1 INTRODUCTION

1.1 GENERAL INTRODUCTION

The Canadian Agricultural Injury Surveillance Program (CAISP) was established in 1995 in response to the need for better information about fatal and hospitalized agricultural injuries in Canada. CAISP is a national program with collaborators in each of the ten provinces of Canada. ***Agricultural Fatalities in Canada 1990-2005*** examines Canadian agricultural fatality data for the sixteen calendar years from 1990-2005. This report includes agricultural fatality data for all persons who were part of the Canadian farm population or who were otherwise exposed to agricultural injuries in Canada from 1990-2005. There were 1,769 agricultural fatalities in Canada from 1990 to 2005, an average of 111 per year. Over the 16-year surveillance period, the average fatality rate per 100,000 agricultural population, per year (including non-workers) was 13.1.

Following this introduction, there is a description of the methods used in CAISP's surveillance program. Agricultural fatalities in Canada are then reviewed comprehensively in an overview chapter. After the overview, important trends and patterns in agricultural fatalities are presented for children under fifteen, adults aged 15 to 59 and adults aged 60 and over. The executive summary of this report highlights its major findings and makes recommendations for injury prevention and further research.

1.2 HISTORY OF AGRICULTURAL INJURY SURVEILLANCE IN CANADA

Agricultural injuries have been recognized as an important rural health issue since the 1960s, when the problem was first recognized in the medical literature. At that time, some provincial groups began to monitor agricultural injuries, but only recently have substantial national resources been committed to the study of agricultural injuries. When compared with other Canadian industrial sectors, agriculture is a dangerous occupation. Agriculture ranks as the third most hazardous industry in Canada with respect to rates of fatal injury. In terms of absolute numbers of fatalities, there is no more dangerous occupation (Pickett et al., 1999). Economic costs associated with agricultural injuries are also substantial. In the United States, when one factors in the costs of treatment, rehabilitation and losses in productivity, agricultural injuries are responsible for over $10 billion in economic losses annually (Leigh et al., 2001). Canadian estimates of economic burden are in the hundreds of millions of dollars annually (Locker et al., 2003).

Until the establishment of CAISP, Canadian data on agricultural injuries were historically limited. This surveillance program has filled an important void in providing national evidence of agricultural injury occurrence that can be used in developing and targeting effective injury-prevention strategies.

1.3 THE CANADIAN AGRICULTURAL INJURY SURVEILLANCE PROGRAM

The Canadian Agricultural Injury Surveillance Program (CAISP) is a national program that is funded by the Canadian Agricultural Safety Association (CASA). CAISP is a collaborative program run by organizations from across Canada. It is coordinated from a national office at Queen's University in Kingston, Ontario. The people and organizations that contribute to CAISP include researchers, government agencies and the agricultural industry.

The main purpose of CAISP is to collect and interpret information on agricultural injuries from across Canada. During the pilot phase of CAISP, national standards were developed for this process and representatives from each of the ten provinces were recruited. The CAISP fatality and hospitalization databases include data from all ten Canadian provinces.

CAISP's vision: *A pillar of agricultural safety providing a comprehensive national system of surveillance for fatal and non-fatal agricultural injuries.*

CAISP's mission: *To provide Canada with national and provincial leadership in the prevention of agricultural injuries as a world leader in gathering information, conducting research and translating knowledge into products and services.*

CAISP's strategic goals and aim:

To develop formalized partnerships that

1. strengthen the reliability and comprehensiveness of agricultural surveillance data at federal and provincial levels
2. advance the usefulness of surveillance information for the prevention of agricultural injuries (knowledge translation)
3. establish mechanisms to monitor program impacts

CAISP strives to ensure that fatality and hospitalized injury data are collected, compiled, and analyzed in a standard manner by all provinces and that the information is interpreted and communicated in ways that are helpful to potential data users in the agricultural industry.

CAISP's primary audience is individuals within the agricultural industry who need to make informed decisions about safety programs and policy. CAISP's reports represent one approach to making these data accessible to this audience. Other dissemination formats include articles in scientific journals, presentations at national conferences, information on our website at www.CAISP.ca, and press releases.

1.4 USES OF CAISP DATA

CAISP has developed a surveillance system for Canada that describes the occurrence and patterns of agricultural injuries at a higher level of detail than was available previously. At both national and provincial levels, CAISP has provided evidence that has assisted in the development of priorities for health and safety programs as well as strategies for the targeting of these initiatives. CAISP data have also facilitated the post-implementation assessment of injury-prevention programs.

Agricultural safety specialists and others require objective evidence so that they can promote awareness of agricultural injury issues and advocate the allocation of additional resources to injury prevention and research programs. CAISP information has been used repeatedly to assist in advocacy efforts. This has contributed to the development of informed safety policy in the agricultural industry and to the funding of safety programs at international, national and provincial levels.

CAISP has provided baseline evidence to support several applied research projects. These projects include focused investigations aimed at the prevention of agricultural injuries in children and the elderly, studies of agricultural machinery injuries and their causes, and studies examining the economic burden of agricultural injuries.

1.5 THE CHALLENGES OF INJURY CONTROL IN AGRICULTURE

In other industries, victims of occupational injuries are usually workers aged 18 to 65. Agriculture is unique in that children and the elderly sustain significant numbers of severe work-related injuries. This is partly because farms and ranches are not just work sites, but also places where people of all ages live, play and participate in recreational activities. Also, unlike other industries, it is common for farmers and ranchers to work full time and to operate tractors and other heavy machinery well into their 70s and 80s.

The prevention of injuries in agricultural work settings is challenging because of the unique nature of the agricultural work environment. Also, in most jurisdictions, agriculture is not a heavily regulated industry in terms of occupational health and safety standards. Unlike other industrial workplaces, many Canadian agricultural workplaces have not benefited from modern industrial hygiene and safety practices. The composition of the agricultural workforce is also geographically diverse. This diversity adds to the difficulty in enforcement of safety standards. There has traditionally been reliance on voluntary rather than regulatory safety standards, but the effectiveness of voluntary safety standards has not been well evaluated.