

## MIFACE INVESTIGATION: #05MI064

### SUBJECT: Farmer Pinned Under Left Rear Tire of Industrial Tractor-Loader With Backhoe

#### Summary

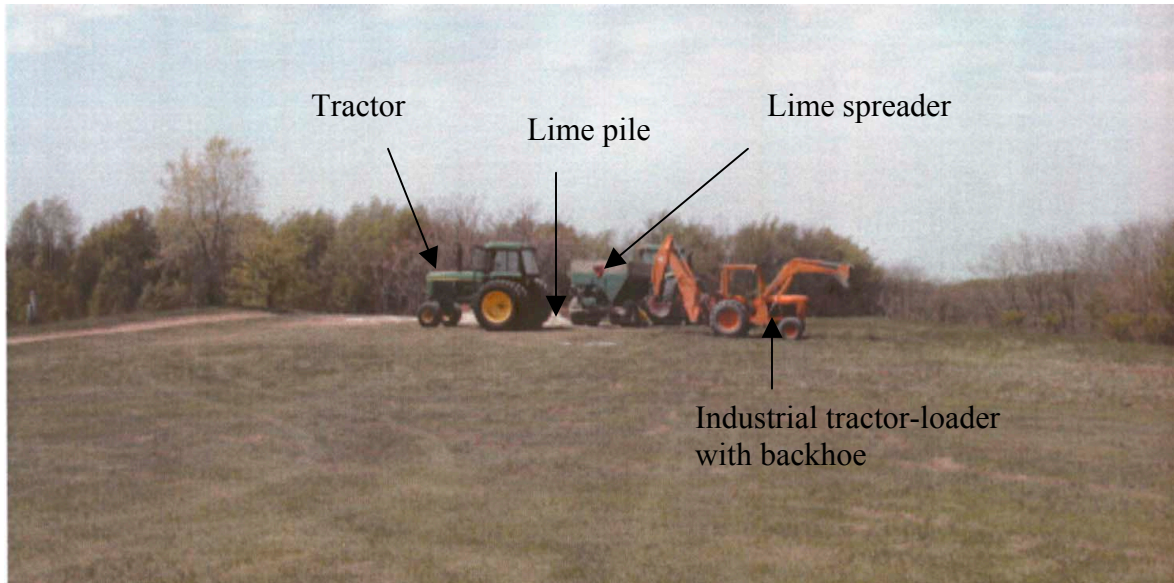


Figure 1. Overview of incident scene showing industrial loader on slight decline, location of lime pile, tractor and spreader

On May 6, 2005, an 82-year-old male farmer was pinned under the left rear wheel of the John Deere 300-B industrial tractor-loader with backhoe. He was in the process of loading lime into a spreader so it could be distributed on his fields. He left the loader bucket in the air, and had not placed the tractor-loader in park. The engine was idling. It is presumed that as he was trying to exit or enter the tractor-loader, it began to roll down a slight incline and he was pinned under the left rear wheel. Neighbors who heard the tractor-loader idling looked out their window with binoculars and saw the victim under the left rear tractor wheel. They called 911. When emergency response arrived, he was declared dead at the scene.

#### RECOMMENDATIONS

- Practice safe dismount procedures including lowering the bucket and locking the brakes or using the park-lock.
- When parking a machine on a slope, position the machine at a right angle to the slope.
- Do not try to re-enter moving machinery.

Key Words: Machine-related,  
Agricultural, Farm, Tractor-loader

## INTRODUCTION

On May 6, 2005, an 82-year-old male farmer was pinned under the left rear wheel of a John Deere 300-B industrial tractor-loader with backhoe. MIFACE researchers learned of this work-related fatality from a newspaper clipping. On September 14, 2005, MIFACE researchers visited the family and talked with the victim's son. In the course of writing this report, the death certificate, police report and pictures, and medical examiner's report were reviewed.

The victim had held numerous jobs throughout his life but always conducted farming activities in conjunction with these jobs. The victim grew corn beans and apples on over 100 acres of property. The farm did not have a written health and safety program. Figure 1 and Figure 4 were taken by the responding police agency at the time of their incident investigation. Figure 2 and Figure 3 were taken by the MIFACE researchers at the time of the site visit.

## INVESTIGATION

The victim was operating a John Deere 300-B industrial tractor-loader with backhoe. He purchased the equipment new in 1976. The rear tires were 49 inches tall with a tire tread width of 17 inches. The rear tire size was 17.5 L24. The distance between the ground and subframe (top of where you step into the tractor-loader) that carried the loader weight was 26 inches. See Figure 2. The distance between the rear tire and loader frame was 12 inches. See Figure 3. The loader weight was approximately 8,000 pounds.

Lime had been delivered to a designated location and he had been spreading lime for a few days. He had spread approximately 110 tons. The lime was spread using a spreader that was attached to a John Deere



Figure 2. Height of subframe from ground

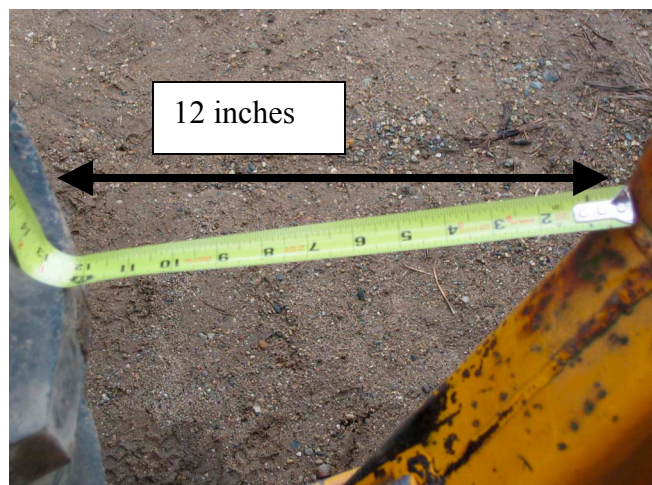


Figure 3. Width between subframe and rear tire

8110 cab-equipped tractor. On the day of the incident, he was wearing work boots, blue jeans, and a long-sleeved jacket.

His workday began with breakfast at approximately 8:00 am. After breakfast, he went to the fields to begin spreading the lime. To spread the lime, he used a John Deere 8110 to pull the wagon. His son thought he had probably spread his first load and was in the process of refilling the spreader for his second load. The victim exited the John Deere 8110 and walked to the 300-B industrial tractor-loader. His son indicated that when his father worked on any platform tractor, i.e. a tractor without an enclosed cab, he always wore work gloves. His son also stated that it was a common work practice for his father not to place a tractor in park.



Figure 4. Position of gear levers taken after incident.

The victim probably placed the right lever of the tractor-loader into a “neutral” shift position (in the middle of the “H”) and left the engine running. The left tractor-loader lever was engaged in the low speed position. See Figure 4. His family members developed the following scenario: The victim noticed that he did not have his work gloves on when he was beginning to load the lime with the 300-B. The tractor-loader was located on a slight incline, estimated at approximately two degrees by his son. Without lowering the bucket or placing the speed gearshift in park, he dismounted the tractor-loader while it was idling to walk to the 8110 to retrieve his gloves. It is unknown when he may have been struck by the left tractor-loader tire; he could have been dismounting or trying to stop the tractor-loader movement while standing on the ground. If the victim had already dismounted, he was probably trying to stop the moving tractor-loader by either reaching between the frame and the fender or by trying to step back into the loader to place the gearshift into park. He had approximately 12 inches between the frame and the bumper to enter the cab (See Figure 3). He either slipped or was caught by the left rear wheel and he was pinned under the wheel.

Neighbors heard the tractor-loader idling and looked through binoculars out to the field. They saw the victim under the wheel. He was found lying face down with the wheel across his middle back. They called 911. Emergency response arrived and the victim was declared dead at the scene.

When his son and grandson came to the scene, they found the victim’s gloves on the seat in the cab of the John Deere 8110 tractor.

## CAUSE OF DEATH

The cause of death as listed on the death certificate was chest compression asphyxiation due to a farm machinery accident. An autopsy was not conducted and toxicological tests were not performed.

## RECOMMENDATIONS

- Practice safe dismount procedures including lowering the bucket and locking the brakes or using the park-lock.

A website for generic safety manuals for equipment is offered as a resource (<http://www.aem.org/Safety/>). Equipment operators should always refer to the manufacturer's operating manual for specific shut down procedure and other safety work practices specific to the equipment brand and model operated.

Generally, an operator, while sitting in the operator's seat, should stop the machine, lower any attachments to the ground, shift controls to neutral/park and lock (if so equipped), engage the parking brake, stop the engine, cycle all hydraulic controls to relieve system pressures and remove the key. Performing these steps will reduce the likelihood of a tractor or machine unexpectedly moving forward or backward.

- When parking a machine on a slope, position the machine at a right angle to the slope.

It is always best to park a machine on level ground. But in many instances, this is not possible due to terrain. If you must park on a slope or incline, position the machine at a right angle to the incline to prevent machine movement down the incline.

- Do not try to re-enter moving machinery.

The fatal injury may have occurred when the victim was attempting to stop the moving tractor-loader, either when reaching between the subframe and the fender or while trying to step into the cab. Operators should not attempt to remount moving vehicles. In this case the tractor-loader would not have caused any significant human or environmental damage. It should have been let go and retrieved once it came to rest.

## REFERENCES

Agriculture Safety, Fundamentals of Machine Operation, 1987, John Deere & Company, Moline, Illinois, Third Edition.

Equipment Manufacturers Institute. Wheel Loader/Tractor safety manual for operators and mechanics. 10 S. Riverside Plaza, Chicago, IL 60606. 1991. *The name of this organization has been changed to the Association of Equipment Manufacturers. They have many generic safety manuals in both English and Spanish for purchase for approximately \$2.00 apiece.* Internet Address: <http://www.aem.org/Safety/>

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11/04/05

# MIFACE

## Investigation Report # 05 MI 064

### Evaluation

To improve the quality of the MIFACE program and our investigation reports, we would like to ask you a few questions regarding this report.

Please rate the report using a scale of:

<b>Excellent</b>	<b>Good</b>	<b>Fair</b>	<b>Poor</b>
1	2	3	4

***What was your general impression of this MIFACE investigation report?***

<b>Excellent</b>	<b>Good</b>	<b>Fair</b>	<b>Poor</b>
1	2	3	4

<b><i>Was the report...</i></b>	<b>Excellent</b>	<b>Good</b>	<b>Fair</b>	<b>Poor</b>
Objective?	1	2	3	4
Clearly written?	1	2	3	4
Useful?	1	2	3	4

<b><i>Were the recommendations ...</i></b>	<b>Excellent</b>	<b>Good</b>	<b>Fair</b>	<b>Poor</b>
Clearly written?	1	2	3	4
Practical?	1	2	3	4
Useful?	1	2	3	4

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- Distribute to employees/family members
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- Use in employee training
- File for future reference
- Will not use it
- Other (specify) \_\_\_\_\_

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