagon" as a description of how the injury occurred. After speaking with the victim's employer, it was determined that the victim was thrown from the wagon at the time of the incident.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Drive horses from ground level, or simply lead them, when maneuvering loads in close quarters.

Discussion: The horse was wearing blinders at the time of the incident. In addition, the company owner informed the MN FACE investigator that sap collection was not attempted in windy weather when falling or blowing branches could frighten horses. There is always the possibility when working with animals, however, that they will become fearful of something and bolt. Considering the horse's inexperience in pulling the wagon and sap tank and the small area in which to turn the wagon, leading the horse during the turn may have been prudent.

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