



Government of **Western Australia**
Department of **Commerce**

Guidance note

Falls prevention

in the agricultural sector

2011



GUIDANCE NOTE

FALLS PREVENTION IN THE AGRICULTURAL SECTOR

COMMISSION

commission
for occupational
safety and health

8. Accessing trees

Adequate fall protection needs to be considered when accessing trees.

High risk activities

For example, there may be a high risk of falling when:

- fruit picking; and
- carrying out tree maintenance.

Control measures

First, try doing the task from the ground, by:

- limiting tree growth height by:
 - close planting;
 - trellising;
 - open planting;
 - altering tree architecture; and
- using a 'picking machine' which uses a vibrating motion to remove fruit from groves.

The use of tree growth height limiting methods is governed to some extent by the climate, terrain, soil and fruit type. Some growers have achieved increased yield by using these methods. Reported benefits include better spray control, easier and quicker pruning and the option of clearing the crop in one pick. It is, however, recognised that these methods require planning, staggered implementation and a lead time of years.

Further control measures

If the above controls are not practicable, consider:

- using a scissor lift or an elevated work platform, provided the operator holds an appropriate high risk work licence; or
- using a ladder suitable for the purpose.



6. Fruit picking ladder.



5. An elevating work platform (EWP).

Other control measures that should be implemented include:

- identifying overhead power lines to be avoided – ‘no go’ zones should be established;
- using ladders that are well maintained and selected specifically for the task to be performed – the ladder should be inspected for faults, such as broken rungs, rails and footing and, if available, consult the manufacturer’s checklist;
- checking that the ground surface is firm, stable and level;
- providing instruction to all workers in the safe use of ladders including ladder set up and picking fruit only in a safe reach area from the ladder – a guide is to keep the belt buckle within the side rails of the ladder, stay below the top two rungs, and have only one person on a ladder;
- having a three points of contact rule for the ladder use when going up or down;
- ensuring workers use only well-fitting, non-slip secure footwear; and
- providing regular supervision to ensure workers are picking according to the safe work procedure, and ladders are in a suitable condition – as a guide, this supervision should occur at least once a day.

9. Accessing farm machinery

Accessing tractors, balers, headers and other machinery may involve working from heights. Workers at risk include farmers, employees, contractors, suppliers and farm machinery service technicians. Unless proper fall protection is provided, accessing the machinery in the following typical farm situations involves a high risk of someone falling.

High risk activities

For example, there may be a high risk of falling when:

- loading and unloading;
- checking fluid levels or servicing/repairing engines;
- cleaning windscreens;
- changing air conditioner filters; and
- repairing radio aerials and global navigation systems.

Control measures

First, try doing the task by:

- where practical and safe, using the access steps, platforms and support rails;
- maintaining three points of contact when using access steps or ladders;
- purchasing or retrofitting equipment that has a system of lubrication points or automatic lubrication that can be accessed at ground level; and
- using extension handles for window cleaning.

When purchasing new farm machinery, it should be ensured that access steps and/or accessible components are provided.

Further control measures

If the above controls are not practicable, consider:

- carrying out servicing in a shed or workshop using fixed stairs, ramps and work platforms complying with Australian Standard, *AS 1657 Fixed platforms, walkways, stairways and ladders – design, construction and installation*;
- using a portable ladder suitable for the purpose – see the Commission’s *Code of practice: Prevention of falls at workplaces*;
- using firm foot and hand holds;
- referring to manufacturers’ instructions; and
- developing agreed workplace safety procedures.

Other control measures that should be implemented include:

- wearing non-slip shoes or boots, and wet weather gear to reduce slip hazards;
- using suitable lighting, such as shed/vehicle lighting and/or portable lighting;
- where applicable, ensuring training and supervision is in place;
- avoiding working alone, or at the least notify another person of the work you are doing and the location, and have a means of communication;
- ensuring fatigue is managed appropriately to reduce the risk;
- accessing the cabin by the access steps provided;
- when servicing or maintaining equipment, ensuring machinery is turned off and lock-out devices are in place; and
- consulting the farm machinery manufacturer and supplier for advice on safety for new machinery purchases.

10. Livestock

Many tasks associated with handling and transporting livestock can involve a risk of falling from heights. These situations can occur on the farm or road or at saleyards, abattoirs or depots.

High risk activities

For example, there may be a high risk of falling when:

- loading and unloading stock;
- checking the welfare of stock;
- cleaning the stock crate;
- access and egress from handling/sale yards; and
- falling into stock yards.

Risk controls

First, try doing the task from the ground by:

- maintaining stockyards and loading areas to reduce or eliminate fall hazards;
- retrofitting improvements to the vehicle, such as ladders, or fall restraint systems;
- installing segregation barriers as protection against livestock; and
- loading or unloading from within the stock container.

Further control measures

If it is not possible to perform necessary tasks from the ground, consider:

- installing fixed stairs, ramps, work platforms or ladders complying with Australian Standard, *AS 1657 Fixed platforms, walkways, stairways and ladders – design, construction and installation*;
- installing a fall restraint system;
- using a fall protection harness system on the side of livestock trailers, which will allow operators to remain protected from the risk of falling while working at height on the side of trailers; and
- using a fall injury prevention system, such as barriers and guardrails – see the Commission's *Code of practice: Prevention of falls at workplaces*.

Other control measures that should be implemented include:

- segregating workers from animals to prevent injury;
- using sliding segregation gates as barrier protection against livestock;
- loading vehicles from a flat, level, solid construction such as a loading dock, stationary platform, gantry/walkway, or drop-down gantry system;
- developing and applying a safe work procedure for handling and transporting livestock;
- ensuring nobody walks across fragile parts of the vehicle;
- where practical, not working in bad weather, or in conditions of excessive glare;
- ensuring there is adequate lighting and the work surface is even;
- making sure that anyone working on elevated workplaces are wearing suitable non-slip footwear;
- in auctioning yards, ensuring that edge protection is fitted to walkways, ramps and platforms to minimise risk of falling into stock yards; and
- consulting with workers about ways to do the job. Ensure that employees or contractors are provided with information, instruction and training to enable them to work in a safe manner.

For information on loading and unloading trucks, see also Section 6.4 of this guide.



7. Animal sales yard, showing correct use of handrails and edge protection.

11. Maintenance and service areas

Working in and around maintenance and service areas, such as pits or ramps, can involve a risk of falling and possible injury.

High risk activities

For example, there may be a high risk of falling with:

- slips, trips or falls into maintenance or service pits;
- slipping, tripping or falling off ramps; and
- equipment or materials knocked off ramps or into pits and onto workers.

Risk controls

First, try doing the task from the ground by:

- installing hoists, pulleys or ramps for access, removing the need to descend into a pit;
- enclosing as much of the pit as possible and marking risk areas, such as edges;
- marking clear areas for pedestrian and vehicle traffic; and
- ensuring all equipment is maintained and regularly inspected.

Further controls

If the above controls are not practicable, consider:

- erecting fixed guard rails around the wings and rear of wheel alignment pits;
- where ramps extend above a safe height, providing guard rails along the edges;
- ensuring the pit or ramp edge is marked and clearly visible;
- ensuring pits and elevated ramps comply with Australian Standard, *AS 1657 Fixed platforms, walkways, stairways and ladders – design construction and installation*; and
- avoiding running the engines over mechanics pits to prevent the build up of carbon monoxide in the pit.

12. Miscellaneous farm activities

Many tasks on farms, including domestic maintenance, involve accessing areas where there is a risk of someone falling and sustaining injury.

High risk activities

For example, there may be a high risk of falling when:

- accessing fuel and water tanks;
- accessing roofs and gutters for maintenance and cleaning;
- loading/unloading animals from trucks; and
- loading/unloading equipment and pallets from trucks.

Risk controls

First, try doing the task from the ground by:

- installing level indicators on water tanks;
- installing ground filling systems on above ground fuel tanks;
- installing gutter guards (or similar) to negate the need to clean gutters; and
- for loading/unloading, implementing controls recommended in Section 6.

Further controls

If the above controls are not practicable, consider:

- installing fixed stairs, ramps, work platforms or ladders complying with Australian Standard, *AS 1657 Fixed platforms, walkways, stairways and ladders – design construction and installation*;
- using a scissor lift or an elevated work platform, provided the operator holds a high risk work licence;
- using a fall injury prevention system – see the Commission’s *Code of practice: Prevention of falls at workplaces*; or
- using a ladder suitable for the purpose.

Other safety issues to note include:

- removing or locking off silo and tank ladders to prevent unauthorised access;
- if working in close proximity to any electrical sources, seeking the advice of the power supply company before commencing. Supply of power to where the work is occurring should be isolated and ‘no go’ zones should be established near overhead power lines;
- engaging a suitably qualified person with the appropriate experience and equipment to conduct roof work;
- checking/confirming that the roof is structurally sound and can support the weight of workers and equipment;
- ensuring nobody walks across fragile parts of the roof;
- not working in bad weather, or in conditions of excessive glare;
- making sure that anyone working on the roof/structure is wearing suitable non-slip footwear;
- making sure the area below the roof is kept clear of any debris or equipment; and
- consulting with workers about ways to do the job, and ensuring that employees or contractors are provided with adequate information, instruction and training to enable them to work safely.

Appendix 1 Further information

Legislation

- *Occupational Health and Safety Act 1984*
- Occupational Health and Safety Regulations 1996

The Act and regulations are available from the State Law Publisher on (08) 9426 0000 or online at www.slp.wa.gov.au

Commission for Occupational Safety and Health publications

- *Code of practice: Prevention of falls at workplaces*
- *Code of practice: Safe design of buildings and structures*
- *Guidance note: General duty of care in Western Australian workplaces*
- *Guidance note: Working safely with forklifts*

Department of Commerce, WorkSafe

- *Agricultural workbook and checklist*
- *Machinery and equipment safety – an introduction*

Department of Commerce, Energy Safety

- *Code of practice for personnel electrical safety for vegetation control work near live power lines*

Standards Australia

- AS 1418.10 (Interim) *Cranes, hoists and winches – Elevating work platforms*
- AS 1418.13 *Cranes (including hoists and winches) – Building maintenance units*
- AS 1636.1 *Tractors, roll over protective structures – Criteria and tests - Conventional tractors*
- AS 1657 *Fixed platforms, walkways, stairways and ladders – Design, construction and installation*
- AS/NZ 1891.1 *Industrial fall-arrest systems and devices – Harnesses and ancillary equipment*
- AS/NZS 1891.2 *Supp 1 Industrial fall-arrest systems and devices – Horizontal lifeline and rail systems (Supplement)*
- AS/NZS 1891.3 *Industrial fall-arrest systems and devices – Fall-arrest devices*
- AS/NZS 1891.4 *Industrial fall-arrest systems and devices – Selection, use and maintenance*
- AS/NZS 1892 series *Portable ladders*
- AS/NZS 2153 *Tractors and machinery for agriculture & forestry – Technical means for safety – General*
- AS 2359.1 *Powered industrial trucks – General requirements*
- AS 2550.10 *Cranes, hoists and winches – Safe use – Mobile elevating work platforms*
- AS 2550.13 *Cranes – Safe use – Building maintenance units*
- AS/NZS 2865 *Safe working in a confined space*
- AS 3773 *Bulk solid containers – Safety requirements*
- AS/NZS 4576 *Guidelines for scaffolding*
- AS/NZS 4994 series *Temporary roof edge protection for housing and residential buildings*

Copies of standards can be purchased by contacting SAI Global Limited on 131 242 or by visiting the website at www.saiglobal.com

Additional reading where required

WorkSafe Victoria

- *Guidance note: Falls prevention – Above ground fuel tanks*
- *Guidance note: Falls prevention – Farm forest pruning*
- *Prevention of falls in the transportation of livestock*
- *Prevention of falls – Trucks*

WorkCover NSW

- *Code of practice – Safety aspects in the design of bulk solids containers including silos, field bins and chaser bins*

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Appendix 2 Confined spaces, protection systems and overhead power lines

Confined spaces

A confined space is defined in the OSH Regulations (regulation 3.82) as an enclosed or partially enclosed space which:

- is not intended or designed primarily as a workplace;
- is at atmospheric pressure during occupancy; and
- has restricted means for entry and exit, and which either:
 - has an atmosphere containing or likely to contain potentially harmful levels of contaminant;
 - has or is likely to have an unsafe oxygen level; or
 - is of a nature or is likely to be of a nature that could contribute to a person in the space being overwhelmed by an unsafe atmosphere or contaminant.

As a guide, a risk assessment must always be carried out before work in a confined space begins. When working in a confined space, a person must always be on standby in the immediate vicinity outside the designated confined space. If it is not possible to keep the person working in the confined space in sight, then continuous communication must be maintained.

Protection systems

Occupational safety and health laws in Western Australia require roll over protection systems (ROPS) for nearly all tractors and mobile plant. Regulations require that ROPS and seat belts are fitted to:

- all tractors between 800 and 1500 kilograms and manufactured after 1980; and
- all earthmoving equipment manufactured after 1988.

ROPS made especially for older tractors and earthmoving equipment are available through farm machinery dealers and can be fitted easily.

Overhead power lines

When working in the vicinity of overhead power lines, the following process should be followed:

- contact the supply authority to establish the voltage of the power lines;
- determine the danger zone, as defined below; and
- if a safe working distance from the danger zone is not possible, then workers must be properly trained, and comply with the electrical safety requirements of regulation 316A of the Electricity Regulations 1947 and work in accordance with the requirements of the *Code of practice for personnel electrical safety for vegetation control work near live power lines*, published by EnergySafety.

The 'danger zone' for overhead power lines is defined in regulation 3.64 of the OSH Regulations as meaning anywhere that is within:

- a) 0.5 metres of a live insulated overhead power line or aerial bundled conductor line of a voltage of not more than 1,000 volts;
- b) 1.0 metre of a live uninsulated overhead power line of a voltage of not more than 1,000 volts;
- c) 3.0 metres of a live overhead power line, whether insulated or not, of a voltage exceeding 1,000 volts but not more than 33,000 volts; or
- d) 6.0 metres of a live overhead power line, whether insulated or not, of a voltage exceeding 33,000 volts.

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Comprehensive work safety and health information,
provided by the Department of Commerce can be found at:

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