

# Canadian Agricultural Injury Surveillance Program (CAISP) Report

## FARM VEHICLE-RELATED COLLISIONS

### *Request for Data*

This short report was produced based on a request from the Canadian Federation of Agriculture. The request was for data regarding collisions on public roadways involving farm machinery/vehicles.

### *The Canadian Agricultural Injury Surveillance Program (CAISP)*

The Canadian Agricultural Injury Surveillance Program (CAISP) is a national system for monitoring injuries among Canadian farm workers and their families. CAISP maintains two registries: one contains information on fatal farm injuries; the second registry contains information on farm-related injuries requiring hospitalization.

### *Working Definition: Farm Vehicle-Related Collision*

For the purposes of this request, a farm vehicle-related collision was defined as any case where the location of injury was coded as “road/highway” or where the circumstance was coded as “traffic”. Three cases that met these criteria were excluded from the analysis: two cases occurred when the person was riding an animal on a public road (no vehicle or machine was involved in the injury event); one case was coded as “traffic” but the description states that the person was driving a truck through the field when the person drove into a dugout. Motor vehicles included automobiles, trucks, vans, motorcycles, and all-terrain vehicles.

### *Case Identification*

Cases were identified from CAISP’s fatality registry based on the above definition. The hospital registry was not used as transportation injuries involving farm vehicles and machinery that lead to hospitalization are not collected in a consistent fashion across the country. The number and types of collisions identified in the hospital registry may provide an inaccurate picture of what is really happening. The fatal collisions identified for this report provide an idea of the patterns of injury resulting from farm vehicle-related collisions. A limitation of these data is that the location of injury category “road/highway” may include non-public roadways.

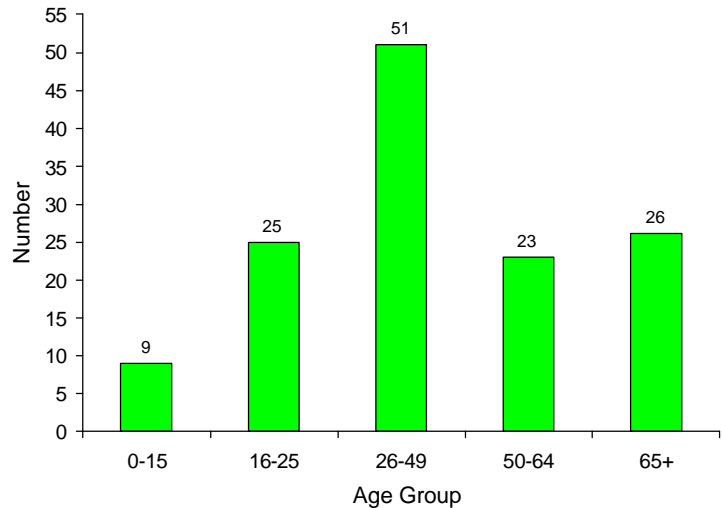
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## A. FATAL FARM VEHICLE-RELATED COLLISIONS: OVERALL

Overall, there were 134 fatalities in the registry that resulted from farm vehicle-related collisions according to the above definition. This represents 13% of all fatal injuries in the CAISP registry.

### AGE AND SEX

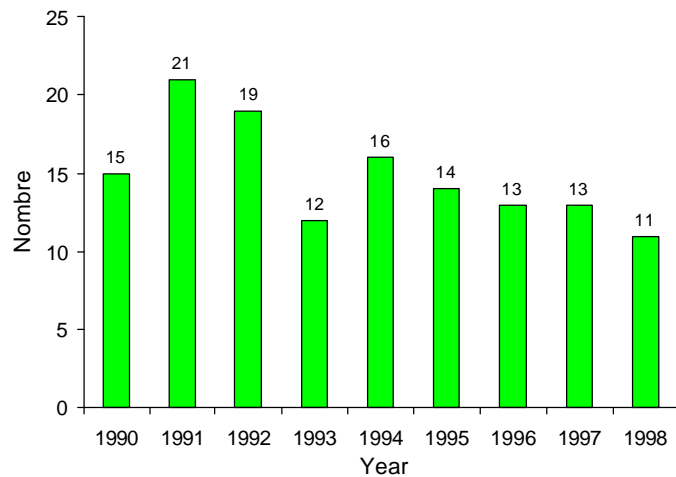
The average age of those injured was 43 years and the injured individuals ranged in age from 4 to 89. Figure 1 provides a more detailed breakdown of these injuries by age group. The majority (91.8%) of the injuries involved males.



**Figure 1. Fatal farm vehicle-related collisions by age group**  
(Source: Canadian Agricultural Injury Surveillance Program)

### YEAR

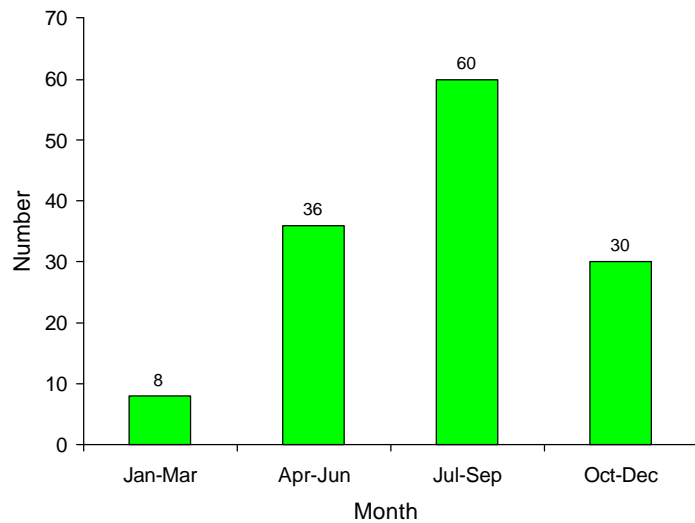
The annual number of farm-vehicle related collisions ranged from 11 to 21. Figure 2 suggests a decline in the annual number of injuries over the nine years of surveillance.



**Figure 2. Fatal farm vehicle-related collisions by year**  
(Source: Canadian Agricultural Injury Surveillance Program)

## SEASON

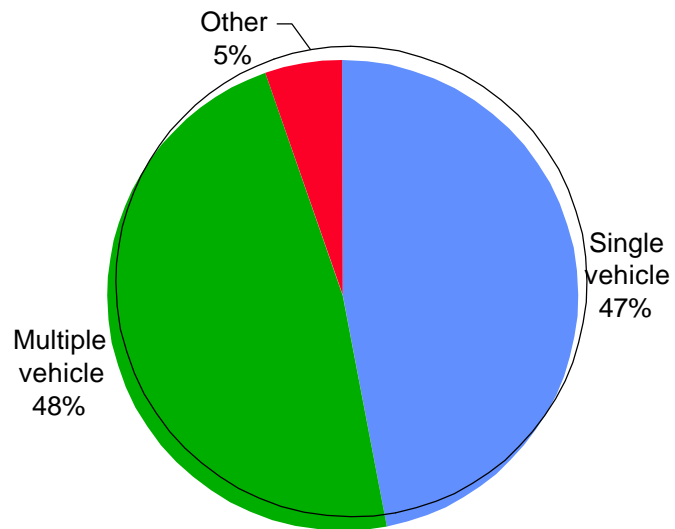
Forty-five percent of collisions occurred during the summer (July to September), which is a busy farming season in terms of field crop production. 26.8% and 22.4% of injuries occurred in the spring and fall, respectively. Few injuries occurred during the winter months (January to March).



**Figure 3. Fatal farm vehicle-related collisions by season**  
(Source: Canadian Agricultural Injury Surveillance Program)

## TYPE OF COLLISION

Collisions were categorized as single vehicle (e.g., vehicle rolled over into ditch), multiple vehicle (e.g., two or more vehicles in collision), or other. There was an equal split among the single and multiple vehicle collisions. More in-depth analyses of these collisions are provided in Sections B and C. Seven injuries were categorized as “other”: three of these involved a vehicle striking a pedestrian, three occurred while pulling a vehicle out of a ditch, and one occurred when a passenger fell from a machine and was subsequently runover.



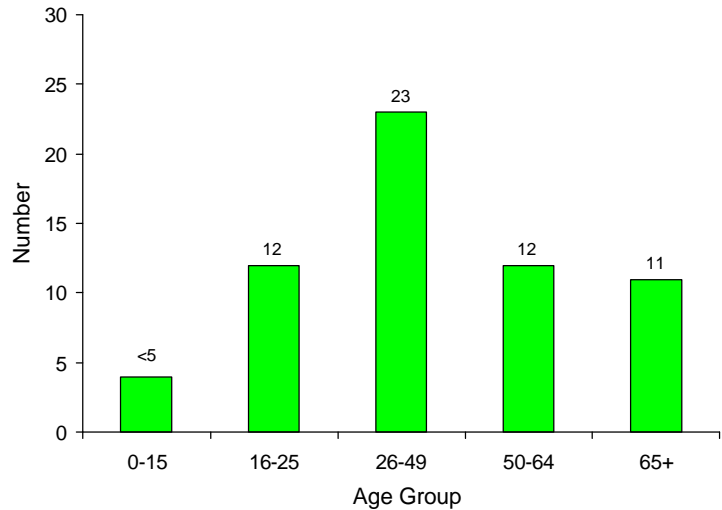
**Figure 4. Fatal farm vehicle-related collisions by collision type**  
(Source: Canadian Agricultural Injury Surveillance Program)

## B. FATAL FARM VEHICLE-RELATED COLLISIONS: SINGLE-VEHICLE COLLISIONS

Overall, there were 63 fatalities in the registry that resulted from single-vehicle collisions.

### AGE AND SEX

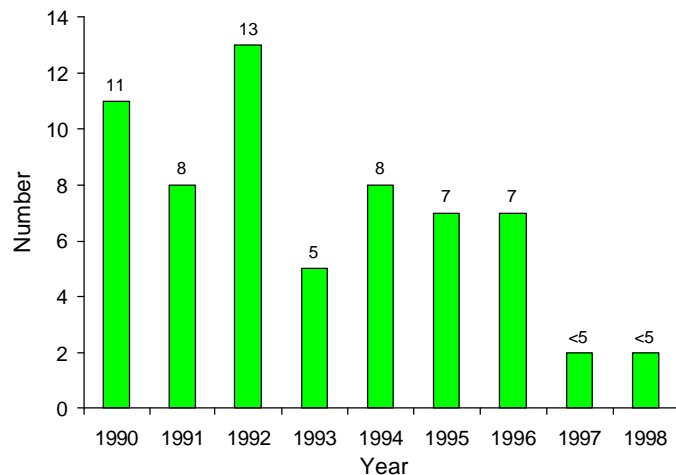
The average age of those injured was 42 years and the injured individuals ranged in age from 4 to 85. Figure 5 provides a more detailed breakdown of these injuries by age group. The majority (95.2%) of the cases were males.



**Figure 5. Fatal farm vehicle-related collisions by age group: single-vehicle collisions**  
(Source: Canadian Agricultural Injury Surveillance Program)

### YEAR

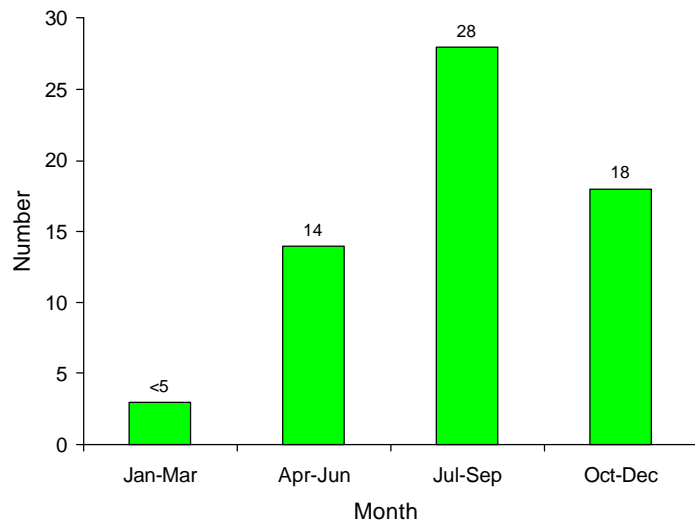
The annual number of single-vehicle collisions ranged from less than five to 13. Figure 6 shows a steady decline in the annual number of injuries from single-vehicles collisions over the nine years of surveillance.



**Figure 6. Fatal farm vehicle-related collisions by season: single-vehicle collisions**  
(Source: Canadian Agricultural Injury Surveillance Program)

## SEASON

Forty-four percent of collisions occurred during the summer (July to September), with 22.2% and 28.6% of injuries occurring in the spring and fall, respectively. Few injuries occurred during the winter months (January to March).



**Figure 7. Fatal farm vehicle-related collisions by season: single-vehicle collisions**  
(Source: Canadian Agricultural Injury Surveillance Program)

## CIRCUMSTANCES OF COLLISION

Table 1 provides a description of the circumstances of the fatal collisions. In the case descriptions, four indicated that poor visibility was a contributing factor. In only two cases were the roads described as being in poor condition.

**Table 1. Fatal farm vehicle-related collisions by circumstance for single vehicle collisions**  
(Source: Canadian Agricultural Injury Surveillance Program)

<b>Circumstance of collision</b>	<b>Number</b>	<b>Percent</b>
Driving too close to edge of road and entered ditch	26	41.3
Loss of control, not elsewhere classified	14	22.2
Loss of control as a result of steep grade	8	12.7
Hit animal on roadway	6	9.5
Passenger fell from machine/vehicle	3	4.8
Other/unspecified	6	9.5
<b>Total</b>	<b>63</b>	<b>100</b>

## VEHICLES AND MACHINES INVOLVED

Table 2 describes the types of vehicles/machines involved in the single-vehicle collisions. The majority (61.9%) involved tractors.

**Table 2. Fatal farm vehicle-related collisions by vehicle/machine involved: single-vehicle collisions**  
(Source: Canadian Agricultural Injury Surveillance Program)

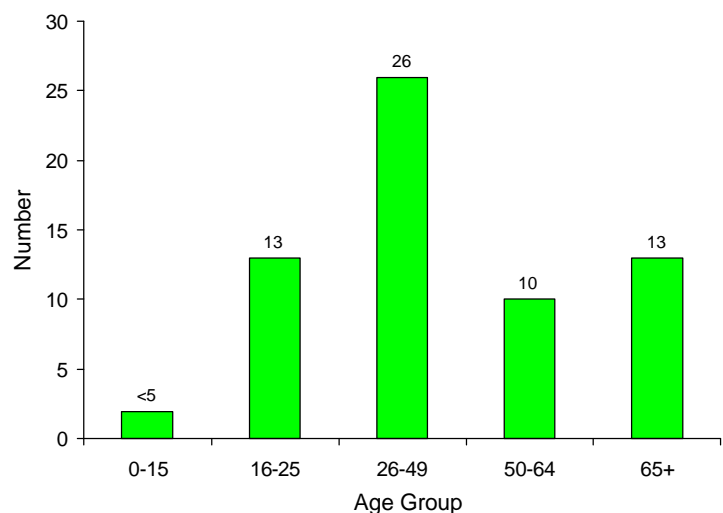
Circumstance of collision	Number	Percent
Tractor	39	61.9
Truck	10	15.9
Other farm machinery	7	11.1
Other motor vehicle	6	9.5
Not specified	1	1.6
<b>Total</b>	<b>63</b>	<b>100</b>

## C. FATAL FARM VEHICLE-RELATED COLLISIONS: MULTIPLE-VEHICLE COLLISIONS

Overall, there were 64 collision fatalities in the registry that involved two or more vehicles (referred here as multiple-vehicle collisions).

### AGE AND SEX

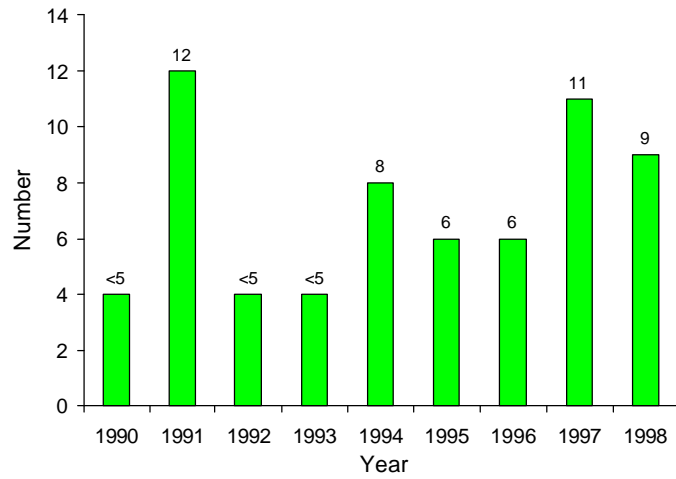
The average age of those injured was 45 years and the injured individuals ranged in age from 10 to 89. Figure 1 provides a more detailed breakdown of these injuries by age group. The majority of the people fatally injured were males (87.5%).



**Figure 8. Fatal farm vehicle-related collisions by age group: multiple-vehicle collisions**  
(Source: Canadian Agricultural Injury Surveillance Program)

## YEAR

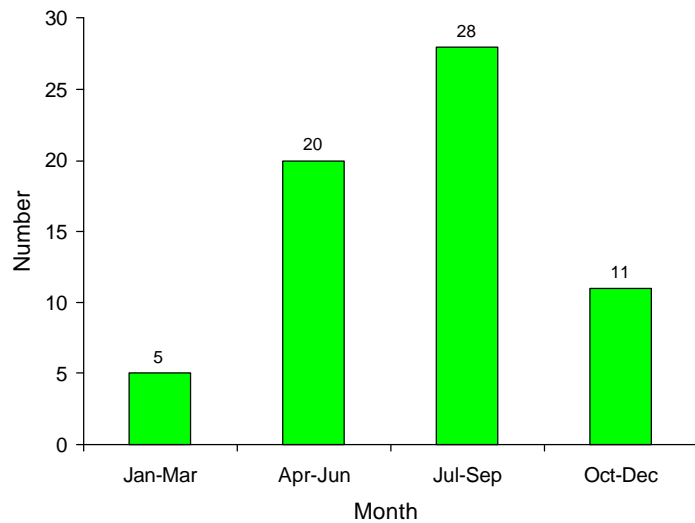
The annual number of multiple-vehicle collisions ranged from less than five to 12. There is no discernible trend in the number of these injuries over the nine years of surveillance.



**Figure 9. Fatal farm vehicle-related collisions by season: multiple vehicle collisions**  
(Source: Canadian Agricultural Injury Surveillance Program)

## SEASON

Forty-four percent of collisions occurred during the summer (July to September), with 31.5% and 17.2% of injuries occurring in the spring and fall, respectively. Few injuries occurred during the winter months (January to March).



**Figure 10. Fatal farm vehicle-related collisions by season: multiple-vehicle collisions**  
(Source: Canadian Agricultural Injury Surveillance Program)

## CIRCUMSTANCES OF COLLISION

Table 3 provides a description of the circumstances of the fatal collisions. In the case descriptions, nine indicated that poor visibility was a contributing factor. Additionally, in five cases the text indicated that the collision occurred near a hill.

**Table 3. Fatal farm vehicle-related collisions by circumstance for multiple vehicle collisions**  
(Source: Canadian Agricultural Injury Surveillance Program)

<b>Combination of motor vehicle/machine</b>	<b>Number</b>	<b>Percent</b>
Vehicle entering or exiting roadway when collision occurred	12	18.8
Rear-end collision	11	17.2
Head on collision on roadway	10	15.6
Left hand turn: collided with oncoming traffic	6	9.4
Left hand turn: collided with passing vehicle	6	9.4
Collision due to wide load	5	7.8
Collision involving train	5	7.8
Other collision	9	14.1
<b>Total</b>	<b>64</b>	<b>100</b>

## VEHICLES AND MACHINES INVOLVED

Table 4 describes the types of vehicles/machines involved in the multiple-vehicle collisions. Nine collisions (14.1%) involved motorcycles and five (7.8%) involved ATV's.

**Table 4. Fatal farm vehicle-related collisions by vehicle/machine involved: multiple-vehicle collisions**  
(Source: Canadian Agricultural Injury Surveillance Program)

<b>Circumstance of collision</b>	<b>Number</b>	<b>Percent</b>
Tractor vs. motor vehicle	23	35.9
Machinery/vehicle towing machinery vs. motor vehicle	16	25.0
Other farm machinery vs. motor vehicle	10	15.6
Two motor vehicles	6	9.4
Farm machinery/vehicle vs. train	5	7.8
ATV vs. motor vehicle	4	6.3
<b>Total</b>	<b>64</b>	<b>100</b>