KENTUCKY State FACE Program
Fatality Assessment & Control Evaluation

Kentucky Injury Prevention and Research Center
Bona fide agent for Kentucky Department for Public Health
2365 Harrodsburg Rd., Ste. B340, Lexington, KY 40504 • 859 257-5839

REPORT#: 24KY058 **REPORT DATE:** February 10, 2025

Farm Laborer Struck by Backing Truck, Succumbs to Injuries

INCIDENT HIGHLIGHTS

DATE:
August 27, 2024

TIME:
10:00 a.m.

VICTIM:
40-year-old Hispanic male

INDUSTRY/NAICS CODE:
Tobacco Farming/111910

EMPLOYER:
Tobacco Farm

SAFETY & TRAINING:
Formal Safety Training

SCENE:
Rural Farm

LOCATION:
Kentucky

EVENT TYPE:
Struck-by

On August 27, 2024, a 40-year-old farm laborer (victim) was struck by a backing pickup truck as it was attempting to connect with a trailer. As a result, the victim was crushed between the backing truck and the trailer. The victim succumbed to his injuries at a local hospital.

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CONTRIBUTING FACTORS

Key contributing factors identified in this investigation include:

- Hazard awareness
- Driver error
- Driver training

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RECOMMENDATIONS

Kentucky investigators concluded that, to help prevent similar occurrences, employers should:

- Consider prevention through design (PtD) to "design out" or minimize hazards and risk associated with trailer coupling,
- Require all employees operating motor vehicles to have a valid operator's license,
- Consider implementing general driver training program for employees who are required to operate motor vehicles, and
- Require employees to complete annual training on safe backing and hitching.

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Fatality Assessment and Control Evaluation (FACE) Program

This case report was developed to draw the attention of employers and employees to a serious safety hazard and is based on preliminary data only. This publication does not represent final determinations regarding the nature of the incident, cause of the injury, or fault of employer, employee, or any party involved.

This case report was developed by the Kentucky Fatality Assessment and Control Evaluation (FACE) Program. Kentucky FACE is a National Institute for Occupational Safety and Health-funded occupational fatality surveillance program with the goal of preventing fatal work injuries by studying the worker, the work environment, and the role of management, engineering, and behavioral changes in preventing future injuries. The FACE program is located in the Kentucky Injury Prevention and Research Center (KIPRC). KIPRC is a bona fide agent for the Kentucky Department for Public Health.

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INTRODUCTION

After arriving at work on August 27, 2024, a 40-year-old tobacco farm laborer was helping a farm employee couple a farm pickup truck to a tobacco wagon trailer. The driver struck the farm laborer with the rear of the pickup truck while reversing, crushing him between the rear of the pickup truck and the front of the tobacco wagon trailer. The victim succumbed to his injuries shortly after the incident occurred at a local hospital.

EMPLOYERS

The employer is a Kentucky-based, multigenerational tobacco farm. The farm has been in operation for more than 30 years, spans over 130 acres of rural Kentucky land, and exclusively produces tobacco. The farm employs six total employees, all farm laborers who complete a broad range of tasks to meet the needs of the farming operation.

WRITTEN SAFETY PROGRAMS and TRAINING

The employer does not have a written safety program. However, the farm does utilize a third-party safety training provider for annual on-site safety training. Topics covered in the training include farm tractor safety, tobacco farming safety, green tobacco hazard awareness, and tobacco housing safety. The owner also stated that he has daily safety discussions with employees that cover a multitude of topics. Most of the workforce is Spanish speaking, and the owner of the farm confirmed that the training provider does provide training in Spanish.

WORKER INFORMATION

The victim was a 40-year-old Hispanic male. The decedent's educational background is unknown, but he had worked for the employer for 10 consecutive years as a farm laborer. The victim's primary language was Spanish.

INCIDENT SCENE

The incident occurred inside a tobacco housing barn that sits on the farm (photo 1). The barn is open on all four sides, constructed of timber, and the roof is constructed using sheet metal. During harvest, tobacco is hung to dry and cure inside the barn. The building is constructed in such a way to allow trucks and tobacco wagons to drive directly into the barn, making loading and unloading easier.

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Photo 1. Google Earth photo showing the farm where the incident occurred.

WEATHER

The weather on the day of the incident was approximately 87 degrees Fahrenheit, with 53% humidity and a 6 mph wind out of the southwest. The weather is not believed to have been a factor in this incident.[1]

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INVESTIGATION

On August 27, 2024, a 40-year-old farm laborer (victim) arrived for work at approximately 7:00 a.m. to start his workday. A typical work week for the six farm laborers is Monday through Saturday, 7:00 a.m. to 5:00 p.m. The victim was a tenured employee, having worked for the farm for 10 consecutive years. The morning of the incident was described as an ordinary day; the exact tasks completed by the victim prior to the occurrence of the incident are unknown. Having ample experience, the victim worked at his own pace, addressing things that needed to be completed.

Just before 10:00 a.m., a fellow employee asked the victim to help him couple a Chevrolet Silverado pickup truck (photo 2) to a tobacco wagon trailer (photos 3 & 4). The tobacco wagon trailer is a dual split axle configuration that uses a standard wagon clevis pin hitch to connect to the truck. The tongue of the trailer articulates up and down; at rest, the tongue naturally falls to the ground/surface below. According to a farm representative, the design of the trailer tongue makes solo coupling a difficult task, which is why it's often a two-person job.

The representative stated that the victim was holding the tongue of the trailer up while an employee was backing the truck toward the trailer. The victim was guiding the driver both verbally and with hand signals. According to the farm's owner, as the driver neared the trailer, he mistakenly hit the accelerator rather than the brake. As a result, the pickup truck accelerated rapidly in reverse, striking the victim. The victim was pinned between the rear of the truck and the front of the tobacco wagon trailer before the driver was able to stop the truck (diagram 1).

After the incident occurred, the driver, who did not hold a state issued operator's license, hurried to the victim's aid. The victim was unconscious and unable to communicate. The driver of the truck contacted the owner of the farm, who arrived 5 minutes later at 10:05 a.m. and immediately contacted 911. An ambulance arrived 15 minutes later at approximately 10:25 a.m. to transport the victim to a local hospital for crushing injuries to the abdominal region of his body. The victim succumbed to his injuries shortly after arriving at the hospital.

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Photo 2. The 2014 Chevrolet pickup truck involved in the incident. Photo provided by involved company.

Photo 3. The tobacco wagon trailer utilized in the incident. Photo provided by involved company.

Photo 4. The tobacco wagon trailer utilized in the incident. Photo provided by involved company.

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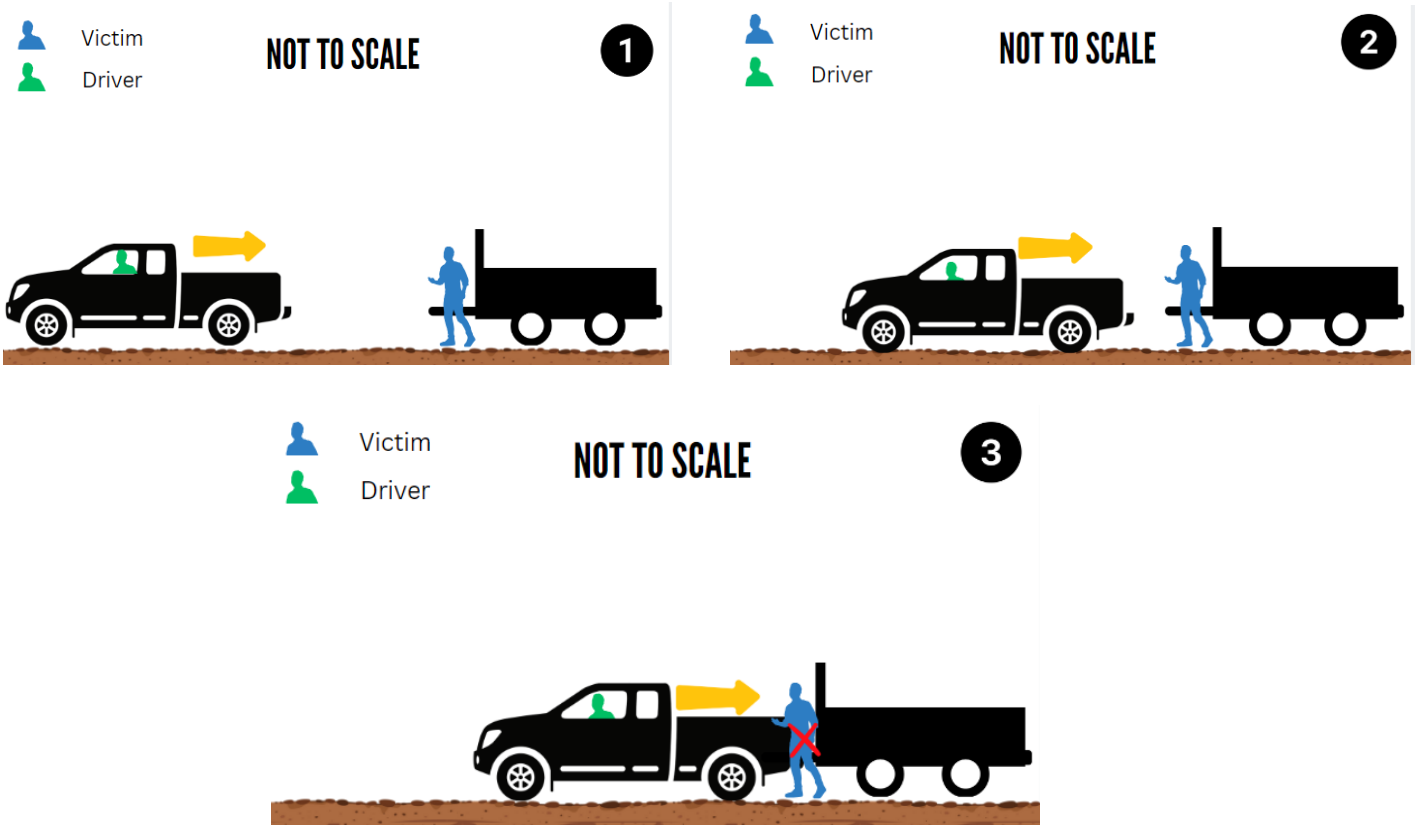

Diagram 1. Progressive diagram representing the manner in which the incident occurred that resulted in the victim's fatal injuries. Diagram property of Kentucky FACE.

CAUSE OF DEATH

According to the death certificate, the cause of death was blunt force trauma.

CONTRIBUTING FACTORS

Occupational injuries and fatalities are often the result of one or more contributing factors or key events in a larger sequence of events that ultimately result in the injury or fatality. Kentucky investigators identified the following unrecognized hazards as key contributing factors in this incident:

- Lack of hazard awareness,
- Driver error, and
- Lack of driver training.

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RECOMMENDATIONS/DISCUSSION

Recommendation #1: Employers should consider prevention through design (PtD) to "design out" or minimize hazards and risk associated with trailer coupling.

Discussion: According to the National Institute for Occupational Safety and Health (NIOSH), one of the best ways to prevent and control occupational injuries, illnesses, and fatalities is to "design out" or minimize hazards and risk.[2] NIOSH leads a national initiative called Prevention through Design (PtD), which works to prevent or reduce occupational injuries, illnesses, and fatalities through the inclusion of prevention considerations in all designs that impact workers. The mission can be achieved by:

- Eliminating hazards and controlling risks to workers to an acceptable level "at the source" or as early as possible in the life cycle of items or workplaces;
- Including design, redesign, and retrofit of new and existing work premises, structures, tools, facilities, equipment, machinery, products, substances, work processes, and the organization of work; and
- Enhancing the work environment through the inclusion of prevention methods in all designs that impact workers and others on the premises.

By utilizing the Prevention through Design initiative, employers can eliminate crushing hazards associated with coupling trucks to trailers by excluding the utilization of the second employee in the coupling process entirely. As stated by a farm representative, coupling the truck to the trailer can be accomplished by utilizing the driver only with no additional equipment. However, it typically takes longer due to the driver having to check his positioning multiple times throughout the coupling process. By designing out the utilization of the second employee, employers are eliminating the hazard and future exposure.

Employers may consider the utilization of backup cameras to aid in the coupling process. Cameras specifically designed to aid in trailer coupling are readily available, can be retrofitted to most any vehicle and are affordable (photo 4).

Photo 4. Backup aid camera, which costs less than $100.[3]

Recommendation #2: Employers should require all employees operating motor vehicles to have a valid operator's license.

Discussion: A backover incident occurs when a backing vehicle strikes a worker who is standing, walking, or kneeling behind the vehicle. From 2018 to 2021, 277 U.S. workers died after being run or backed over by a vehicle, according to Bureau of Labor Statistics data cited by the Oregon Institute of Occupational Health Sciences.[4] The types of vehicles most commonly involved in backover fatalities from 2005 to 2010 are listed in Table 1.

According to the employer, the driver of the truck mistakenly pressed the accelerator instead of the brake while reversing toward the trailer, which resulted in the truck striking the victim. The driver, also a farm laborer, did not have an operator's license. Kentucky Revised Statue 186.620 states, "No person shall authorize or knowingly permit a motor vehicle owned or controlled by him to be driven by any person who has no legal right to drive it or (sic) in violation of any of the provisions of KRS 186.400 to 186.640."[5] However, the motor vehicle was being operated on private farm property, none of which is open for use by the public, which excludes the requirement for the driver to be licensed. Although legal, having an unlicensed driver operating a vehicle in any capacity could present potential risk. When obtaining an operator's license, drivers in Kentucky are required to pass a written examination that confirms the driver's understanding of basic operating principles and laws. After successfully passing the written examination, drivers receive an operating permit, which allows the driver to operate a vehicle but requires a licensed driver to accompany them for 70 hours. After the 70 hours, the permitted driver must then take a skills evaluation exam with a state examiner to test his/her practical skills. If successful, the driver obtains a state issued operator's license.

Although an operator's license is not required in this scenario, requiring one for all employees who operate a motor vehicle validates that a driver has the proper skills and knowledge to operate a vehicle safely. Kentucky FACE investigators recommend that employers require all employees operating a motor vehicle to have a valid operator's license.

VEHICLES CAUSING THE MOST BACKOVER FATALITIES 2005–2010[+]

Dump Truck	67
Semi/Tractor Trailer	40
Truck	30
Forklift	21
Garbage Truck	20
Pick-up Truck	16

[+]OSHA Integrated Management Information System data

Table 1. Vehicles causing the most backover fatalities from 2005–2010.[6]

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Recommendation #3: Consider implementing a general driver training program for employees who are required to operate motor vehicles.

Discussion: Operating a motor vehicle can be deadly. Motor vehicle crashes have consistently ranked among the highest causes of death in the United States, with more than 42,000 in 2022 alone according to the National Highway Transportation Safety Administration (NHTSA)[7], and is the leading cause of work-related deaths.[8]

Training can be an effective countermeasure to combat the associated risk. According to a farm representative, a formalized driver-training program is currently not in place. The absence of a formalized and consistent driver-training program can lead to gaps in training.

Considering the known dangers associated with operating a motor vehicle, processes such as driver training need to be adequate, complete, and effective. A driver-training program should begin immediately after a road test, the first step to verify a driver's capabilities. An effective training program should include multiple elements, which include, but are not limited to:

- Overview of applicable regulations,
- Overview of applicable state and local laws,
- Pre-trip inspection procedures,
- Overview of company policies and procedures,
- Equipment familiarity and functionality,
- Task-specific task training, such as trailer coupling,
- Driving skills, evaluated by a competent qualified individual,
- Technology functionality,
- Awareness of high-risk behavioral issues,
- Managing fatigue, and
- Preventing distracted driving.

A road test alone is a quick glance at whether a driver has the basic driving abilities to perform the job. During the road test, the evaluator should note areas of improvement that are needed and specifically address them in the driver training. Although the road test is very helpful, it alone is not an adequate form of verification of skill set, as the evaluator gets only a small glimpse of the driver's abilities.

The formalized driver-training program should be designed to set performance standards, teach proper execution of those standards, evaluate the driver's ability to retain information, and apply the skills in a real-world environment. The length of a driver-training program should have a minimum time, regardless of an individual's abilities to establish program consistency. The evaluator, who should be chosen carefully based on skill set and performance track record, should hold sole authority to release a driver from training once the minimum amount of training is completed. However, if the evaluator feels the new driver requires more training, the evaluator should be able to make the determination and extend the training program. Likewise, if a driver has completed the minimum amount of training and the evaluator makes the decision to release the new driver, the new driver should have the ability to request additional training should he or she desire to extend the training period until he or she feels comfortable.

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The dangers associated with failing to provide proper training could be deadly. As a best practice, FACE investigators suggest that employers who require employees to operate motor vehicles implement driver specific training.

Recommendation #4: Require employees to complete annual training on safe backing and hitching.

Discussion: Task-specific safety training can be a useful tool in the prevention of workplace injuries. Although general driver training is helpful, task-specific training can help workers hone their skills on tasks that expose them to greater risk, like backing and hitching.

Work Safe Kentucky offers free safety training materials that aid employers with the development and implementation of job-specific training, including backing hitching safety. According to Work Safe Kentucky, if precautions are not taken, a driver may miss seeing a worker standing behind, kneeling behind, or walking past equipment. The worker may be backed over, caught between, or crushed between equipment/objects. Employees may be seriously injured or killed due to a backover accident.[9]

Work Safe Kentucky offers tips to prevent backing and hitching incidents, including:

- Avoid unnecessary backup,
- Ensure that both the operator and other workers are aware of their surroundings,
- Determine if a spotter is necessary,
- Never allow workers to eat lunch or rest near active working vehicles and equipment,
- Avoid the use of mobile phones, headphones, or other items that could be a distraction,
- Require the use of backup safety systems such as alarms, lights, and sensors,
- Avoid backing up at dusk or during nighttime,
- Use coordinated American Society of Agricultural & Biological Engineers (ASABE) hand signals if a spotter/helper is assisting,
- Ensure that your spotter/helper understands the hand signals being used,
- Ensure that your spotter/helper stands outside the vehicle's path.[9]

Employers can find the full list of recommendations by clicking here. To prevent future occurrences, Kentucky FACE investigators suggest that employers require employees to complete annual backing and hitching safety training.

DISCLAIMER

Mention of any company or product does not constitute endorsement by Kentucky FACE and the National Institute for Occupational Safety and Health. In addition, citations to websites external to Kentucky FACE and NIOSH do not constitute NIOSH endorsement of the sponsoring organizations or their programs or products. Furthermore, Kentucky FACE and NIOSH are not responsible for the content of these websites. All web addresses referenced in this document were accessible as of the publication date.

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INVESTIGATOR INFORMATION

This investigation was conducted by Beau Mosley, Fatality Investigator, Fatality Assessment and Control Evaluation, Kentucky Injury Prevention and Research Center, University of Kentucky, College of Public Health.

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