



# On-Farm Agricultural Worker Safety Training Review Summary

## Introduction

Agriculture remains one of the most dangerous industries to work in. Training has been acknowledged as a key factor in the promotion of occupational safety and health. Training makes workers aware of the hazards they may encounter in the workplace, informs them of the tools and regulations that are in place to protect them and drives them towards safe behaviours.

The On-Farm Agricultural Worker Safety Training program aims to address training gaps and provide farm owners/operators with the tools they need to successfully train farm workers in agricultural safety. The following conclusion will identify both training method best practices, and on-farm training delivery mechanisms that will best fit the On-Farm Agricultural Worker Safety Program.

## Agricultural Health and Safety Training Best Practices

When it comes to health and safety, training is aimed at changing behaviour. Involved, engaging, hands-on training has proven to be more successful at changing behaviours that may impact a worker's health and safety.

Learners tend to remember:

- 20% of what they hear (verbal instructions)
- 30% of what they see (while they watch the task demonstrated)
- 50% of what they see and hear (having the task explained and demonstrated at the same time)
- 70% of what they say (verbally repeating steps of the task)
- 90% of what they say and do (telling you the steps while performing the task themselves)

Safety and health knowledge is most effectively retained when the farm workers are shown the safe way to complete a task followed by performing the task themselves and narrating their actions while completing the task. This method is also more effective than lectures when language barriers impact the learning.

Demonstrations and one-on-one training are the most preferred learning methods and were also perceived as the most effective methods.

Online training opportunities were found to be beneficial and have the advantage of being accessible at any time to a range of individuals. However, online modules miss out on tailoring the training to their audience and addressing learning difficulties. Supplementing the online training with a facilitator or a hands-on activity to reinforce the learning/understanding is recommended.



The training and delivery skills of the instructor influences the outcome of the training. Train-the-trainer courses and/or supervisor training courses enhance the success of health and safety training and programs. Such training increases awareness and build skills to help people effectively supervise, train, and communicate health and safety risks among agricultural workers.

Training must also be designed and delivered to accommodate the worker's language and literacy levels, cultural diversity, and the worker's realities.

Essential requirements of effective agricultural worker occupational health and safety training include:

- 1) content and materials that are comprehensive and tailored in terms of language, literacy, cultural diversity, and finally, workplace, and workers' realities.
- 2) A balance should be provided between theory and practice.
- 3) Include multiple and varied experiential opportunities with engaging activities.
- 4) Include active dialogue, regular feedback and opportunities to discuss and interact.
- 5) Involve learners in the development of the training activities and materials and have participants facilitate their own learning process.
- 6) Enlist peers and trainers that are trained and supported by expert trainers.
- 7) Reinforce training through verbal quizzes and games, assessing participants for safety knowledge, competencies and skills.
- 8) Training should be ongoing.
- 9) Trainers should be credible and knowledgeable
- 10) Lessons learned are embedded and aligned with existing systems and routines.

## **On-Farm Training Methods**

### **Participatory Action-Oriented Training (PAOT)**

PAOT is a creative and practical method of stimulating and supporting the improvement in occupational safety and health, working conditions and productivity on agricultural workplaces. The participatory approach involves using local wisdom, locally available resources and promoting workers' involvement by sharing best practices, using visual media, group discussion, learning by doing, and encouraging exchange of experiences. The PAOT method provides tools and techniques to owners and managers, such as an action checklist and a set of good examples to use in their on-farm worker training.

A key to the success of PAOT methodology is that tools are constantly adapted to the context; further adaptations and translations are encouraged to make the training tools correspond to the characteristics of the different recipients and their working conditions.

Training based on a participatory community approach were also found to be the most effective at overcoming language and literacy barriers to improve safety knowledge, safety attitudes and beliefs, safety behaviours and safety and health outcomes.

### **Gamification**

Existing gamified solutions are being used for safety training in other occupational sectors and are addressing risks and behaviours which correspond to some safety needs in agriculture. Engaging, game-based safety training methods would be relevant for agriculture.



## Considerations

### Trainers/Supervisors

Trainer/Supervisor qualifications, training skills, attitude, purpose, and role of the instructors significantly impacts the effectiveness of the training. Train-the-trainer courses will enhance and enable successful OHS training delivered by farm owners/manager to their employees.

### International Workers

Language and literacy barriers impact safety and health training of agricultural workers. There is also great variation in terms of country of origin, level of education and acculturation, language and literacy skills, current and past socioeconomic status, including legal status.

Because of the diversity in foreign workers, the materials/training must be provided in multiple languages and by means other than text or spoken word with a combination of delivery mechanisms. (e.g.) pictograms, hands-on demonstrations, peer educators.

### Young Workers

Young farm workers are sometimes considered as vulnerable workers and require special consideration when determining OHS training delivery methods. Employers of this age group need to recognize the vulnerability of youth in the workplace, taking the time and effort to ensure their safety.

## Gap Analysis

Although organizations across Canada have robust safety and health resources, courses, and advice available, there is a lack of comprehensive, customizable, literacy-friendly, multi-language, national ag-worker training programs deployable by farm owner/managers.

Best practices and training that covers the top mechanisms of injury are available in both paid and free formats from a variety of organizations. Courses tend to focus on direct delivery to the worker, or learner and less directed at a on-farm learning process. (ie: farm owners/managers delivering a formal on-farm training to farm workers.) <sup>[1]</sup>

Online farm safety courses (e-learning, webinars, videos) in Canada are primarily available in English, and there is an assumption of a basic literacy and computer-skill level with most of these courses. Learning through online courses, (including videos), requires access to reliable, high-speed internet, which can be a barrier in rural Canada. <sup>[2]</sup>

A gap is evident in providing low-literacy, low-computer skill, non-internet based learning in multiple languages.

A gap is also evident in availability and delivery of train the trainer resources and delivery. That is, training the on-site farm owner/manager in delivering farm safety training effectively to farm workers.



## Final Summary

The On-Farm Agricultural Worker Safety Training Program should adapt available training resources to be customizable to any agricultural workplace keeping in mind issues such as literacy levels of both the trainee and trainer, mother language(s), commodity types and internet connectivity.

An effort should be made to ensure the developed pilot training program has a train the trainer component. Incorporating both the PAOT method along with aspects of gamification will meet the requirements of involved, engaging, hands-on training that accommodate workers' language and literacy levels, cultural diversity and on-farm realities.

Considerations for international and young workers on content and delivery methods need to be kept at top of mind.

Any program should incorporate the content on findings from AgInjuryNews and CAIR data. The top mechanisms of injury are discussed in Appendix A. It is also important that general farm safety knowledge be incorporated into any training, including emergency response, first aid and mental wellbeing on the farm.

The program needs to ensure that it is sustainable, simple and easy to access.

## Next Steps

- Adapt a basic farm safety training introduction course that is customizable, friendly to all literacy levels, adaptable for multiple languages using Participatory Action-Oriented Training and Gamification.
- Develop a train-the-trainer course for farm owners/managers to effectively deliver training on-farm. A focus should be made to encourage farm owners/managers to further train workers to deliver peer-to-peer training.
- Develop a benchmark questionnaire for the pilot project, incorporating both attitudinal questions on ease and efficacy of the content and delivery method of the new program.
- Determine a distribution method to farm owners/managers of the program that is easy to access and has both an on and off-line delivery method.

<sup>[1]</sup> On-Farm Agricultural Worker Safety Training Review, Report for Canadian Agricultural Safety Association.

<sup>[2]</sup> Expanding and Improving Rural Broadband Access, Canadian Federation of Agriculture. <https://www.cfa-fca.ca/issues/expanding-and-improving-rural-broadband-access/>



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## Appendix A

### Injury and Fatal Injury Data from AgInjuryNews and Canadian Agricultural Injury Reporting

#### AgInjuryNews<sup>1</sup>

AgInjuryNews is a free, interactive collection of near-real-time agriculture-related news reports. While all attempts are made to keep the information up to date and correct, there are no guarantees about the completeness, accuracy, reliability, suitability or availability with respect to the website or the information contained on the website.

Data taken from AgInjuryNews (from 2016 to present) for Canada only

Of the 220 news reports, there were 207 incidents and 256 victims.

#### Top Mechanisms of Injury

Tractor (112)  
Vehicle (63)  
Machinery (60)  
Other (32)  
Falls (13)

#### Canadian Agricultural Injury Reporting (CAIR)<sup>2</sup>

CAIR has filled an important void in providing national evidence of agricultural injury occurrence. CAIR's provincial collaborators pull data from detailed case reports, enter it using a standard data abstraction form and send it on for verification, coding and analysis. The result is a series of verifiable reports of agricultural fatalities in Canada. Limitations of CAIR include the timeliness of data. CAIR only records fatal injuries and does not address non-fatal agricultural incidents.

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#### Top Mechanism of Injury

Runover  
Rollover  
Pinned or Struck  
Animal Related  
Entanglement

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<sup>1</sup> AgInjuryNews <https://aginjurynews.org/>

<sup>2</sup> Canadian Agricultural Injury Reporting <https://www.casa-acsa.ca/en/cair/>