

Protecting Agricultural Workers from Tractor Hazards

Most farm worker injuries and deaths are caused by tractor incidents such as overturns, runovers, power take-off (PTO) systems, and unintended contact with tractor attachments or implements. Employers are responsible for ensuring a safe work environment for every worker.

Overturns

- Tractor overturns are the leading cause of fatalities in the agriculture industry, resulting in approximately 130 deaths per year.
- The majority of tractor overturn incidents take place when these farm vehicles turn on their side or tip over backward.
- Tractors that are old, in poor condition, lack safety guards and devices, or are driven in an irregular or risky manner can contribute significantly to unsafe or hazardous conditions.

Roll-Over Protective Structures (ROPS) and Seat belts

- Agricultural tractors with over 20 horsepower manufactured after October 25, 1976 are required to have ROPS.
- Fasten seat belts securely (for tractors with rollover protection).
- Where possible, avoid operating the tractor near ditches, embankments and holes.
- Stay off slopes too steep for safe operation.
- Reduce speed when turning or crossing slopes, and on rough, slick or muddy surfaces.
- Operate the tractor smoothly, without jerky turns, starts or stops.
- Be attentive, especially at row ends, on roads and around trees.
- Qualified dealers can retrofit older tractor models

with a ROPS/seat belt system.

- The National Institute of Occupational Safety and Health (NIOSH) Division of Safety Research and Protective Technology Branch has developed a Cost-Effective Rollover Protective Structure Program (CROPS) for four tractor models that lack commercially available ROPS.

Power Take-Off (PTO) Shafts

- Inspect the PTO shaft to ensure the PTO guard is always in place.
- Replace any missing or damaged PTO guards.
- All PTOs, including rear, mid- or side- mounted shafts, shall be guarded either by a master shield, or by other protective guarding.
- Before servicing, adjusting, cleaning, or unclogging the equipment, stop the engine, disconnect the power source, and wait for the PTO shaft to stop, except with the machine must be running to be properly serviced or maintained. In that case, the employer must train workers on all steps and procedures needed to safely service or maintain the equipment.
- Keep all guards in place when the machine is in operation.
- Ensure everyone nearby is clear of the machine before starting the tractor's engine and engaging the PTO shaft's selector switch.
- Tie back and tuck in long hair and do not wear loose clothing that could get caught in a rotating PTO shaft.
- If possible, avoid working alone around PTO-driven machinery. If entanglement occurs, a coworker may be able to stop the PTO shaft in time to prevent more serious injury or death.

Continued on next page



**COMMUNITY
PROTECTION**

Check out our course list online for a variety of safety trainings provided across the state at

www.ndsc.org

The North Dakota Safety Council is a private non-profit organization supported through grants, donations, memberships and training.



Protecting Agricultural Workers from Tractor Hazards

Tractor Operator Training

- Comply with the tractor's operating instructions.
- Allow no riders, unless the tractor is manufactured with a seat and a seat belt for each rider.
- Hitch only to the draw bar and hitch points.
- Set the brakes and hand brake, if available, when the tractor is stopped for more than a few seconds.
- Ensure that operators have the experience and knowledge to operate the tractor.

Emergency Planning and Preparedness

- Develop an emergency action plan that addresses all likely hazards.
- Designate an emergency staging area for the field or the office.
- Train tractor operators on how to respond to emergency situations.
- Ensure that each tractor has a first-aid kit and a working fire extinguisher.
- Assemble a first-aid kit that is designed to address agricultural injuries and incidents. Agricultural first-aid kits should contain basic medical items such as gauze, splints, ice packs, surgical tape, disposable gloves, eye patches, burn dressings and a first-aid instruction booklet.
- Call local first responders or 911 in case of an emergency. When reporting an emergency, provide your name, location, the nature of the emergency and where the worker(s) can be reached.
- Maintain frequent communication with tractor operators who work alone or in remote areas.

General Safety Precautions

- **Inspections & Review:** Ensure operators and workers are familiar with farm machinery.
- **Safety Checks:** Conduct preoperational safety checks, review operating procedures and ensure that tractor safety decals are not worn, damaged or removed.
- **Be Aware:** Ensure operators are familiar with the ground where the tractor will be used. Be aware of ditches, uneven ground and bystanders in the area.
- **Children:** Keep children away from tractors and their implements.
- **Indoor Safety Precautions:** Prevent indoor carbon monoxide buildup by ensuring adequate ventilation is available when starting or operating a tractor indoors. Make sure exhaust fans are running or leave the structure's doors open.
- **Highway Safety:** Avoid highways during busy peak travel times or poor visibility, at night or during bad weather. Lighting and markings for tractors and towed equipment should be up-to-date and in accord with transportation regulations. Consider using emergency flashers and an escort vehicle. The tractor should have a clean, highly visible, unfaded slow-moving vehicle (SMV) emblem affixed to the rear.

Information gathered from www.osha.gov.



**COMMUNITY
PROTECTION**

Check out our course list online for a variety of safety trainings provided across the state at

www.ndsc.org

The North Dakota Safety Council is a private non-profit organization supported through grants, donations, memberships and training.

