

MIFACE INVESTIGATION REPORT: #11MI115

Subject: Farmer Run Over and Pinned Under Tractor Tire

Summary

In the fall of 2011, a male farmer in his 80s died when he was run over and pinned under the front left tire of an International 5088 tractor towing a New Holland 1412 discbine while cutting hay. The tractor was found by family members at the base of a slight hill, with the tractor facing uphill and the discbine cantilevered to the side. It appears that the decedent dismounted the tractor while the tractor was in neutral gear and still running. The power take off was disengaged and the parking brake was not set. The tractor door was found closed. Family members postulated he had dismounted to clean the haybine gearbox. The tool box was located between the front and back tractor tires. It appears that the decedent somehow got caught up in the left front tire as the tractor started to roll backwards (downhill). Family members could not turn off the tractor. Emergency responders familiar with the tractor operation were able to turn the tractor off. The decedent was declared dead at the scene.



Figure 1. Tractor involved in incident

Contributing Factors

- Improper tractor shut down procedure
- Tractor positioned facing uphill on slope when work being performed on downhill side of tractor

RECOMMENDATIONS

- All tractor operators should follow safe equipment shutdown procedures as described in the operator's manual.
- When possible, stop and shut down the equipment in a level area of the field during inspection.
- Ensure equipment operators and family members understand engine start up/shut off procedures using the tractor key and/or the throttle fuel shut off lever.

- If unattended equipment begins to move, operators should remain clear of its path of travel and not attempt to remount the equipment until it has come to a complete stop.
- When working alone, establish a check-in procedure with another individual to help assure prompt emergency assistance.
- Agricultural equipment operators should recognize the potential human factor limitations associated with aging.
- Farmers should take advantage of the many organizations and extension services that promote farming safety.

BACKGROUND

In the fall of 2011, a male farmer in his 80s died when he was run over and pinned under a tractor tire while cutting hay. MIFACE became aware of the incident by a newspaper clipping. MIFACE contacted the local MSU Extension agent, who, on behalf of MIFACE, contacted the family to ask if they would like to participate in the MIFACE research program. The family agreed, and the MIFACE researchers met the MSU Extension agent at the family's home. The researchers discussed the incident with family members. The family gave permission for the researchers to take pictures of the tractor involved in the incident and the farm field where the incident occurred. During the writing of this report, MIFACE reviewed the death certificate and the sheriff and medical examiner reports. Pictures used in this report were taken by the MIFACE researcher at the time of the site visit.

The decedent had been a farmer all his life, but had worked for other employers in addition to operating his farm. When he retired, he farmed full time. He had 280 acres of hay fields and raised cattle. His family indicated he had hip problems. The decedent had not attended any farm safety classes.

The decedent's activities on the incident day included checking fences, running errands and raking and baling hay fields.

Family members indicated that the decedent always wore loose clothing. His routine work practice was to place equipment in neutral, not apply the parking brake and then jump out/dismount.

INVESTIGATION

The tractor involved in the incident was an International 5088 tractor towing a New Holland 1412 discbine. The hayfields were located on slightly rolling terrain.

The decedent had been outside all day cutting fields, running errands, and fixing fence lines. The decedent and his wife had dinner at approximately 5:00 p.m. He then went out to cut a couple more fields. It was not unusual for him to mow after dark.

His wife fell asleep and upon waking up shortly after midnight, she realized that her husband had not returned home. She called her daughter who, with another family member, went out looking for him.

It was foggy. The decedent's daughter and family member got the farm's Gator from the barn and circled nearby fields. Being unsuccessful in finding the tractor, they continued to search fields further away. The Gator's headlights illuminated the tractor's slow moving vehicle sign.

The tractor was found by family members at the base of a slight hill, with the tractor facing uphill and the discbine cantilevered to the side. The hay field had been cut. It appears that the decedent dismounted the tractor while the tractor was in neutral gear and still running. The power take off was disengaged and the parking brake was not set. The tractor door was found closed. Family members postulated he had dismounted to clean/repair the haybine gearbox because a tool box was located between the front and back tractor tires.

It appears that the decedent somehow got caught up in the left front tire as the tractor started to roll backwards. Police inspection of the incident scene showed drag marks, suggesting that the decedent was dragged approximately four to six feet before he was pinned by the left front tractor tire.

His daughter and family member did not know how to turn the tractor off. They turned the key to the off position but the tractor still kept running. One of the EMS personnel was familiar with this type of tractor and knew that in addition to the key, a lever had to be activated to shut off the tractor.

The medical examiner was contacted through central dispatch due to a lack of cellular service at the incident scene. The decedent was declared dead at the scene.

The decedent did not carry a walkie-talkie. Walkie-talkies were available at the farm house and his spouse knew how to operate it.

CAUSE OF DEATH

The cause of death as noted on his death certificate was asphyxiation. An autopsy and toxicological tests were not performed.

RECOMMENDATIONS/DISCUSSION

- All tractor operators should follow safe equipment shutdown procedures as described in the operator's manual.

Tractors will roll downhill if parked on an incline without an effective braking device, and the vibration created by a running engine may increase the possibility of initiating the rolling motion. Tractor operators can prevent tractors from rolling by disengaging the transmission, shifting the tractor into neutral, locking the brakes and turning off the engine before dismounting. General shutdown procedures for a tractor are: disengage the PTO, lower equipment attachments to the ground, place the transmission into neutral or park, set the brakes, turn off the engine and remove the key.

- When possible, stop and shut down the equipment in a level area of the field during inspection.

In this instance, the victim dismounted from the tractor while the tractor and implement were on an uphill grade without following a safe shutdown procedure. In addition to the weight of the tractor, the implement weight may have contributed to the tractor rolling backward down the slope.

Tractor operators should attempt to place a tractor, and especially when the tractor is towing an implement, on level ground, and follow safe shutdown procedures. If level ground is not available, the operator should position the tractor across the slope with the implement uphill to minimize rolling.

- Ensure equipment operators and family members understand engine start up/shut off procedures using the tractor key and/or the throttle fuel shut off lever.

Tractors operate differently so training is needed. Family members and others working on the farm may need an annual refresher on starting and stopping tractors under emergency situations. Although in this incident, the lack of knowledge was not a factor in the death, in other situations, it may be a factor.

- If unattended equipment begins to move, operators should remain clear of its path of travel and not attempt to remount the equipment until it has come to a complete stop.

It is unknown if the decedent attempted to mount the tractor when it began to roll in reverse down the hill. Operators should not attempt to remount moving vehicles. In this case the tractor would not have caused any significant human or environmental damage. It should have been allowed to roll and retrieved once it came to rest.

- When working alone, establish a check-in procedure with another individual to help assure prompt emergency assistance.

Agricultural workers, including farmers, regularly work alone on the farmstead. Therefore, it is important to establish an effective communication system for the individual who is working alone to contact other people who can provide emergency assistance. The frequency of checking in to another individual should be appropriate based on the hazards to which the isolated worker is exposed. The check-in procedure can be initiated by a family member or the individual who is working alone and should be established based upon what is practical for the worksite circumstances. In agricultural settings, the availability of cell phone coverage should be established if that is the means of communication selected. In this case, walkie-talkies were available but were not used and no check-in procedure established. Although it may not have prevented his death, a scheduled time to check in with someone when an individual is working alone could prevent an injury from becoming a fatality.

- Agricultural equipment operators should recognize the potential human factor limitations associated with aging.

Farmers often continue to work on their farms well past “retirement” age. Cognitive and/or functional impairments are often associated with advanced age. Cognitive impairments can affect the following areas: attention, judgment and problem solving, increased reaction time, lapses of consciousness or control, and memory lapses. Functional impairments, including sensory impairments, can affect vision, peripheral sensation of the extremities, strength, flexibility and coordination. Although unknown, aging impairment may have been a factor in this incident. Older workers should recognize these limitations and seek help from relatives and/or friends to accomplish a work activity when required.

- Farmers should take advantage of the many organizations and extension services that promote farming safety.

Farming is an activity that is passed down from generation to generation. Many of the habits and behaviors of the decedent may likely have been learned when he was a youngster taught to him by his father, grandfather, etc. Farmers should take advantage of the many organizations and extension services that promote farming safety, to not only remind themselves of safe work practices, but also educate their young family members in how to identify potential safety and health hazards on the farm and how to prevent injury by using safe work practices.

RESOURCES

- Farmer Run Over by a Tractor and/or Manure Spreader. MIFACE Investigation Report #01MI058. <http://www.oem.msu.edu/MiFace/01MI058v1.pdf>
- Farmer Died When Run Over by Rear Wheel When He Started the Tractor While Standing On the Ground. MIFACE Investigation Report #04MI108. <http://www.oem.msu.edu/MiFace/04MI108v1.pdf>.
- Farm and Ranch Safety Management, 4th Edition, Copyright 1994, Deere & Company, Moline, Illinois.
- National Education Center for Agricultural Safety (NECAS). <http://www.necasag.org/>

KEY WORDS: Tractor runover, tractor shut down procedures, agriculture

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