



CANFARMSAFE™

Six Steps to Safety

About the Hierarchy of Control

The Hierarchy of Control is a systematic strategy for injury prevention in workplace settings. The Hierarchy of Control is highly effective and proven in preventative practice that includes corrective measures to control workplace hazards by reducing or eliminating exposures. The Hierarchy of Control has been successfully applied in many industries resulting in decreased rates of injury and death. By controlling exposures to occupational hazards, the Hierarchy of Control provides a foundation for protecting workers.

The use of the Hierarchy of Control in agriculture is not widespread, although there is evidence to suggest that its use has the potential to produce a three-fold reduction in farm workplace injuries. The basis for this result is adherence to an increasing number of steps in the hierarchy. The more steps producers adhere to the greater the reduction in injury rates. The “Six Steps to Safety” is a modified form of the Hierarchy of Control for use in the agricultural sector.



The Hierarchy of Control In Practice: Current Applied Research

The *Canadian AgriSafety Applied Research Program* is using applied research to address two ‘steps’ of the Hierarchy of Control in agricultural health and safety. First, the Low-Cost Rollover Protective Structures (ROPS) Project is developing *engineering controls* to design ROPS for older model tractors. This project fills a gap in the need for an affordable, on-farm-built ROPS that will help to encourage uptake and use of ROPS on older tractors. ROPS are highly effective at reducing the risk of serious injury or death in the event of a rollover.

Second project, the Animal Housing Environments Project is addressing both *procedural controls* and *engineering controls* from the Hierarchy of Control. Part A of this project “Air Quality in Canadian Pig Buildings” applies both controls to reducing airborne contaminants in pig buildings by examining the current contaminant reduction strategies and developing new methods for reducing airborne contamination. Part B “Reducing pathogen Distribution from Animal Transport” is addressing airborne contaminants that can cause infectious disease during swine transport. Engineering controls are being developed by designing an innovative swine transport trailer. The trailer will filter ingoing and outgoing air to provide a controlled air environment during transport. The research team hopes this will reduce the chances of livestock picking up infectious diseases during transport. These projects are an excellent example of applied research and the outcome that can stem from the use of the modified Hierarchy of Control to address hazard exposures in agriculture.

Six Steps to Safety

Step	Definition	Example
1. Hazard Identification	Recognize hazards or potential risk exposures	Perform walk around before using equipment
2. Risk Assessment	Determine the risk involved in each hazard to evaluate elements that require controlling or managing	Consider the number of people exposed to the hazard
3. Hazard Elimination*	Physically removing the hazard	Replacing grain auger with a grain vacuum
4. Engineering Controls	Reduce or eliminate the hazard by initial design specifications, or by applying methods of substitution	Safety shields over drive belts or ROPS on older tractors
5. Procedural Controls	Reduce employee exposures by such practices as scheduling reduced work times in contaminant areas and employee training regarding hazard recognition and work practice – change the way people work	Education, work protocols and training programs
6. Use of Personal Protective Equipment (PPE)	Provides a buffer between the worker and the work environment and helps to protect the worker	Masks, boots, hats, safety glasses, fall protection and hearing protection

* Most effective method

Combining multiple steps in conjunction can help to further reduce the risk of exposure to hazards

Check to make sure that the control measure chosen does not introduce a new hazard and the measure provides the desired control.

References

Dosman et al. The hierarchy of control in the epidemic of farm injury. *J Agromed.* 2015; 20: 360-9.

The *Low Cost Roll-Over Protective Structures Intervention Project* is one part of Agrivita Canada Inc.'s *Canadian AgriSafety Applied Research Program*, led by a national team of researchers from Prairie Agricultural Machinery Institute (PAMI), the Canadian Centre for Health and Safety in Agriculture (CCHSA), the University of Alberta, the Injury Prevention Centre (IPC, formerly ACICR) and the Canadian Agricultural Safety Association (CASA).

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