

SUMMARY REPORT ON

AGRICULTURAL INJURIES IN CANADA

1990-2000



> A REPORT FROM THE CANADIAN AGRICULTURAL INJURY SURVEILLANCE PROGRAM (CAISP)

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*This is the most comprehensive
and inclusive report ever
compiled of a nation's experience
with agricultural-related injuries.*



INTRODUCTION

Canadian agricultural workers face more hazards in the workplace than their counterparts from many other occupations. The resulting high injury rate, to both the workers and their families, creates an enormous personal and economic toll amounting to hundreds of millions of dollars annually. Yet, as demonstrated in this summary, many of these injuries are preventable.

Agricultural Injuries in Canada for 1990 – 2000, our full report, is the most comprehensive and inclusive report ever compiled of a nation's experience with agricultural-related injuries. Produced by the Canadian Agricultural Injury Surveillance Program (CAISP), it brings together more than 10 years' surveillance of injuries on Canadian farms and ranches. For the first time, all of CAISP's data on people who have been either hospitalized or fatally injured in an agricultural setting are presented under a single cover.

“CAISP’s findings will help the farming industry create new strategies and guidelines for preventing childhood agricultural injuries and help make farms a safer place for everyone.”

Dr. Barry McLellan,
acting chief coroner, ontario

Working together as individuals and groups, we have identified, collected and interpreted the hospitalization and fatality data for this report. Our collective goal is to provide the information required by those working in Canada to reduce the frequency and severity of these injuries.

Underscoring the importance of gathering this information is the fact that these injuries are neither random nor truly “accidents”. The report documents many repetitive patterns of occurrence that cross provincial borders and are similar for a variety of types of agricultural production.

This executive summary highlights both our key findings and our recommendations for priorities and prevention strategies to the Canadian Agricultural Safety Association (CASA), the government and their partners in the agricultural community. The lead priorities we identify relate to the prevention of injury in small children and the elderly, and to improved safety while working with tractors and large animals.

The full report will be published on our website, www.caisp.ca, in September 2003. It provides more detailed descriptions of injury occurrences and supporting data for statements made in this summary.



Our collective goal is to provide the information required by those working in Canadian agriculture to reduce the frequency and severity of these injuries.

CAISP

CANADIAN AGRICULTURAL INJURY SURVEILLANCE PROGRAM

A collaborative program run by organizations from across Canada, the Canadian Agricultural Injury Surveillance Program (CAISP) is coordinated from a national office at Queen's University in Kingston, Ontario. Contributors include researchers, government agencies, and representatives from the agricultural industry.

CAISP was an initiative funded by the Canadian Agricultural Safety Association (CASA) as a pilot project in 1995. The following year it received funding and support as a national CASA program, with two overall objectives: to develop a coordinated system of collecting national agricultural injury surveillance data; and to interpret and communicate these data in a format useful to the agricultural industry.

Since the program's inception, CAISP fatality and hospitalization databases have grown to include information from all 10 Canadian provinces, covering 11 years of collection (1990-2000), using standardized data retrieval and reporting methods.

Our overriding concept of "surveillance" has three components:

1. **Collect and analyze data to recognize important patterns of injury occurrence**
2. **Identify priorities for prevention**
3. **Develop content for, and help to implement, prevention programs**

As our data collection methods continue to evolve and improve, we have been able to identify additional cases and to amend the presentation of some of our data describing patterns of injury occurrence. These refinements have enabled us to better meet the needs of those using the data.

HIGHLIGHTS

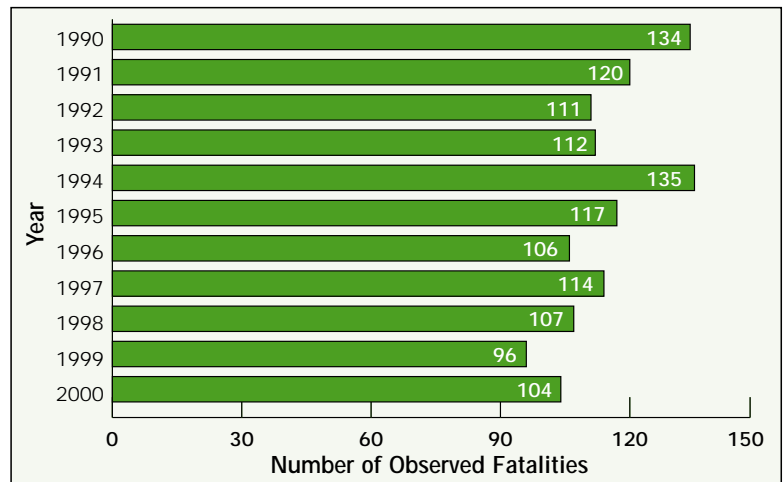
1 | With an average of more than 100 deaths and 1,500 hospitalizations resulting from agricultural injuries in Canada each year, agriculture is one of this country’s most hazardous industries.

2 | Although patterns of agricultural injury vary from region to region, circumstances and immediate causes of injury are generally similar in all provinces.

AND RECOMMENDATIONS

> Agricultural injury should be recognized nationally as a preventable cause of death and disability.

Number of Fatal Agricultural Injuries in Canada
1990-2000 (1,256 cases)



> Recurring patterns of injury that have been identified should be used to establish national priorities for agricultural injury control. The Canadian Agricultural Safety Association (CASA) should make full use of national CAISP data to develop these priorities. Federal and provincial governments, working through CASA, should establish unified approaches to agricultural injury prevention.



HIGHLIGHTS

3 | At highest risk for serious injury are: farm owner-operators, (particularly older farmers) and children living on farms. Contrary to the belief that visitors and those inexperienced with agricultural practices are often killed on Canadian farms, these groups account for very few fatalities.

AND RECOMMENDATIONS

➤ Effective prevention programs should be aimed at the groups and situations identified as being at highest risk on Canadian farms and ranches.

Underscoring the importance of gathering this information is the fact that these injuries are neither random nor truly “accidents.”



HIGHLIGHTS

4 | The prevention of injuries in young children must be a lead priority. Each year in Canada, an average of 12 children under age 10 are killed and 110 are hospitalized due to injuries sustained on the farm work site. Almost all fatalities involved children of farm owner-operators. The three main causes of fatalities in children under age 10 are: being run over as a bystander; falling off a vehicle then being run over (“extra rider deaths”); and drowning.

5 | In general, boys are known to have injury rates higher than those for girls at all ages. However, boys in agricultural settings are three to four times more likely than girls to sustain serious injury.

AND RECOMMENDATIONS

> CASA should have discussions with farm parents, and become an advocate for their childcare needs. The following recommendations are proposed:

- Farm parents and caregivers must make safe choices about exposure of children to agricultural workplace hazards.
- Farming and ranching operations should be considered work sites and therefore off-limits to younger children.
- Some parts of most farms must be “child-free zones”, bordered by fences or barriers.
- Taking children as extra riders on tractors or other farm machinery must be prohibited. There is no safe method for transporting extra riders, of any age, on farm machinery.
- Innovative solutions must be found to meet the need for rural childcare.



> Young farm boys must receive the same level of protection against agricultural work hazards as is given to farm girls. Access to the farm work site must be restricted for **all** young children.



HIGHLIGHTS

6 | Working with tractors is associated with 45% of all work-related fatalities and 13.4% of all hospitalizations. Particularly lethal, these injuries have shown a modest decline in occurrence over time. Two types of tractor injuries have been identified:

- Sideways rollovers (e.g. from slopes) and backward rollovers (e.g. from sudden acceleration or from towing stationary loads) have resulted, on average, in 24 deaths and 35 hospitalizations annually. This injury pattern occurs in adults of all ages. Sideways rollovers occur most often when tractors and farm machinery slip sideways off roads and farm driveways.
- Runovers, by tractors and other machinery, are leading causes of fatal and non-fatal injury. Each year an average of 17 people are killed and 81 hospitalized as a result of being run over by agricultural vehicles and equipment. Children killed by runovers are most likely to have been bystanders or to have fallen off a machine (extra-rider deaths), while unmanned runovers are a leading cause of death among older farmers.

AND RECOMMENDATIONS

> Tractor fatalities should remain a national injury control priority, with research and prevention efforts focused on leading patterns of fatal and non-fatal tractor injuries across Canada.

To prevent tractor rollover injuries, Canada must adopt some of the strategies that have nearly eradicated this leading cause of death in other countries. Most important is the use of rollover protection structures (ROPS) and seat belts on all tractors: CASA and others should advocate for policies that require the retrofitting of ROPS on all farm tractors. Moderating speed and using best practices for hitching and towing are also recommended.



To prevent tractor runover injuries, areas where tractors are operated on the work site must become “child-free zones,” and taking children on any farm machinery as extra riders must be prohibited. (There is no safe method for transporting extra riders, of any age, on farm tractors.) Best practices for tractor operation and maintenance, which would eliminate the practice of “jump-starting” the engine while standing beside the machine, should be promoted. See www.caisp.ca for a special report on tractor runover injuries.



Canadian agricultural workers face more hazards in the workplace than their counterparts from many other occupations.



HIGHLIGHTS

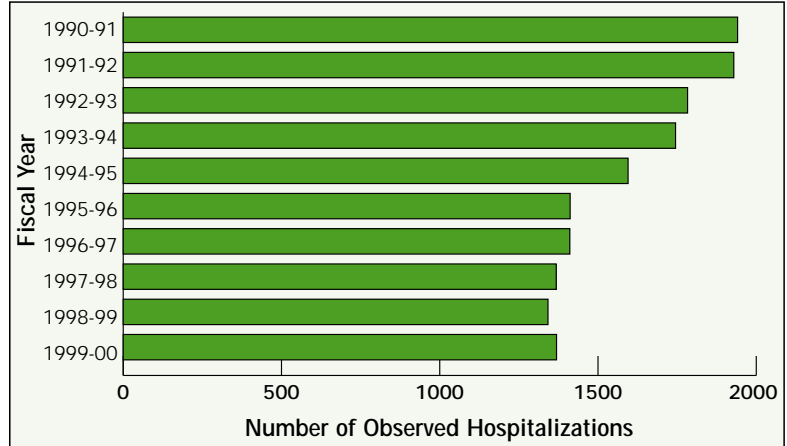
7 | Over fifteen thousand people were hospitalized for agricultural injuries in the last decade. Entanglement and working with animals were the leading causes of hospitalization.

8 | Adjusting agricultural machinery while it is in operation is a particularly hazardous activity. This, particularly if done while wearing loose clothing, can cause a person to be caught or entangled in the machine. Machinery entanglement accounts for 8.6% of fatal injuries and 15.2% of hospitalizations, and has shown no decline in occurrence. Often the cause of amputation and long-term disability, these injuries affect all ages including small children.

9 | Working with animals is the leading cause for injury resulting in hospitalization at 18.7% and accounts for 5.7% of fatalities. Most of these injuries involve cows and bulls for men, and horses for women.

AND RECOMMENDATIONS

> Number of Agricultural Injuries Resulting in Hospitalization in Canada



> New technology for guarding agricultural machinery, as well as cost-effective methods of retrofitting existing machines, should be developed and implemented. Designing innovative clothing materials that resist becoming entangled, and launching safety campaigns to raise awareness of this problem are also recommended.

> The need for farm operators and residents to have a solid understanding of large animal behaviour and management, and to use best practices in animal handling at all times should be stressed.



HIGHLIGHTS

10 | Deaths from exposure to toxic substances, particularly gases in manure storage areas, silos and grain bins are less common, but fully preventable. They account for 3% of fatal injuries, with young workers at especially high risk. The development of large-scale livestock operations may increase the risk of exposure to animal confinement gases (hydrogen sulfide).

AND RECOMMENDATIONS

- > Best practices must be followed in the design and maintenance of farm buildings and the handling and storage of manure. All agricultural workers should be educated about the hazards associated with confinement gases, and about associated emergency procedures.

“Confinement gases are highly toxic and produce an instant loss of consciousness in their unsuspecting victims.”

Dr. Robert Brison,
director, caisp



HIGHLIGHTS

11 | Agricultural vehicle traffic on public roads creates potential risk of injury for farm workers and others. CAISP data indicate that traffic injuries represent 7.7% of agricultural fatalities, but we believe existing tracking systems substantially underestimate their occurrence. Due to longer distances from farms to markets and the use of larger equipment, it is anticipated that traffic injuries, which affect both agricultural and non-agricultural people, will increase.

12 | Agricultural injuries often occur in isolated locations and at times when the victim is working alone. Special considerations are needed to manage these situations.

AND RECOMMENDATIONS

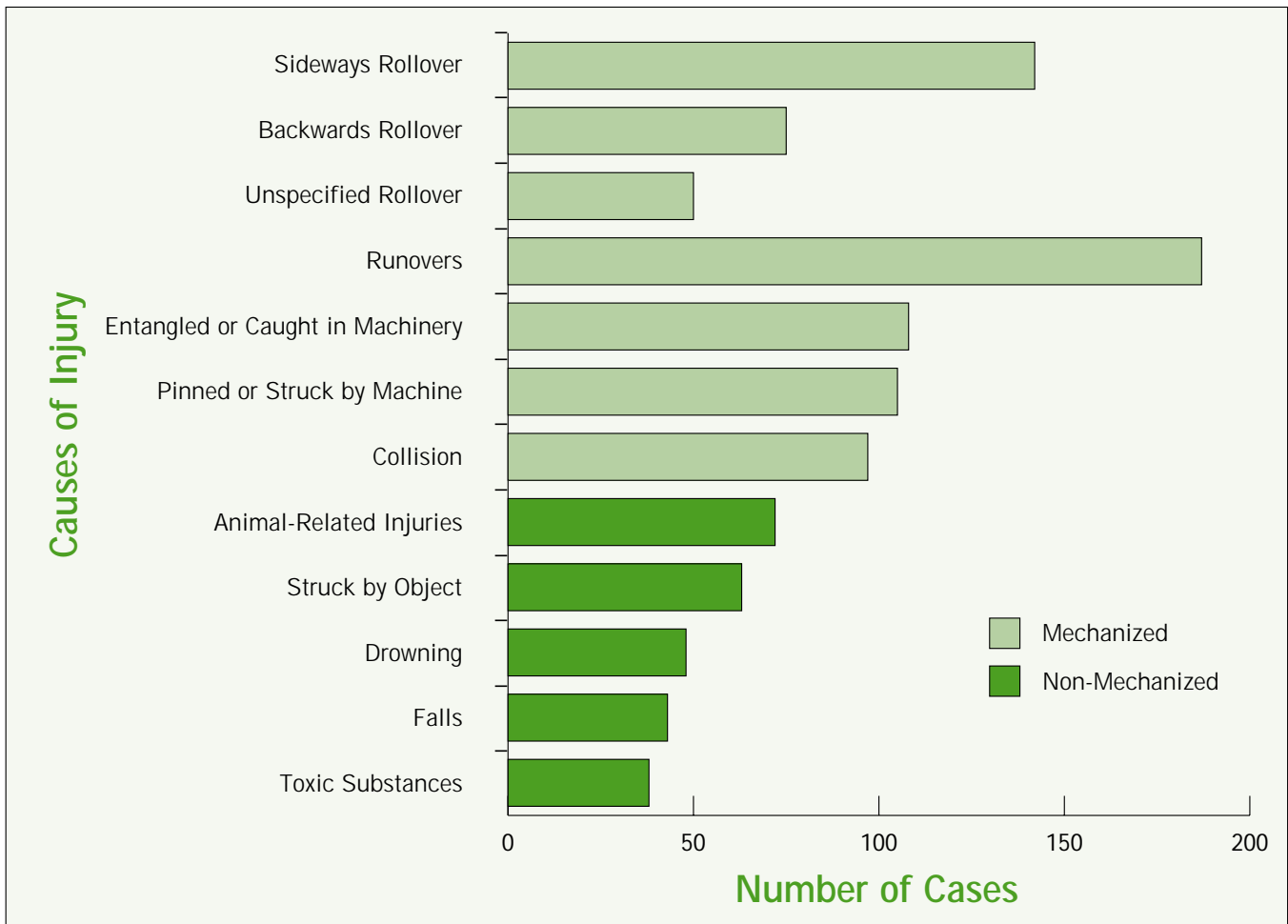
> Established regulations for vehicle size, signage, reflectors and lighting should be promoted by CASA and other organizations, to ensure that agricultural vehicles conform to regulations for use on public roadways. As well, alternate methods to monitor the occurrence of these injuries must be developed.



> Agricultural workers should be familiar with emergency first aid to deal with injuries, and have access to communication technology (e.g. cellular phones, geographic information systems) that can provide early notification of an emergency at the agricultural work site.



LEADING CAUSES OF FATAL AGRICULTURAL INJURY IN CANADA 1990-2000



> The cases displayed represent 82% of all fatalities.

“Over 230 people were killed in tractor rollovers during the past decade. If Roll Over Protection Structures and seat belts were required equipment on all farm tractors, we believe that most of these deaths would have been prevented.”

Dr. Robert Brison,
director, caisp

ACKNOWLEDGMENTS

1 | The Canadian Agricultural Safety Association (CASA)

- > CASA (formerly called the Canadian Coalition for Agricultural Safety and Rural Health) was established in 1993 by a coalition of agencies from across Canada. These agencies joined together to address problems of illness, injury, and accidental death in farmers and ranchers and their families, agricultural workers and other issues related to rural health. www.casa-acsa.ca

CASA's mission is to have Canadian agriculture free of workplace injuries and illnesses. This is accomplished by fostering collaboration with and among the Canadian provinces, selling the message of agricultural safety, tangibly impacting agricultural safety and health in Canada, and building solid foundations for current and future efforts toward this cause.

2 | Agriculture and Agri-Food Canada

- > Agriculture and Agri-Food Canada (AAFC) is pleased to participate in the production of this publication. AAFC is committed to working with our partners in the agricultural industry to increase public awareness of the importance of the agriculture and agri-food industry to Canada. Opinions expressed in this document are those of CAISP and not necessarily the Department's.

3 | CAISP Member Organizations

- > The provincial participants and sponsors of CAISP are listed on the following pages.

ACKNOWLEDGMENTS

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Funding and Support Canadian Agricultural Safety Association

Agriculture and Agri-Food Canada

**Individuals and agencies
integral to the CAISP project**

British Columbia

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Dr. Mary Rose Stang, Research Consultant, Population Health Branch,
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ACKNOWLEDGMENTS

- Manitoba** Dr. Ted Redekop, Manitoba Department of Labour and Immigration, Workplace Safety and Health Division, Occupational Health Branch, Manitoba Health
- Norma Alberg, Manitoba Department of Labour and Immigration, Workplace Safety and Health Division, Occupational Health Branch, Manitoba Health
- The Office of the Chief Medical Examiner
- Ontario** Dr. Rob Brison, Department of Emergency Medicine, Kingston General Hospital and Queen's University
- Dr. William Pickett, Faculty of Health Sciences, Kingston General Hospital and Queen's University
- Deb Emerton, Department of Emergency Medicine, Kingston General Hospital and Queen's University
- Québec** Bureau du coroner du Québec
- Ministère de la santé et des services sociaux du Québec
- Dr. Louise Paré, Direction de la santé publique Chaudière-Appalaches
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- Newfoundland** Deborah Guillemette, NF and Labrador Federation of Agriculture
- Logo Design** Brian Fleck, University of Alberta
- Website** This report can also be found on the internet at www.caisp.ca



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