DATE: October 28, 1996

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

SUBJECT: MN FACE Investigation 96MN05501
Pea Combine Operator/Cleaner Dies After Being Run Over By Pea Combine

SUMMARY

A 19-year old male pea combine operator/cleaner (victim) died of injuries sustained when he was run over by a pea combine. The victim and six coworkers arrived shortly before 6:00 p.m. at a partially harvested pea field. The victim operated one of four pea combines for about three hours until the crew was notified to stop harvesting for several hours. While harvesting operations were suspended, the crew worked on cleaning and servicing the combines. The service equipment and the combines were parked in a portion of the field where the peas had been harvested. At night, the two combines that were not being cleaned were parked perpendicular to and facing the two combines that were being cleaned. This was done so the combine headlights could be used to provide lighting around the combines that were being cleaned. While the last two combines were serviced, the victim walked into the unharvested portion of the field, laid down to rest and apparently fell asleep.

After the last two combines were serviced, one of the crew members got into the cab of the combine parked closest to the unharvested peas. He backed it toward the victim before driving forward and parking it near one end of the field. Unknowingly, he backed into the unharvested peas and one of the rear combine wheels ran over the victim. After all of the combines were parked, the crew members discovered that the victim was missing. A search was begun and he was discovered a short time later. A call was made to emergency rescue personnel who arrived shortly after being notified and pronounced the victim dead at the scene. MN FACE investigators concluded that to reduce the likelihood of similar occurrences, the following guidelines should be followed:

- employers should establish designated safe areas for employee use during break

periods.

INTRODUCTION

On July 22, 1996, MN FACE investigators were notified of a work-related fatality that occurred on July 21, 1996. The county sheriff's department was contacted and releasable information obtained. Information obtained included a copy of their report of the incident. A site investigation was conducted by a MN FACE investigator on September 3, 1996. During MN FACE investigations, incident information is obtained from a variety of sources such as law enforcement agencies, county coroners and medical examiners, employers, coworkers and family members.

The employer in this incident was a vegetable processing company that employed approximately 130 full-time year round employees. In addition, nearly 750 part-time seasonal employees were employed during the pea and sweet corn harvest seasons. Many of the seasonal employees were local residents who were hired annually by the company. The company had a safety director and a written safety program that covered all employees. The company had seasonal employee safety manuals that were written in English and Spanish. Annually, all seasonal employees were required to attend a general two hour safety orientation session. Additional job specific safety training related to specific job titles was also provided. Pea combine operators/cleaners received two additional hours of classroom training and four hours of on-the-job training. On-the-job training consisted of driving the combines on company property and several hours of supervised operation of the combine under actual harvest conditions.

The victim was part of a crew of seven workers harvesting peas. The victim had been employed by the company as a seasonal worker in the past. This was the first year that he worked as a combine operator/cleaner and he had about three weeks of experience at the time of the incident. The pea harvest and processing activities were seasonal operations that occurred continuously around the clock at the time of the incident. The crew that the victim was assigned to worked a twelve hour shift from 6:00 p.m. until 6:00 a.m. Although the processing activities at the plant were nearly continuous whenever fields could be harvested, the operations in the fields were intermittently interrupted, most often when the harvest rate exceeded the processing capacity of the plant.

INVESTIGATION

The victim and his coworkers arrived shortly before 6:00 p.m. at a pea field that had been partially harvested during the day by another crew. Harvest equipment at the field included the van that members of the crew drove to and from work, four pea combines, a farm tractor, a utility trailer and a dump cart. The utility trailer and the dump cart were hooked together and hitched to the tractor drawbar. The trailer and the cart contained equipment and supplies that were used to clean and service the pea combines.

After arriving at the field, the victim operated one of the pea combines for about three hours until the crew was notified to discontinue harvesting for several hours because of a surplus of peas waiting to be processed at the plant. During the period of time that harvesting was suspended the victim and his coworkers worked on cleaning and servicing the pea combines. Although all the workers were involved to some degree with cleaning and servicing the combines, it was not necessary for all of them to be actively involved at the same time. When not actively involved, workers took breaks including periods of rest or sleep in the crew van.

The service equipment and the combines were parked in a portion of the field where the peas had been harvested. The service equipment and the combines were arranged as shown in Figure 1 so two combines could be serviced and cleaned simultaneously. At night, the two combines that were not being cleaned were parked perpendicular to and facing the combines that were being cleaned. This was done so the combine headlights could be used to provide lighting around the combines that were being cleaned. After servicing the first two combines, the crews rotated all four combines and serviced and cleaned the other two combines. While the last two combines were serviced, the victim walked into the unharvested portion of the field and laid down in an area about 31 feet from the back of the combine parked closest to the unharvested peas.

After the last two combines were cleaned and serviced, one of the crew members got into the cab of the combine that was parked closest to the unharvested peas. He started the combine and backed it toward the victim before driving forward and parking it near the south end of the field. Unknowingly, he backed into the unharvested peas and one of the rear combine wheels ran over the victim. Although the combine was equipped with a working audio back-up/reverse alarm, the victim apparently had fallen asleep and did not hear the alarm or the sound of the combine engine. After all of the combines were parked in an area near the south end of the field, the

remaining crew members discovered that the victim was missing. A search was begun and the victim was discovered a short time later. A call was made from the van radio to emergency rescue personnel. They arrived shortly after being notified and pronounced the victim dead at the scene.

CAUSE OF DEATH

The cause of death listed on the death certificate was massive crush injury of head and upper chest.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Employers should establish designated safe areas for employee use during break periods.

Discussion: This incident occurred at a work site that had several characteristics that contributed to the occurrence of the incident. The work site was a large agricultural

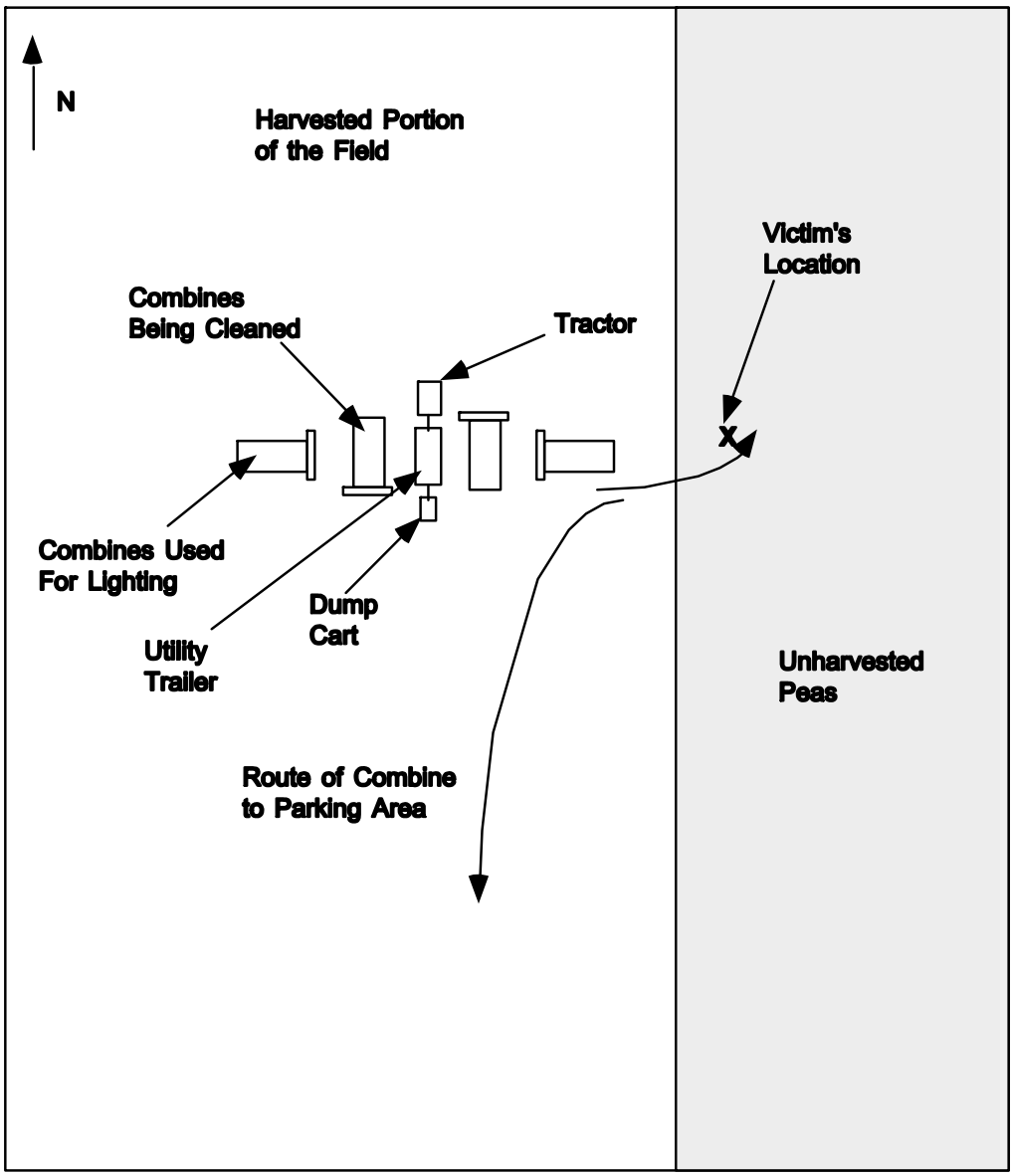

Figure 1. Incident Site-Not To Scale

1

field where there weren't any established boundaries to separate the actual work areas from a safe area where workers could go during rest or lunch breaks. A designated rest area in this type of work environment was necessary because workers were on site for twelve hour shifts. In addition, they were working during the night when visibility was limited to areas that were illuminated by artificial lights. If a designated safe area with

marked boundaries had been established in a location away from the unharvested portion of the field, this fatality probably would have been prevented.

George Wahl M.S.
Senior Safety Investigator
MN FACE

David L. Parker, M.D., M.P.H.
Principal Investigator
MN FACE