

2 METHODS

2.1 Identification of Agricultural Fatalities

A detailed review of CAISP's data collection and analysis methods is available in CAISP's national report *Agricultural Injuries in Canada for 1990-2000*. The process used in the identification of agricultural fatalities varies by province. This is a general description of the process:

1. Potential sources of agricultural fatality data are identified. These are kept by a variety of agencies that vary by province. Examples of these agencies include: offices of the provincial coroner or chief medical examiner, occupational health agencies, departments of vital statistics, ministries of transportation and provincial agricultural safety associations.
2. A comprehensive list of all potential agriculture-related fatalities is assembled within each province. These lists draw upon each available source of fatality data.
3. Once cases are identified, detailed case reports are sought for review and data abstraction. The main sources of information are coroners' investigation reports; occupational safety and health agency investigation reports; and RCMP / provincial police reports.
4. Data abstraction and entry are completed on each eligible fatality. This is done in a consistent manner using a standard data abstraction form (Appendix C). Data abstraction is completed on-site at provincial chief coroners' or medical examiners' offices. Data are then sent to the national site for verification, coding and analysis[^].

2.2 Key Definitions

Agricultural Fatalities: CAISP defines an agricultural fatality as 1) *Any unintentional injury resulting in death that occurs during activities related to the operation of a farm or ranch in Canada and/or* 2) *Any unintentional injury resulting in death that involves any hazard of a farm or ranch environment in Canada (excluding fatal non work-related injuries that take place in the farm residence). This includes deaths that occur away from agricultural work locations if agricultural work is being done; e.g., transporting workers, livestock, supplies or harvested crops on public highways; farm animals roaming on public highways. Deaths where victims are killed because a third party is engaged in agricultural work are also included.*

Study Population: *All persons who live, work on, or visit a Canadian farm or ranch (as defined below), as well as all persons who are fatally injured in other locations (such as public highways) as a result of agricultural activity.*

Farm: *In the Census of Agriculture, Statistics Canada defined a farm as "any farm, ranch or other agricultural holding that produces at least one of the following agricultural products intended for sale: crops, livestock, poultry, animal products, greenhouse or nursery products, mushrooms, sod, honey, or maple syrup products." Canada Census of Agriculture, 1996, Statistics Canada.*

Other Inclusion/Exclusion Criteria: *These rules are provided in Appendix A.*

2.3 CONFIDENTIALITY OF CAISP DATA

Data are maintained in an electronic database that is managed centrally by the national coordinator under the supervision of the program co-directors. The provincial collaborators retain the complete data set for their own provinces.

Access to the national dataset is strictly limited to CAISP collaborators for the following activities:

1. CAISP provincial collaborators assigned the task of producing special technical reports for Canada.
2. CAISP collaborators who have permission from the CAISP group to conduct special analyses for the purpose of producing scientific reports for submission to peer-reviewed journals.
3. The national program co-coordinator and program co-directors for the purpose of maintaining the database and producing periodic comprehensive reports for Canada.
4. To support agricultural injury prevention initiatives by others through analyses presented as tabular data.

2.4 ANALYSIS

The analysis presented in this report is descriptive. It has three main objectives: 1) to illustrate the magnitude of the agricultural fatality problem in Canada 2) to compare trends in the causes and occurrence of fatal agricultural injuries among regions, genders and age groups and 3) to identify emerging patterns of injuries.

The statistics used include simple counts and frequencies as well as cross-tabulations. Where appropriate, injury rates were calculated. Formal hypothesis-testing methods and tests of statistical significance were not employed in comparisons.

Selected average rates of fatal agricultural injuries are presented in this report. The numerators used in calculating these rates are the numbers of agricultural fatalities for particular age categories and mechanisms of injury. These include fatal injuries to farm residents, hired agricultural workers, contractors, persons traveling on public highways and a small number of visitors to farms. Denominators for these rate calculations are taken from the 1996 Canada Census of Agriculture. The 1996 census data were used in the denominators because they were collected roughly halfway through the surveillance period. Since the farm and ranch population has declined since 1996 (Canada Census of Agriculture 1996, 2001, 2006), the use of 1996 population data in the rate calculations is conservative.

Some caution is warranted in the interpretation of the rates because it is not possible to obtain complete data on the full population at risk, or to determine relative amounts of exposure to agricultural work and associated hazards. Also, the Canada Census of Agriculture includes all farm and ranch residents, some of whom have relatively little exposure to agricultural work hazards, but excludes visitors to farms or ranches and agricultural workers who are not resident on farms or ranches. The accuracy of agriculture census information may vary among provinces, but is the best source of denominator information available at this time.

^Québec fatality data for 2004 and 2005 have not been made available to CAISP. Québec data for 2004 and 2005 were therefore imputed for this report based on Québec's 2000 to 2003 fatality data by age category, gender and mechanism of injury.