

Tractors are necessary for orchard work—often used to maneuver through tight rows of trees while pulling attached tanks. Unfortunately, tractor rollovers continue to be the cause of orchard worker injuries that lead to hospitalization.

Tractor rollover injuries are preventable! Planning for safety and using ROPS when possible can stop worker hospitalizations.

Worker severely injured after tractor slides and rolls on wet grass

An experienced worker was spraying both young and mature trees using a John Deere tractor pulling a 250-gallon sprayer. He was driving the tractor down a hill beside a row of young trees when the tires lost traction on the six-inch-tall wet grass, causing the tractor to slide. It slid approximately 50 feet downhill before sliding sideways and rolling over.

Investigators found that the ROPS was not raised at the time of the incident because the mature trees created an overhead obstruction. The worker was not wearing a seatbelt.

The injured worker needed to be airlifted to Seattle for trauma care. He suffered severe injuries that required surgery, including fractures to his face and chest.

Worker injured when tractor rolls two and a half times downhill

An experienced worker was spraying weeds in a mature cherry block using a tractor with an elevated 100-gallon tank attached. The worker was going from an upper row to a lower row when one of the tractor tires went into a divot, causing the tractor to tip and roll two and a half times downhill and strike a tree. The worker fell from the tractor and landed between the back tire and the attached tank.

The worker was not wearing his seatbelt and did not have the ROPS raised because of the overhead obstruction of the cherry trees in the rows he was spraying.

The worker suffered multiple broken bones in his arm, shoulder, and upper and lower back. He also suffered respiratory failure and a lacerated spleen.



Incident 1: The wet, grassy hill where the tractor slid 50 feet before rolling over.



Incident 2: Overturned tractor after it rolled downhill and struck a tree.



Incident 2: Tractor with ROPS raised.

Reporting: Employers are required to contact DOSH within 8 hours of a workplace fatality or in-patient hospitalization of any employee and within 24 hours of a non-hospitalized amputation or loss of an eye of any employee. See [WAC 296-27-031](#).

Recommendations

Rollover Protective Structures (ROPS)

ROPS save lives! A Rollover Protective Structure, or ROPS, is designed to protect equipment operators from injuries during machinery rollovers.

ROPS are 99% effective at preventing serious injury or death if a tractor rolls over, if used correctly.

- Use ROPS when no overhead obstruction exists.
- Wear seat belt securely fastened when using ROPS.

Planning

Plan for Safety. When spraying is scheduled, spray in blocks with and without overhead clearance obstructions separately. Do not mix the blocks together. This will maximize the amount of time that workers are protected by ROPS, and minimize the times ROPS cannot be used.

Inspection

Inspect tractors before each use. Check the seat belt, tires, and ROPS before operating. Remove a tractor from service if it does not pass inspection.

Resources

Safety Standards for Agriculture, Chapter 296-307 WAC: <https://app.leg.wa.gov/wac/default.aspx?cite=296-307>

Protecting Agricultural Workers from Tractor Hazards (OSHA): Spanish: <https://www.osha.gov/sites/default/files/publications/OSHA3892.pdf>; English: <https://www.osha.gov/Publications/OSHA3835.pdf>

Protecting Farmworkers from Tractor and Harvest Hazards, OSHA Quick Card (Spanish/English): <https://www.osha.gov/Publications/OSHA3706.pdf>

L&I's Consultation Program offers confidential, no-fee, professional advice and assistance to Washington businesses. To request an L&I Consultation go to: lni.wa.gov/safety-health/preventing-injuries-illnesses/request-consultation/

Requirements

Training

- **The employer must ensure that every worker who operates an agricultural tractor is informed of the following operating practices, and must provide the information at the time of initial assignment and at least annually thereafter.** See [WAC 296-307-08018\(1\)](http://www.wa.gov/wac/296-307-08018(1))
 1. Securely fasten the seat belt if the tractor has a ROPS.
 2. Where possible, avoid operating the tractor near ditches, embankments and holes.
 3. Reduce speed when turning, crossing slopes and on rough, slick or muddy surfaces.
 4. Stay off slopes too steep for safe operation.
 5. Watch where going, especially at row ends, on roads and around trees.
 6. Passengers, other than persons required for instruction or machine operation, must not be permitted to ride on equipment unless a passenger seat or other protective device is provided.
 7. Operate the tractor smoothly—no jerky turns, starts, or stops.
 8. Hitch only to the drawbar and hitch points recommended by tractor manufacturers.
 9. When tractor is stopped, set brakes securely and use park lock if available.
- **The employer must ensure that every worker who operates a tractor is trained specifically in the operation of the tractor to be used.** The training must include an orientation of the operator to the topographical features of the land where the tractor will be operated. Training must emphasize safe operating practices to avoid rollover. See [WAC 296-307-08018\(2\)](http://www.wa.gov/wac/296-307-08018(2)).
- The tractor training program must be described in the written accident prevention program required by [WAC 296-307-030](http://www.wa.gov/wac/296-307-030). See [WAC 296-307-08018\(3\)](http://www.wa.gov/wac/296-307-08018(3))

Seatbelts and ROPS

- Where ROPS are required, employers must provide safe seatbelts and make sure workers use them correctly, as listed in [WAC 296-307-08012](http://www.wa.gov/wac/296-307-08012)