



Canadian Agricultural Injury Surveillance Program

Agricultural Fatalities 1990-2004

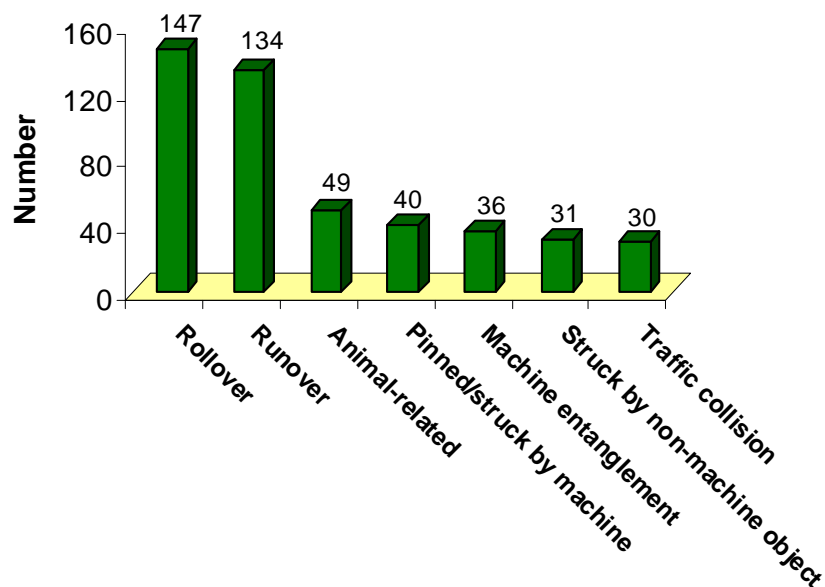
Fast Facts:

Fatal Injuries in Adults Aged 60 and Over

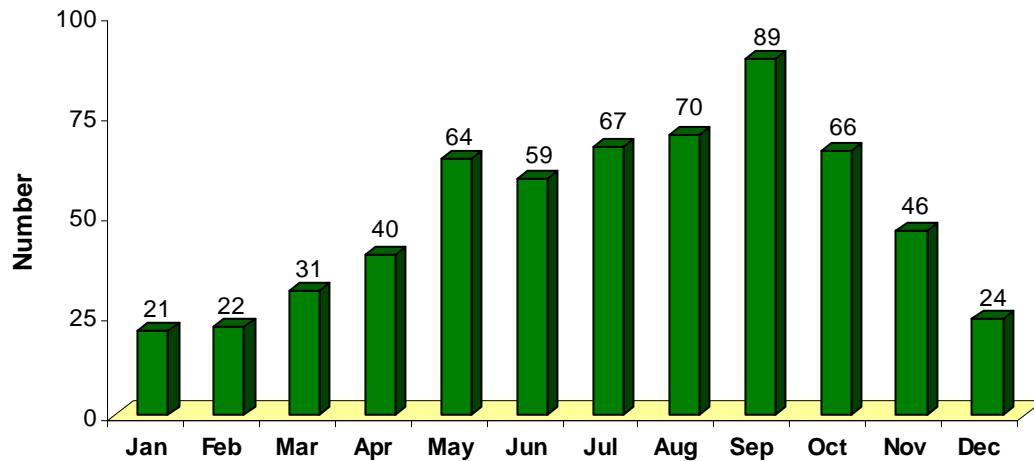
In the fifteen years from 1990 to 2004, 601 adults aged 60 or over were killed in agricultural injury events. 95.5% of the older adults died as a result of agricultural work. In 95.2% of the cases the victims themselves were working. 74.2% of the deaths were machine-related. The leading causes of fatal agricultural injuries in older adults were machine rollovers (24.5%) and machine runovers (22.3%).

Top Ten Causes of Agricultural Fatalities in Older Adults

Rank	Cause of Injury	Number	Percent
1	Machine rollover	147	24.5
2	Machine runover	134	22.3
3	Animal-related injury	49	8.2
4	Pinned/struck by machine	40	6.7
5	Machine entanglement	36	6.0
6	Struck by non-machine object	31	5.2
7	Traffic collision	30	5.0
8	Struck by machine-related object	20	3.3
9	Fall from height	19	3.2
10	Fall from machine, not runover	14	2.3

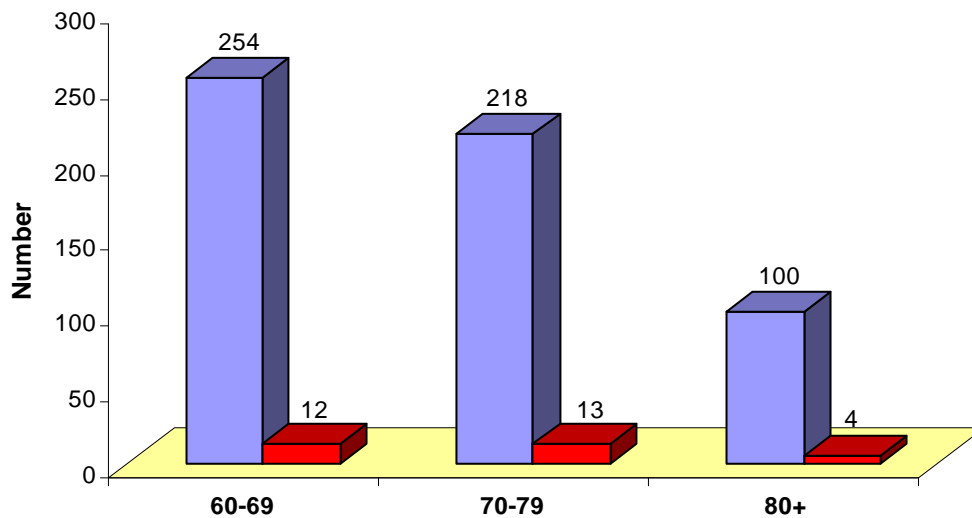


Month of Occurrence for Agricultural Fatalities in Older Adults



- 37.6% of the fatal injuries in older adults occurred in the months of July, August and September.
- More fatal injuries occurred in September than in any other month (14.8%).

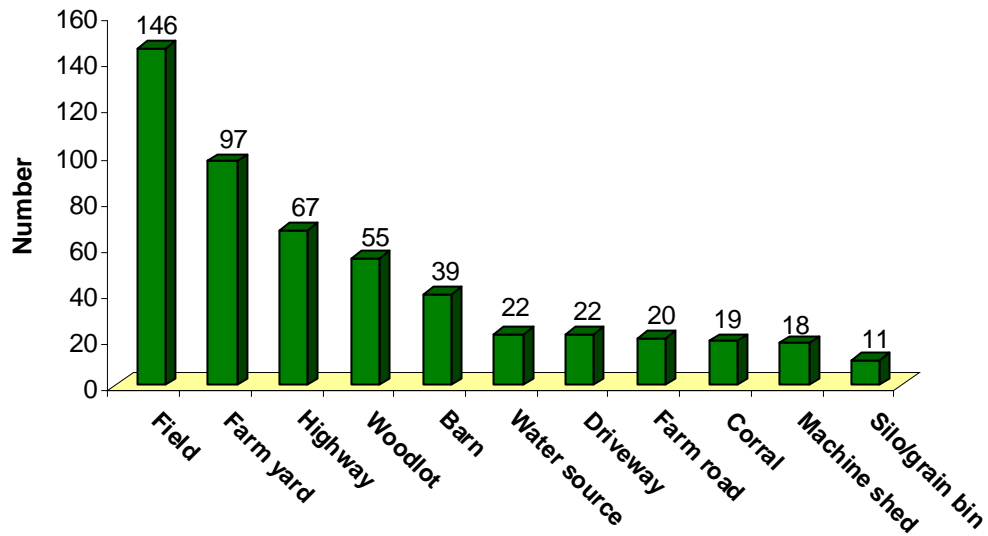
Age and Gender of Older Adult Victims



	Male	Female	Total	
60-69	254	12	266	44.3%
70-79	218	13	231	38.4%
80+	100	4	104	17.3%
Total:	572	29		
	95.2%	4.8%		

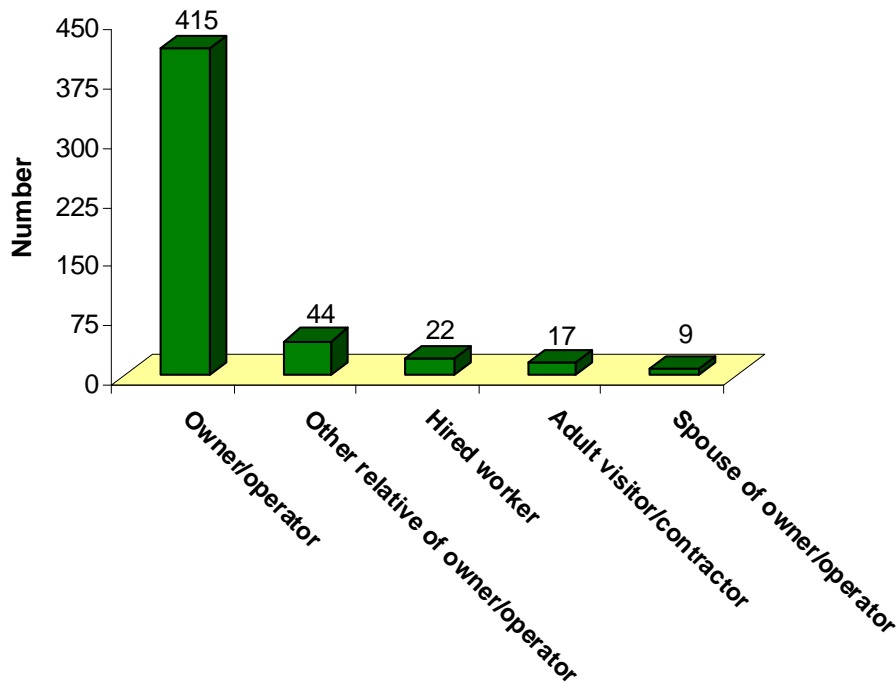
- 44.3% of the older adults who died were 60 to 69 years old.
- Overall, 95.2% were male.

Location of Occurrence for Fatal Agricultural Injuries in Older Adults



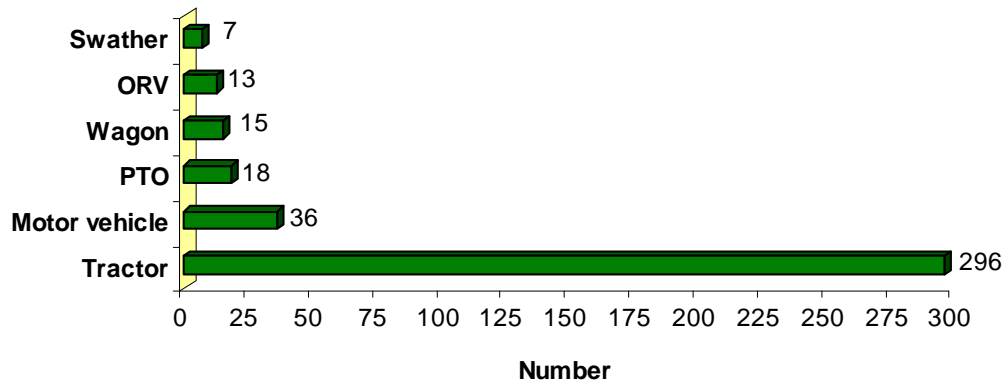
- The most common locations for fatalities in older adults were fields (24.3%), farm yards (16.1%), highways (11.1%) and woodlots (9.1%).

Relationship of Older Adult Victims to Owner/Operators



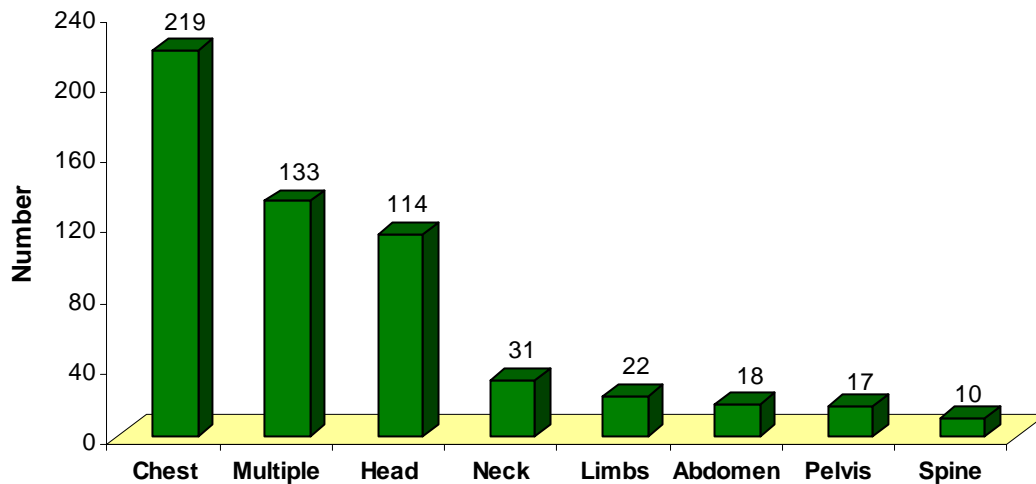
- 69.1% of the older adults who died were owner operators.
- Only 2.8% of the older adult victims were visitors.

Types of Machines Involved in Fatal Agricultural Injuries in Older Adults



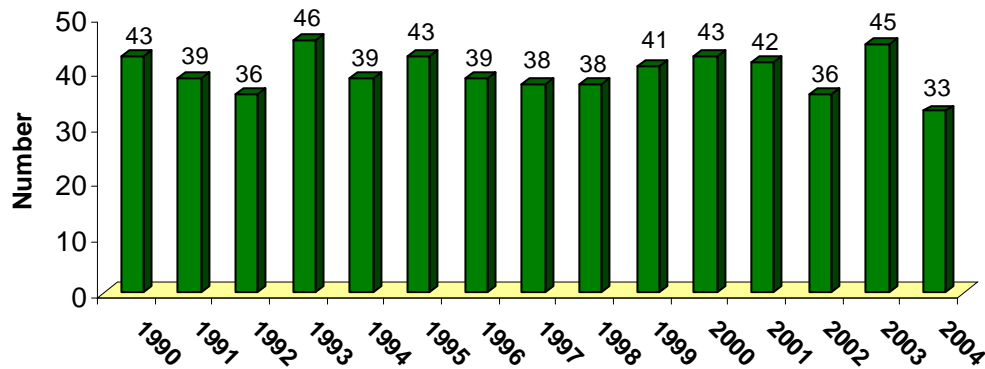
- Of the 446 machine-related fatalities, 66.4% involved tractors.
- Motor vehicles were the next most common machine type (8.1%).

Anatomic Locations of Fatal Agricultural Injuries in Older Adults



- 77.5% of the fatalities in older adults involved chest, head or multiple injuries.

15-Year Trend for Agricultural Fatalities in Older Adults



- There was considerable variation in the number of older adult fatalities per year. Over the 15-year surveillance period, the average annual number of older adult fatalities was 40.1.
- The overall trend showed no appreciable decline in the number of agricultural fatalities in older adults from 1990 to 2004.

Recommendations

General Age Group Recommendations

- As individuals age, physical and cognitive changes can occur that may affect their ability to perform some tasks. It is therefore important that an older farmer and his/her fellow workers assess the skills required to perform particular tasks and determine whether he/she can safely perform the tasks.
- The types of agricultural tasks attempted and the methods used to accomplish the tasks should be adjusted to fit the changing abilities and limitations of older farmers.
- In situations where older farmers must work alone, effective two-way communications systems should be available, with communications devices kept securely attached to clothing.
- A geographic positioning system could be used to ensure that the farmer's exact location can easily be established.
- In older farmers, fatigue associated with long hours spent operating machinery is likely to be associated with an increased risk for injury.
- Falls are an issue for all seniors. Care should be taken when completing any tasks where dynamic balance or static strength is required.
- Engineering solutions may help prevent some falls from machinery. Safe access platforms could be fitted to facilitate safe mounting and dismounting of machinery.

All Rollovers

- The use of Roll Over Protection Structures (ROPS) and seatbelts by all operators would reduce the number of rollover fatalities.

- Most farm machines are not designed to seat passengers. Extra riders should not be taken on farm machines as they are very likely to be killed or seriously injured in a rollover event.
- Older farmers tend to operate older machinery. The much higher fatal rollover rate in this age group may, in part, reflect a relatively lower use of ROPs and seat belts.
- ROPs and seat belts should be retrofitted on older tractors.

Sideways Rollovers

- Machine operators should stay well away from ditches bordering fields and at the side of roads as many sideways rollovers occur in those locations.
- Operating machines on steep slopes should be avoided, if possible.
- When required to work in the vicinity of slopes or embankments, operators should use machines that are equipped with ROPs and seat belts.
- Operators should not corner at excessive speeds.

Backwards Rollovers

- Operators should adhere to manufacturers' recommendations concerning maximum towing capacity and appropriate hitching points. Failure to follow these recommendations may alter a tractor's centre of gravity causing it to overturn suddenly.
- A tow rope or chain should never be attached anywhere above the level of the draw pin.
- Poor terrain conditions such as thick mud, ice, and steep slopes adversely affect a tractor's normal towing capacity and could lead to a backwards rollover.
- Dragging a tree, log, implement or other object was a frequent cause of backwards rollovers. Many of these rollovers occurred during wood harvesting activities.

Unmanned Machine Runovers

- Tractors and other farm machines should not be parked on slopes. If parking on a slope is absolutely necessary, operators should not work in the potential path of the tractor.
- If an unmanned tractor's engine must be left running, the tractor and any attached equipment should be immobilized to prevent unintentional movement.
- Before commencing repairs to a vehicle or machine, operators should ensure that the transmission is in neutral or park and that the engine is turned off. Blocking can also be used on smaller tractors/machines.
- Brakes and electrical systems of tractors, farm trucks and other vehicles should be maintained properly.
- The practice of bypass starting a tractor by short circuiting its ignition system is associated with a very high incidence of fatal unmanned machine runovers.

Fallen Operator Events

Farmers aged 70+ are at extremely high risk for both fallen operator runovers and falls from moving machines. 59.3% of those killed in fallen operator runovers were adults aged 60 and over.

- Seat belts should be worn when operating a tractor or other farm machine.

Animal-Related Events

- Handlers of large animals should not work on foot inside an animal holding pen or chute system unless they are protected by secure panels or gates which would prevent them from being crushed.
- Older farmers should not work alone around unpredictable large animals, especially bulls and horses.
- Escape routes should be planned and farmers should avoid being trapped in small areas with large animals.

Recommended Reading

Blahey G. et al. (2002). *Making Farming Safe for Senior Farmers*.

http://www.gov.mb.ca/agriculture/farmsafety/pdf/making_farming_safer_for_seniors.pdf.

Government of Manitoba, Winnipeg, MB.

Golonka R., K. Belton, L. Strain, K. Hunter and D. Voaklander (2007). *Agricultural Fatalities in Canada 1990-2000: Focus on Older Farmers and Workers*. CAISP. Kingston, ON.

