

Cantaloupe Picker Dies of Heat Stroke¹

California NURSE Project²

SUMMARY : CASE 191-002-01

A cantaloupe picker collapsed and died of heat stroke after four hours of work. The summer cantaloupe harvest is one of the hardest jobs in farming. Workers stoop to pick the cantaloupes and put them in bags they carry on their shoulders. When the bags are full and weigh about 50 pounds workers carry them to a truck. Crews are paid by the number of trucks they load in a day, and so workers do not stop for breaks.

The worker began picking at 6:00 a.m. At 9:00 a.m. he complained of a headache. He worked for another hour, and then his crew took a bus to another field. On the bus he began to pant, and felt anxious and sick to his stomach. The foreman stopped the bus and called an ambulance. The worker was taken to the hospital and treated, but died 36 hours later of heat stroke.

How could this death have been prevented?

- Have a person certified in first aid, including knowing the symptoms and treatment of heat stroke, on every field work team.
- Train workers to be aware of the dangers of working in the heat.
- Make crews take breaks and drink water, especially crews working at piece rate.

BACKGROUND

On July 25, 1991 NURSE staff received a report from a local community program that a 25 year-old Hispanic male had collapsed after picking cantaloupes. The local coroner informed NURSE staff that the picker

had died from complications of heat stroke, or hyperthermia. A brother of the deceased picker, who had been working with him that day, took the body home to Mexico to be buried. A nurse from the NURSE Project traced the brother when he returned from Mexico and interviewed him on March 9, 1992. On February 6, 1992 the Senior Safety Engineer conducted an on-site investigation and discussed the incident with the safety director of the farm company. NURSE staff also reviewed the emergency medical service run sheets, the hospital records, and the coroner's records. The employer notified the local California Occupational Safety and Health Administration (Cal/OSHA) compliance office, but Cal/OSHA did not conduct an investigation.

The cantaloupe field where the deceased picker was working was owned by a farming corporation which employs, through a separate harvesting company, approximately 320 employees during the peak harvest season. The corporation has a full-time safety director. Field foremen of the company are trained at the beginning of the season using the safety training outline in the company Injury and Illness Prevention Program. Employees are trained periodically.

The NURSE Senior Safety Engineer reviewed the company safety program and noted that it addressed all seven points as 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 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

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correcting hazards; and a written health and safety program.)

INCIDENT

Cantaloupe harvesting is one of the most strenuous jobs in agriculture. The workers stoop over to pick the cantaloupes off vines at ground level, and place the melons in a bag. They carry the bag over their shoulder until it is full (weighing about fifty pounds) and then carry the bag to a truck that is moving through the field. Cantaloupe pickers are paid on a piece rate basis, calculated by how many trucks a crew loads in a day. After the crews begin working they generally continue until mid-day without scheduled breaks. When the trucks reach the end of a row there is a 1-2 minute interval while they turn around, and the workers use this opportunity to drink water while they wait for the truck to align with a new row. Drinking water is available on the cantaloupe trucks and is also carried on the buses used to transport workers to different fields.

The cantaloupe picker was employed as part of a 10 to 15 member crew, and had three years of experience. As part of a scheduled weekly training he had been trained the day before on proper lifting and carrying techniques to prevent back injury. However, no training on heat stroke prevention was given. The worker was moderately obese, at 5'5" and over 200 pounds. The ambient temperature during the initial part of the work day was 70 degrees F with a relative humidity of 70-80%, the noon time reading was 95 degrees F and the high for this day was 101 degrees F with a relative humidity of approximately 25% at 4 p.m. The high temperature for the previous day was 99 degrees F with a relative humidity of 22% at 4 p.m.

The worker began to pick and load cantaloupes in the field at 6:00 a.m. At approximately 9:00 a.m. he told the field foreman that he had a headache and was not feeling well. He was perspiring heavily and asked for an aspirin, but continued to work in the field for another hour before walking to the bus with the rest of the crew in order to be transported to a new field. While travelling on the bus the worker became extremely ill: anxious, nauseated, and short of breath. At 10:40 a.m. the bus was stopped near a county road maintenance crew, who were able to call the local emergency medical service (EMS). The EMS dispatcher gave instructions to place the worker in the shade of a tree. One of his brothers (a co-worker) stayed with him until the EMS arrived, approximately 20 minutes after they were called.

When the EMS paramedics arrived they found the individual disoriented, hyperventilating, and vomiting. They established an IV of Lactated Ringers solution with valium to provide him with fluid replacement. He was transported to a level 2 trauma center, a fifty minute journey, and arrived almost one and a half hours after the EMS was called. His body temperature was 105.6 degrees F when he arrived at the emergency department. He was admitted to the intensive care unit of the level 2 trauma center in poor condition with an admission diagnosis of heat stroke with metabolic encephalopathy and seizure disorder. He was placed on a ventilator but developed renal failure and pneumonia and died 36 hours after the EMS was first called.

The cause of death listed by the coroner was complications of hyperthermia with acute bronchopneumonia.

PREVENTION STRATEGIES

1. Employers should provide appropriate training for workers to recognize all hazards and avoid them. In this incident the worker was aware that he was becoming sick; however, apparently he did not attribute this to working in the temperature extremes. Work crews in high temperature conditions should be advised of the hazards of working in hot environments and should be trained in the symptoms of heat stroke. This training should be given upon hiring of the employee and included in the weekly safety training. Training is especially important in the case of high risk workers; in this incident the worker weighed over 200 pounds and was only 5'5" tall. If the worker had been trained to recognize he was in an adverse work environment (high temperatures), he might have stopped working earlier and his death might have been prevented.
2. There should always be a person certified in first aid on a field work team.* First Aid training should include identification of heat-related symptoms and appropriate first aid. In this incident, the worker developed hyperthermia while working at a temperature that was within the normal range for that geographic location. The delay in recognizing that the worker had hyperthermia meant a delay in appropriate medical treatment. This delay may have contributed to his death. * **Title 8 California Code of Regulations 3400 (b): "In the absence of an infirmary, clinic or hospital, in near proximity to the workplace...a person or persons shall be adequately trained to render first aid."** **Title 8 California Code of Regulations 3439 (b): "There**

shall be at least 1 employee for every 20 employees at an remote locations with training for the administering of emergency first aid."

3. Remote work crews should have a cellular phone or radio available in vehicles to contact the Emergency Medical Services if needed. In this incident the foreman could not notify EMS until they found a road crew with mobile communications, resulting in a possible delay of treatment for heat stroke.
4. The employer should provide a working environment which encourages that workers do not forfeit their health in order to make more money. In this incident the employer should have required a rest stop for all employees, even if the crew was working at piece rate for less than a full working day. A break should be required by the employer at least every two hours to allow employees to drink water. This would also provide an opportunity for the foreman to review the health of the crew at this time and identify anyone showing symptoms of heat stroke. Besides drinking water on their breaks, each worker should be given water canteens to carry with them to act as a constant thirst quencher. These canteens could be refilled on their breaks. In this incident, the work crew had a disincentive to take rest breaks and drink water. If breaks had been encouraged and workers provided with an incentive to take them, then this death may have been prevented.
5. Employees should be aware of their own responsibility for their health and safety. In this incident the worker was in poor physical condition for the difficult work tasks he was required to perform, however, he continued to work under these conditions. If he had tried to improve his immediate work situation by drinking a lot of water and not overexerting, or even stopping work when he was becoming sick, he might not have become hyperthermic and died.
6. Employers should attempt to make work tasks as un strenuous as possible. In this incident, if the pickers were not required to carry a bag of cantaloupes, and instead placed them immediately in a mechanized packing truck the work task would not be so strenuous. In this incident the worker was performing a very strenuous activity under high temperature environments. If he was not required to perform such strenuous activities his death might have been prevented.

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.