

## Tractor Runs Over Asparagus Sledder<sup>1</sup>

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California NURSE Project<sup>2</sup>

### SUMMARY : CASE 292-008-01

An **asparagus sledder** was loading bunches of asparagus into large bins. The bins ride on platforms built onto a tractor. As the tractor moves slowly through the field, the sledder steps off the platform, scoops up a bundle of asparagus, jumps back on the platform and puts the asparagus into the bin.

The field was soft and bumpy, and the platforms and bins were bouncing around. The sledder jumped onto the platform with a load of asparagus in his hands. He tried to lean against a bin to steady himself, but the bin had bounced out of position. He lost his balance and fell against the rear wheel of the tractor. The tire tread caught his loose jacket and pulled him off the platform and down to the ground. The wheel then ran over his chest. Fortunately, the ground was soft and the tire pressed the worker into the dirt without crushing his chest.

How could this injury have been prevented?

- Wear tight-fitting clothing when working around moving machinery.
- Think safety when redesigning equipment. The tractor should have had a guard rail to protect the worker from the rear wheel, and the bins should have been anchored to the platforms.
- Work as a team. The tractor driver might have been able to stop the tractor when the sledder fell if he was watching his partner.
- Keep hands free when working.

### BACKGROUND

On March 20, 1992, a local acute care general hospital reported that an asparagus sledder had been admitted for treatment of a crushing injury to his chest and possible rib fractures. The worker had lost his balance and was pulled underneath the wheel of a tractor. At the time of the injury the worker had been loading asparagus into transport bins, or "sleds", which are mounted on platforms next to the rear wheels of the tractor.

The incident took place in an asparagus field of approximately 500 acres. A nurse from the NURSE Project discussed the incident with the injured worker on March 25, 1992. NURSE staff reviewed the emergency medical services run sheets and the hospital medical records. A Senior Safety Engineer and a nurse from the NURSE Project discussed the incident and conducted an on-site investigation with the worker's employer, a farm labor contractor, on April 6, 1992. Farm labor contractors are used by some farm owners and operators of large corporate farms in California to recruit, train and manage workers. This contractor has a crew of approximately 120 workers specializing in asparagus picking. The crews work approximately six months on the asparagus harvest.

The incident was not reported to or investigated by the California Occupational Safety and Health Administration (Cal/OSHA). The farm labor contractor's safety program was reviewed by the NURSE Project Safety Engineer and was found to address all seven points required by Title 8 California Code of Regulations 3203 -- Injury and Illness Prevention Program. (As of July 1, 1991 the State of California requires all employers to have a written seven point injury

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1. This document, CDHS(COHP)-FI-92-005-10, was extracted from a series of the Nurses Using Rural Sentinel Events (NURSE) project, conducted by the California Occupational Health Program of the California Department of Health Services, in conjunction with the National Institute for Occupational Safety and Health. Publication date: May 1992.

2. NURSE Project, California Occupational Health Program, 2151 Berkeley Way, Annex 11, Berkeley, CA 94704.

prevention program: designated safety person responsible for implementing the program; mode for ensuring employee compliance; hazard communication; hazard evaluation through periodic inspections; injury investigation procedures; intervention process for correcting hazards; and a health and safety program.)

## INCIDENT

On March 13, 1992 at approximately 11:50 a.m. a field worker was loading asparagus into a bin on a platform attached to a tractor. The worker lost his balance, was pulled off the platform, down to the ground, and run over by one of the large rear wheels of the tractor.

The asparagus loading operation uses tractors with the seat removed, and with platforms for holding asparagus bins attached around the sides and rear. The driver stands on a platform at the rear of the tractor, where he observes his co-worker and controls the vehicle. His co-worker, the "sledder", also rides the platform and steps off to retrieve the bunches of asparagus which have been cut and stacked on top of the field rows by the pickers/cutters. The sledder keeps an 18 inch rubber loop wrapped around both hands and uses it as a sling to pick up the bundles of asparagus. The sledder places the asparagus in the large bins which ride on the platforms on the outside of the tractor wheels, one bin on each side of the tractor. The bins rest on tracks on the platform, secured at one end. As the asparagus is laid in the bins a burlap cloth covering is laid over the stacked asparagus at one foot intervals to keep the asparagus from moving. When the bins are filled to the top (approximately 3 feet high) they are covered with a final burlap cloth which is fastened down. The full bins are then removed to a waiting truck, and an empty bin is placed on the sled. The driver and the sledder work as a team and switch positions throughout the work day.

The sledder was wearing a loose fitting jacket when the incident occurred. He ran up to the platform with both hands holding a load of asparagus in the rubber sling. The rows had been newly cultivated to remove weeds and make easier access for the tractor. The platform was soft and unsteady due to the bumpy field the tractor was moving over. The worker jumped up onto the platform and attempted to lean against the bin to gain his balance, but the bin had bounced off its track on the platform, and he was unable to steady himself.

As he lost his balance he leaned forward on the work platform and came into contact with the rear wheel of the tractor. The tire tread caught his loose jacket and

he was unable to free it. He yelled to the driver that he was caught. His shirt then became caught and he was pulled off the platform by the wheel and down to the ground, where the wheel rode over his chest. The tractor had run over the sledder by the time the driver became aware of the incident and stopped the tractor.

The local emergency medical service (EMS) responded to a call from the field foreman at 12:00 p.m. and arrived about 13 minutes later. Upon arrival the EMS paramedics found an alert 18 year old Hispanic male with normal vital signs, pressed deeply into the soft dirt of the field and complaining of chest pain, low back pain and difficulty breathing. He had an abrasion but no deformity of his lower leg. The paramedics splinted the injured worker's left leg and immobilized him by strapping him to a spine board. Paramedics gave the worker oxygen and started an IV of normal saline, and put him on a cardiac monitor for observation. After a difficult extrication the ambulance was enroute to the hospital about 20 minutes later, and arrived at the hospital emergency room after another 20 minutes (at approximately 1:00 p.m.)

The hospital admitting diagnosis was crush injury to the chest with possible fractures on the left side. The injured worker was admitted for further evaluation, observation, and pain control, and was discharged two days later after internal injuries were ruled out. At the time of the worker interview, 12 days after the incident, the worker was at home and stated that he had no serious injuries and only had mild pain to the chest area.

## PREVENTION STRATEGIES

1. The contractor independently investigated the incident and instituted a rule that prohibits employees from wearing loose clothing when driving or working around the tractor/sledding operation. If the worker had been wearing tight-fitting clothing which could not become caught by moving parts he would not have been pulled off the platform by the tractor wheel. This is an inexpensive and relatively simple way of preventing machinery entanglement\*.  
**\* Title 8 California Code of Regulations 3383 (b): "Loose sleeves, tails, ties, lapels, cuffs, or other loose clothing which can be entangled in moving machinery shall not be worn."**
2. Employers should consider safety guards when modifying tractor or farm equipment. A guard rail should have been installed between the bin platform and the large rear wheels of the tractor. In this incident the sledder could have grabbed the guard

rail to keep from losing his balance, thus avoiding coming into contact with the wheel.

3. Employers should consider safety engineering when modifying tractor or farm equipment. The bins are anchored at the front of the tractor platform, but at the rear the bins are not anchored to the platform, allowing the bins to move around when the tractor hits a bump or rough terrain in the field. The asparagus bins should be anchored both at the front and the rear when installed on the tractor platform. In this incident if the bins had been stabilized the worker might not have lost his balance and would have avoided coming into contact with the wheel.
4. Workers who are working as a team need to be sure that there is constant communication and visual contact between themselves. In this incident if the sledder had been able to signal the driver that he was caught on the wheel, or if the driver had stopped the tractor as soon as the sledder was caught, the worker would not have been pulled off the platform and subsequently run over.
5. Standard operating procedure should ensure that employees have a full range of motion. This operation requires employees' hands to be bound while jumping on and off a moving platform. In this incident the employee was unable to steady himself with his hands, and his chest and clothing came into contact with the rear wheel. Procedures that would leave employees' hands free should be developed. These might include bundling asparagus in the field before it is picked up and placed in the bins.

## FURTHER INFORMATION

For further information concerning this incident or other agriculture-related injuries, please contact:

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The NURSE (Nurses Using Rural Sentinel Events) project is conducted by the California Occupational Health Program of the California Department of Health Services, in conjunction with the National Institute for Occupational Safety and Health. The program's goal is to prevent occupational injuries associated with agriculture. Injuries are reported by hospitals, emergency medical services, clinics, medical examiners, and coroners. Selected cases are followed up by conducting interviews of injured workers, co-workers, employers, and others involved in the incident. An on-site safety investigation is also conducted. These investigations provide detailed information on the worker, the work environment, and the potential risk factors resulting in the injury. Each investigation concludes with specific recommendations designed to prevent injuries, for the use of employers, workers, and others concerned about health and safety in agriculture.