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National Consultation Leads to Agrivita Research to Practice Plan for Canada

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National Consultation Leads to Agrivita Research to Practice Plan for Canada

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ABSTRACT. A gap exists between research development and its implementation in agricultural health and safety. In order to fill this gap, the goal of this project was to consult agricultural stakeholders across Canada in order to identify the health and safety priorities in research and knowledge translation, and then to propose an approach to bridge the gap. Between April and August 2007, “A National Stakeholder Consultation on Health and Safety Research and its Effective Translation to the Agricultural Sector” was initiated by the Canadian Centre for Health and Safety in Agriculture. The experiences and opinions of stakeholders across Canada were gathered through focus groups with over 150 participants in seven Canadian provinces and a survey of 289 individuals across Canada. Stakeholders identified a range of health and safety research priorities. Chemical exposure, stress, and farm safety issues were immediate concerns and issues surrounding labor and trained workers, whereas health problems and environmental issues were long-term concerns. Results identified research and knowledge translation priorities, which provided elements for a proposed program aiming at bridging the gap existing between research development and its translation into practice. A request for a knowledge translation/transfer mechanism, where all agricultural stakeholders from researchers to end users are involved in the process, was identified. Findings from the national consultation were used to develop a business plan entitled “Agrivita Research to Practice Program: A Partnership Plan for Health and Safety and its Effective Transfer to the Agricultural Sector in Canada.” The plan provides for a coordinated and integrated approach in Canada, conceptually drawing on the American experience established by The National Institute for Occupational Safety and Health.

KEYWORDS. Agriculture, applied research, health, knowledge translation, safety

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INTRODUCTION

The agriculture and agri-food industry is a key driver of the Canadian economy. The industry is the largest manufacturing sector in seven provinces, providing one in seven jobs across the country.¹ Agricultural production is associated with significant safety and health risks to the producer, family members, workers, and surrounding communities as a result of airborne contamination, food and water quality issues, and workplace injuries. In 2006 there was a total of 13,801 farm injuries.²

It has been identified that a gap exists between knowledge creation through research on the one hand, and its integration into practices and program delivery on the other hand. In order to identify the dimensions of this gap and identify approaches to address it, “A National Stakeholder Consultation on Health and Safety Research and its Effective Translation to the Agricultural Sector” was undertaken in 2007. The purpose of the consultation was to evaluate needs, gaps, and approaches for applied research and knowledge translation in agricultural health and safety in Canada and thereby to develop a concept for a Canadian approach that will bridge the gap.

By the term “applied research” we are referring to research of a practical nature that creates and evaluates products, processes, or information that can be used by producers. By the term “knowledge translation” we are referring to all three “modes” defined by Landry and colleagues as (1) finished products, (2) direct use of research knowledge, and (3) processes that transform knowledge into improved performance and innovation.³

The aim of this paper is to describe the results of the national consultation and to describe a program to fill the gap in Canada.

METHODS

“A National Stakeholder Consultation on Health and Safety Research and its Effective

Translation to the Agricultural Sector” was undertaken in 2007. The national consultation sought to obtain opinions of agricultural stakeholders representing producers and other agricultural organizations, entities delivering health and safety information at the farm level, agricultural suppliers and processors, researchers engaged in the agricultural health and safety field, and policymakers with responsibilities that impact on the direction, scope and funding of research. Two approaches were used: a series of focus groups and a national survey.

Focus Groups

In order to achieve a national perspective and to provide convenient access for virtually all participants, 15 focus groups were held across Canada in seven provinces. The following organizations were consulted:

- In Quebec, Institut de recherche Robert-Sauvé en santé et en sécurité du travail, L'Union des producteurs agricoles, Institut de recherche et de développement en agroenvironnement, and Université Laval (Département de Management)
- In Ontario, Farm Safety Association Inc., University of Guelph (Land Resources Science Centre, Department of Population Medicine, and Ontario Veterinary College), Canadian Federation of Agriculture, and University of Ottawa (Centre for Research on Environmental Microbiology)
- In Winnipeg, Canadian Agricultural Safety Association, Government of Winnipeg (Department of Agriculture and Department of Labor), and Keystone Agricultural Producers Association
- In Alberta, Government of Alberta (Alberta Agriculture Food and Rural Development, and Department of Health), University of Lethbridge, Wild Rose Agricultural Producers, and the Mennonite Community
- In Saskatoon, CCHSA, National Scientific Network and Decision-Makers, and Farmer Steering Committee of the Agricultural Health and Safety Network

- In British Columbia, Farm and Ranch Safety and Health Association (FARSHA)
- In Atlantic Canada, public from New Brunswick, Dalhousie University, and Nova Scotia Agricultural College

Organizations and individuals consulted were selected through the CCHSA National Program and its well-established partnerships and collaboration contacts. Conducted by a facilitator, focus group sessions of 2 to 3 hours duration were held. Over 150 individuals in total participated with an average of 10 persons per focus group session. The facilitator used a template document developed to insure guidance and consistency between different groups. Participants were asked to discuss priorities and gaps in agricultural health and safety research, as well as priorities and process for knowledge translation. Sessions were conducted either in French or in English. The results were recorded and analyzed thematically.

National Survey

A national survey was conducted using a questionnaire developed both in French and in English. The first question inquired about the most important health and safety problem that the participants saw in agriculture, both at the present time (current) and in the future. The four next questions consisted in rating from 1 (not important) to 5 (extremely important), concern about health and safety issues, priorities and gaps in health and safety research, and priorities for knowledge translation. The survey was mailed and distributed at various events such as focus group meetings, the Farm Progress Show (Regina, SK), and the 2007 National Institute for Farm Safety Conference (Penticton, BC) where farmers, agribusiness, academics, researchers, and other agricultural stakeholders from across Canada were reached. The survey received approval from the Behavioural Research Ethics Board of University of Saskatchewan. Descriptive analysis was conducted on the variables of interest and a Mann-Whitney *U* test was used to assess differences between the respondent groups.

RESULTS

Focus Groups

As expected, a wide range of priorities for agricultural health and safety research was raised by participants. Most frequently mentioned priority health research topics were chemical exposure, stress, and air/water quality. Safety issues mentioned as research priorities were machinery safety, contaminants synergy, and building sanitization and ventilation. Participants identified researching the impact of climate change on farming and on farm safety as a priority. Educational research approaches were deemed to be of importance in order to determine appropriate training in safe practices for workers, including seasonal workers, immigrants, and youth.

Participants were also asked to identify priorities for knowledge translation. Participants wanted research results to be translated into the development of regulations and standards. A marketing approach to promote a change of attitudes and behaviors in order to manage risks was suggested. A priority was the need to develop a model to facilitate knowledge translation between researchers and end users, with an intermediary that is credible among producers, close to producers and respected by them, and with means of communication adapted to the realities of the rural environment. Unanimously, the different groups consulted agreed that creating mechanisms for ongoing communication between different levels of stakeholders is essential. Most importantly, agricultural producers should be involved in the process of establishing priorities of research and involved in the process of knowledge creation in order that the needs of end users are understood and incorporated into the development of relevant, reality-based research knowledge.

National Survey

A total of 289 respondents participated in the national survey. Respondents were from all areas of Canada; 55% were farmers. A majority of respondents identified stress, chemical exposure, and farm safety issues as the most

important health and safety problems in agriculture at the present time. Interestingly, although these three current issues remained the most important ones for the future, participants indicated a number of issues that they felt would gain in importance in the future such as labor and training, health problems, and environment.

Respondents also indicated being equally concerned or more concerned about health and safety issues relative to other major issues such as farm product prices, soil erosion, children's education, environment, and crop yield. Farmers and nonfarmers were consistent in their concerns, with exception of soil erosion. Farmers were significantly less concerned about soil erosion than nonfarmer respondents ($p = .008$).

As indicated in Figure 1, all listed research and knowledge translation priorities were rated as most important by the majority of the participants. Farmers rated chemical exposure ($p = .006$), stress ($p < .05$), rural health services ($p = .001$), cancer ($p < .05$), and lung problems ($p < .05$) as significantly more important than nonfarmer respondents as pressing topics for research.

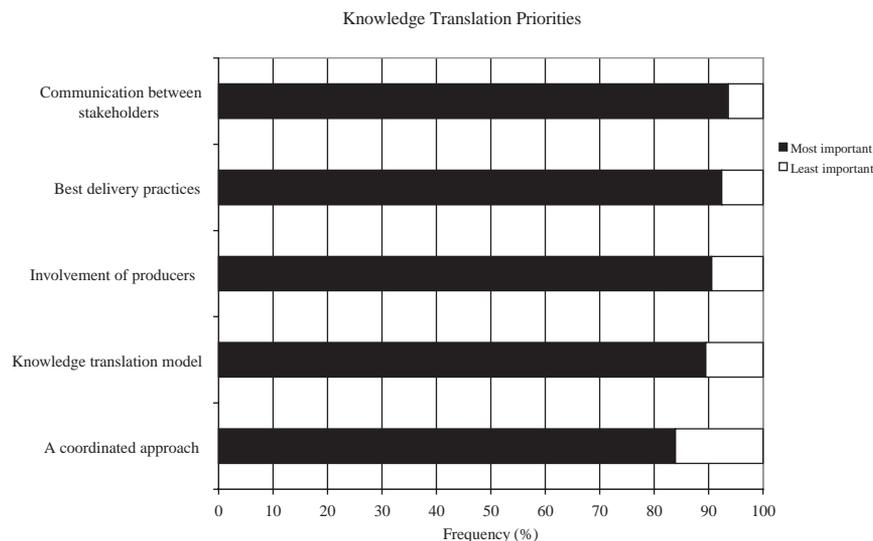
A number of elements were mentioned to be important in research; respondents considered understanding perceived risks and how to

effectively communicate risks and understanding farm culture (safety behaviors and beliefs) to be most important unaddressed issues. Farmers considered the lack of input from policy makers in defining research priorities as being significantly more important than nonfarmers ($p = .01$).

DISCUSSION

The seriousness of the need for improved connections between agricultural health and safety researchers and agricultural decision-makers is reflected in the unambiguous comments provided during a nationwide consultation involving over 400 industry stakeholders conducted between April and August, 2007. The national consultation identified, as did the study conducted by Bowen and Martens, many of the elements of effective knowledge translation identified in the literature: the importance of trusting relationships, the need for multidirectional information exchange, an ongoing forum for sharing, and the creation of research relevant to users.⁴ The results of the national consultation provided elements to fill a gap of sufficient magnitude between research

FIGURE 1. National stakeholder priorities for research and knowledge translation in agricultural health and safety.



and the delivery of practical applications to warrant a program addressing these issues.

Such an approach to knowledge translation has already been developed by the National Institute of Occupational Safety and Health (NIOSH) to address occupational health and safety issues in its university-based centers for research development through a research-to-practice initiative (r2p: Research to Practice). The NIOSH initiative focuses on the transfer and translation of research findings, technologies, and information into highly effective prevention practices and products adapted for the workplace. The goal is to reduce illness and injury by increasing workplace use of NIOSH-funded research findings.⁵ The success of the American initiative is based on the belief that effectively communicating and transferring workplace injury prevention research to practice depends on partnerships.⁶

Researchers in Canada are increasingly expected to engage in knowledge translation. CCHSA uses the Canadian Institutes of Health Research (CIHR) definition of knowledge translation, which is “. . . a dynamic and iterative process that includes synthesis, dissemination, exchange and ethically sound application of knowledge to improve the health of Canadians, provide more effective health services and products and strengthen the health care system.”⁷ CIHR acknowledges that for effective knowledge translation, partnerships between researchers and end users, and approaches that integrate the users at various stages of the research process are needed. It is the experience of CCHSA that developing partnerships between researchers and users that effectively bridge the gap between research and its implementation is difficult to achieve without a supportive infrastructure.

As a result of this national consultation and drawing on both the American experience, and current Canadian directions in knowledge translation, our next step has been the development of a conceptual business plan for a proposed program called “Agrivita Research to Practice (Agrivita R2P): A Partnership Plan for Health and Safety Research and its Effective Transfer to the Agricultural

Sector in Canada.” The proposed program will incorporate a “demand-pull” approach for research prioritization and knowledge transfer that will greatly enhance the focus and effectiveness of the research, resulting in improved health and safety performance. The “demand-pull” approach is based on integration of the end user into the research process, allowing the specifics of problems, needs, and challenges of the industry to be directly communicated to the researcher before decisions are made and research priorities set. The strength and the challenge of the Agrivita R2P Program reside in its focus on networking and partnerships development among all agricultural stakeholders to ensure the bridging between researchers/academics and potential end users in the creation and uptake of knowledge (Figure 2). The program will enable knowledge translation that is both integrated throughout the research process and occurring at the end of the grant. Specifically, it will allow for creating, transferring, and transforming knowledge from one social or organizational unit to another in a value-creating chain through a complex interactive process that is interconnected with the context of knowledge use.⁷

Based on the networking and partnerships model shown in Figure 2, the conceptual framework for the Agrivita R2P Program, as shown in Figure 3, was developed. As indicated in Figure 3, the Agrivita R2P Program is consistent with the strategic policy objectives of Agriculture and Agri-Food Canada, and has, as its principal activities, 10 key applied research and knowledge translation objectives, with well-defined outcome areas and performance measures. The Agrivita R2P Program will be supportive of the variety of approaches that are being undertaken by agricultural extension personnel, agricultural safety organizations (e.g., Canadian Agricultural Safety Association), government agencies, nongovernmental organizations, aiming for agricultural safety innovation uptake and implementation.

It is clear that a knowledge translation process that promotes smooth and seamless intersectoral exchanges could significantly

FIGURE 2. Networking and partnerships in Agrivita R2P Program.

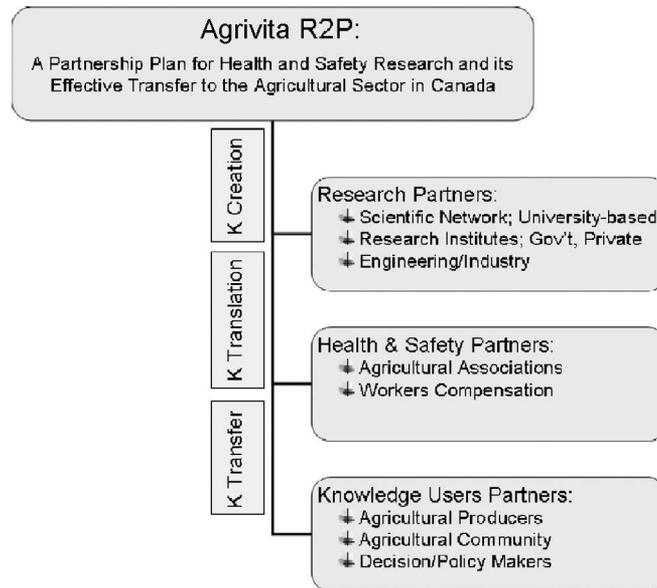
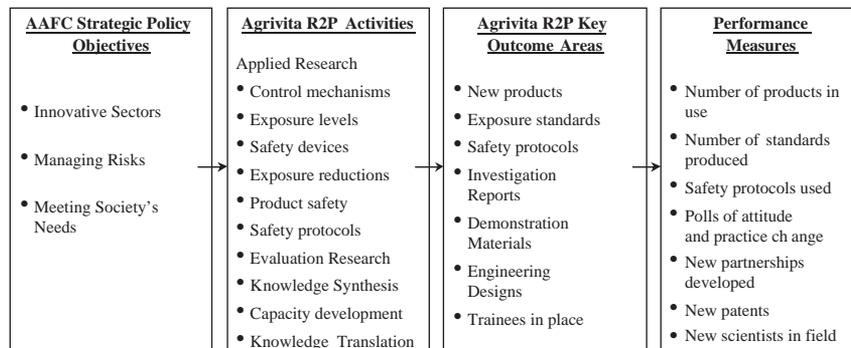


FIGURE 3. Conceptual framework for Agrivita R2P Program.



enhance the positive outcomes from current investments in agricultural research.

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