Tractor Safety Check-Up

With spring comes the start of the farming season and long days in the field. It is important to keep safety in mind as field preparation, seeding and fertilizing get underway. Tractors and farm machinery are the most common causes of serious injury and death on farms. Understanding the risks and working to reduce exposure to hazards can prevent injury and death.

Reality Check – Injury and Fatality Numbers in Canada

- The three most common machinery related accidents are:
  - Rollovers
  - Run-overs
  - Entanglements
- 70% of all fatalities on the farm are machinery related
- 17% of farm fatalities occur from rollover events
- Between 1990 and 2004 - 351 people were killed in agriculture-related machine rollovers

Over half of agriculture-related fatalities occur from May to October

One the most effective methods for preventing serious injury or death while operating a tractor is a roll-over protective structure (ROPS). ROPS are frames designed to withstand the force of the tractor rolling over in order to protect the operator by keeping them within a "zone of protection" when combined with a seatbelt. Tractors can rollover easily due to a higher centre of gravity than a car or truck, which makes tractors top heavy and more likely to tip over.

Rollover Prevention Checklist

Physical Condition of Tractor

- ❑ Does the tractor have a ROPS, or ROPS-compliant cab?
- ❑ If the tractor has a ROPS, is there a seat belt in working order, anchored to the seat?
- ❑ Does the tractor have a decal warning against high hitches?
- ❑ Are brakes able to hold the tractor's rated load?
- ❑ Check steering component – no looseness when tie rod ends are pushed and pulled endways?
- ❑ Do brakes have non-slip pedals?
- ❑ Are tires properly inflated and free of defects?
- ❑ Does tractor have an emergency exit additional to doors – pop out window?

ROPS in combination with seatbelts are 99% effective at preventing injuries in rollovers

Safe Work Practice

- ❑ If tractor has a ROPS, do you always wear a seat belt while operating?
- ❑ Do you always steer clear of hazards such as ditches and soft areas?
- ❑ Do you slow down for turns?
- ❑ Do you back up steep slopes and back out of ditches?
- ❑ Do you use engine braking when going downhill with a heavy load?

- ❑ If you must turn on a slope, do you turn downhill?
- ❑ Do you estimate the weight of a load and check the operator's manual to be sure it is within the tractor's rated weight?

For more information on the Farm Safety Audit go the Agricultural Health and Safety Network's website: aghealth.usask.ca

If the tractor does not have a ROPS, do **not** wear a seatbelt. On an open tractor a seatbelt prevents the chance of the operator being thrown clear in the event of a rollover.

Low-Cost ROPS Project

Prairie Agriculture Machinery Institute (PAMI) is currently conducting a pilot study for farmer-built ROPS. The team at PAMI has designed a simple and innovative ROPS that can be safely built on the farm. The design was developed to move the stress points of the structure away from the weld sites. By doing this the integrity of the ROPS is not dependent on only the quality of welding – farmers with basic welding skills are able to build a safe and effective ROPS without being a journey-person welder. The project to date has had 7 farmers build ROPS. The time commitment is only 6-8 hours of labor and material costs of approximately $150. The project is entering into its last year (2017-2018) and is looking for more farmers to try their hand at building their own ROPS. If you are interested please contact PAMI at (306) 682-5033 or toll free 1 (800) 567-7264.

The ROPS project is one of two projects of the Canadian AgriSafety Applied Research Program that is using applied research to address key areas in agricultural health and safety in Canada.

Quiz

1. Tractor operator should set a tractor's wheels at the widest spacing possible for the job at hand.
   True False

2. Sudden acceleration may cause a tractor to rotate on its axle, resulting in a backward rollover.
   True False

3. Rollovers are the cause for most fatal tractor accidents.
   True False

4. It is all right to drill holes in a ROPS frame to mount a radio.
   True False

5. Which of the following could cause a tractor rollover?
   a) Reducing speed on rough, slick or muddy surfaces
   b) Staying off steep slopes
   c) Driving into potholes
   d) Turning downhill when turning on a slope

References
Canadian Agricultural Injury Reporting: Agriculture-Related Fatalities in Canada (2016). Retrieved from http://www.cair-sbac.ca/wp-content/uploads/2017/02/CASA-CAIR-Report-English-FINAL-Web.pdf
Prevent Tractor Overturns (2002). Retrieved from http://nasdonline.org/52/d001634/prevent-tractor-overturns.html

The *Low Cost Roll-Over Protective Structures Intervention Project* is one part of Agrivita Canada Inc.'s Canadian AgriSafety Applied Research Program, lead by a national team of researchers from the 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).
This document has been prepared by the Canadian Centre for Health and Safety in Agriculture (CCHSA) for Agrivita Canada Inc. and the *Canadian AgriSafety Applied Research Program*, which is supported under *Growing Forward 2* (GF2).

17 – 05 – 020

For more information: www.agrivita.ca or 306-966-1648

Answers: 1. T; 2. T; 3. T; 4. F; 5. C.

Growing Forward 2 | AGRIVITA CANADA | Government of Saskatchewan | Canada