

Investigation Report
Worker fatally injured in farm tractor rollover
May 20, 2019

Report No-F-OHS-171334
March 2021
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This document reports Occupational Health and Safety's (OHS) investigation of an incident where a worker was fatally injured while operating a tractor towing a land roller in May 2019. It begins with a short summary of what happened. The rest of the report covers this same information in greater detail.

Incident summary

A farm worker was operating a tractor towing a farm implement (land roller with three rollers) in a flat pea field. The field had a very steep drop off into a gully. The tractor veered gradually towards the edge and one of the rollers went over the edge, causing the remaining rollers and tractor to enter the gully. The tractor and rollers overturned multiple times. The farm worker was ejected from the tractor cab and sustained fatal injuries.

Background information

1258258 Alberta Ltd. (operating as R&R Farms) was incorporated in Alberta in July 2006. R&R Farms was considered a farming and ranching operation under the Alberta Farming and Ranching Exemption Regulation Section 2(1)(a) the production of crops including fruits and vegetables through the cultivation of land. Family members and waged non-family members worked at R&R Farms. The incident involved workers who were waged non-family members.

R&R Farms was a cattle rearing and crop growing operation. Crops were grown on land owned by the farm as well as leased fields. The field in which the incident occurred was leased and had been planted with peas. The field was located south of Hardisty, AB and accessed from Township Road 413. The field was on an elevated plateau and, at the site of the incident, had a steep 32° slope drop off into a dry gully.

Farm hand 1 (deceased worker) was a waged non-family member and started work on April 12, 2019. Farm hand 1 had seven years of experience in a variety of farm-related work including handling cattle and operating farm equipment. The employer provided verbal direction, ride-along and then supervision to train the farm hand to operate the tractor involved in the incident. When farm hand 1 demonstrated competency in operating the tractor, the employer directed farm hand 1 to work near the main farm and then gradually assigned work farther away. Farm hand 1 was directed to use a tractor to tow a land roller across several fields planted with peas on the day of the incident. Farm hand 1 had a cell phone for communication.

Farm hand 2 (fuel truck driver) was a waged non-family member and started work on April 15, 2019. Farm hand 2 had 20 years of experience in a variety of farm-related work and operating farm vehicles and equipment. On the day of the incident, farm hand 2 was directed to deliver fuel in a tank truck to refuel the tractor operated by farm hand 1 at the incident site. Farm hand 2 had a cell phone for communication.

The supervisor was a waged non-family member and had worked at R&R Farms for an extended time. The supervisor kept track of the farm hand and other workers during the day. The supervisor directed the farm hand on which fields were to be rolled on the day of the incident. The supervisor had a cell phone for communication.

Equipment and materials

Tractor

The 2016 Fendt Model FT513S4 tractor (tractor) was purchased new from Agriterra Equipment in Lougheed, AB on November 11, 2017 (Figure 1). The Fendt tractor was under warranty and manufacturer required maintenance was done at Agriterra Equipment, in Lougheed. The last date of maintenance was February 27, 2019. The Fendt tractor had a 4038 cubic centimetre (cc) engine and weighed approximately 6050 kilograms (kg) with full fuel tanks, no cargo and no operator.



Figure 1. Fendt 500 series tractor similar to Fendt FT513S4 involved in incident. Photo obtained at [Fendt.com/us/tractors/500-vario-highlight](https://www.fendt.com/us/tractors/500-vario-highlight)

Land roller

The Dutch Industries three roller on articulated cart land roller (land roller) was approximately 20 years old and was purchased used by R&R Farms in February 2003. It had three cylindrical rollers on a cart which could deploy all rollers, creating a width of approximately 15 metres (m). The side rollers were on articulated arms and were lifted into a storage position parallel to the trailer. Drop down wheels supported the rollers when in the storage position. The rollers were then capable of being towed on roads. Routine maintenance was done on the land roller as required by R&R Farms' workers. Each roller was made of 5.18 m long 1.06 m diameter steel pipe and weighed approximately 2700 kg (Figure 2).



Figure 2. Similar tractor and land roller working at incident site. Photo shows land roller in deployed configuration

- A. Tractor
- B. Land roller

Sequence of events

On May 19, 2019, farm hand 1 operated the Fendt tractor with the land roller to roll a pea field near the incident site. When the work was completed, the tractor and land roller were parked for the night at the entrance to the field. This was the usual practice to reduce the amount of time the farm equipment was on roads when the next day's work was nearby. Farm hand 1 drove their personal pickup truck to the pea field assigned for the work on May 20, 2019, to check for any hazards. Farm hand 1 spoke to the supervisor that night and commented that there was a very steep drop off. The supervisor reminded farm hand 1 that the land roller was very heavy and could push the tractor as it travelled.

On May 20, 2019, at approximately 7:00 a.m., farm hand 1 arrived at the location of the tractor and land roller. Farm hand 1 drove the tractor and land roller to the pea field designated for that day's work. The land roller was in its travel configuration. Travel time was estimated at 30 minutes. Farm hand 1 changed the land roller to its deployed configuration on arrival at the designated pea field. Farm hand 1 completed one circuit of the entire pea field on its outer perimeter between approximately 8:00 a.m. to 9:00 a.m. This was the usual practice to set the limit of the work and then work within the marked area. The steep drop off was on the right side of the tractor and land roller.

Farm hand 1 began a second pass within the set perimeter which placed the tractor and land roller approximately 15 m from the edge of the pea field (Figure 3B). The pea field sloped approximately 4° downwards in the direction of travel and approximately 2° towards the right edge of the field. (Figure 3C and 3D)



Figure 3. Pea field looking north

- A. Location where tractor and land roller went over edge
- B. Width of land roller path (approximately 15 m) for first pass
- C. Direction of slope to right side of tractor and land roller
- D. Direction of slope in travel path of tractor and land roller

Tire tracks indicated that the tractor gradually travelled across the first pass area until the roller on the right side of the land roller tipped over the edge (Figure 3A). The weight of the roller pulled the tractor further to the right until the tractor and land roller went over the edge and overturned multiple times. Farm hand 1 was ejected from the tractor cab. The tractor and land roller were located approximately 91 m from the edge of the pea field at the bottom of the gully. (Figure 4 and Figure 5)



Figure 4. Gully showing slope and final resting place of tractor and land roller

- A. Location where tractor and land roller went over edge*
- B. Location of resting place of tractor and land roller*



Figure 5. Tractor and land roller

- A. Right roller
- B. Centre roller
- C. Tractor
- D. Left roller

At approximately 9:00 a.m., the supervisor phoned farm hand 1 and the call was not answered. At approximately 9:45 a.m., farm hand 2 arrived at the incident site with the fuel truck to refuel the tractor. Farm hand 1 and the equipment were not visible. Farm hand 2 drove around the field looking for farm hand 1. At 9:55 a.m., farm hand 2 phoned farm hand 1 and the call was not answered. Farm hand 2 phoned farm hand 1 three times, with the last call at 10:06 a.m. Farm hand 2 texted farm hand 1 at 10:06 a.m. There was no response. Farm hand 2 left the incident site. At 10:08, farm hand 2 phoned the supervisor to report that farm hand 1 had not been located. The supervisor confirmed that farm hand 1 should be at the designated pea field and directed farm hand 2 to return, park and shut off the fuel truck to listen for the sound of the tractor and land roller in operation. Farm hand 2 returned to the designated pea field and shut off the fuel truck in three different places. Farm hand 2 could not hear any equipment in operation. Farm hand 2 drove to the edge of the pea field, parked and got out of the fuel truck to look over the edge. Farm hand 2 saw the tractor and land roller at the bottom of the gully with obvious severe damage. Farm hand 1 was visible with plainly evident severe trauma.

Final Report

Farm hand 2 phoned the supervisor to report the incident. The supervisor phoned 911 for assistance. On arrival at the incident site, Royal Canadian Mounted Police (RCMP), Killam Detachment, and paramedics went to aid farm hand 1 and confirmed that farm hand 1 was deceased. The death was reported to the Office of the Chief Medical Examiner by RCMP. At 12:07 p.m., RCMP contacted OHS Alberta to report a workplace fatality.

Completion

A review for enforcement action was completed on January 20, 2021, and it was determined that prosecution or an administrative penalty were not appropriate based on the circumstances surrounding this incident.

This investigation was closed on March 15, 2021.

Signatures

ORIGINAL REPORT SIGNED

March 15, 2021

Lead Investigator

Date

ORIGINAL REPORT SIGNED

March 16, 2021

Manager

Date