The University of Sydney



Grain Handling Safety

A Practical Guide

Farmsafe AUSTRALIA INC

AUSTRALIAN CENTRE FOR AGRICULTURAL HEALTH AND SAFETY

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Further information about Workshop Safety and Safe Machinery maintenance can be found in:

Health and Safety in the Farm Workshop – a Practical Guide, available from the Australian Centre for Agricultural Health and Safety, or to download from www.farmsafe.org.au

1. Introduction

This publication – its purpose

This publication aims to provide a practical guideline for grain producers, managers and workers to improve and ensure the safety of those who work with grain production and grain handling, and those who are in the vicinity of areas where grain production and handling is being undertaken.

The document briefly gives guidance on the hazards and risks associated with grain production and handling in the farm setting, and practical guidelines on how to implement effective occupational health and safety (OHS) risk control that will not only reduce prevent injury, but will assist grain producers to meet OHS regulatory requirements.

Grain production enterprises should use this document in association with the *Managing Health and Safety in the Grain Industry* risk management package – a practical management tool for implementing OHS in Grain production and handling workplace - available on the Farmsafe Australia website www.farmsafe.org.au.

The guideline has been prepared under the direction of the Farmsafe Australia Grain Production Safety Reference Group.

Health and safety problems in grain production and handling

People working in the grains industry are exposed to a range of injury hazards - many are common to other sectors in agriculture, but many are specific to grain production and grain handling.

Hazards associated with grain production and handling include:

- Mechanical hazards – associated with machinery involved in grain production; including tractors, cultivation, sowing and tillage equipment, harvesting machinery (combine harvesters, field and chaser bins), farm motorcycles, quad bikes, utes, trucks, augers, silos, and spraying equipment
- Manual handling hazards
- Biological hazards – grain and other organic dusts
- Chemicals – fuels, herbicides, insecticides, fungicides, rodenticides and grain fumigants
- Solar radiation – working outdoors in heat and sunlight
- Electricity
- Noise – causing hearing injury, loss and tinnitus
- Stress and fatigue

The types of injury range from death to serious injury requiring hospitalisation and down time, to “nuisance” injury that stops work for a short time, or makes work slower and reducing productivity.

Legal obligations of the people in grain production enterprises

State OHS Acts are similar in all states in that they lay down the responsibilities of key parties involved in reducing risk of injury and illness associated with work.

Responsibilities of *employers* include:

- Consultation with workers to implement OHS management and programs
- Providing a safe working environment
- Organisation of safe systems of work
- Maintenance of work areas, machinery and equipment in a safe condition
- Ensuring safe use, handling, storage and transport of plant and hazardous substances
- Assessment of health and safety risks to employees and others in the workplace, and instituting effective risk control measures and,
- Provision of adequate information, induction, instruction, training and supervision to employees
- Provision of adequate facilities for the welfare of workers

Employees also have responsibilities. Workers must take reasonable care of the health and safety of themselves and others, and cooperate with management in their efforts to comply with occupational health and safety requirements.

Employers and self-employed persons must ensure the health and safety of people visiting or working at their places of work, who are not their employees, by not exposing them to risk - this includes contractors.

Manufacturers, designers and suppliers of plant and substances for use by people at work must make sure that they are safe and without risks to health when properly used. They must also supply adequate information to ensure safe use.

Each of these OHS obligations must be met in the grains industry and on each property.

Acknowledgements

These Guidelines have relied heavily on the work of other agencies and individuals. Specifically the following have contributed significantly to this document:

1. Health and Safety in the Grains Industry Reference Group, whose members have commissioned and made contribution to this Guideline.

Furthermore, in light of good sheep industry feedback on the suitability of the format of the shearing shed guideline, that format has been used as a template for this document.

2. Finding and fixing safety problems in grain production enterprises

The key processes (or steps) that must be set in place to manage OHS risk are:

1. Involve your workers - *Consultation*

There must be ways for workers to actively participate in the OHS program of the enterprise. How managers and employers involve workers will be different on different properties and methods may include:

- Regular meetings where safety issues are discussed
- Systems whereby safety representative are nominated to have specific responsibility for liaison between workers and managers

Whatever system is in use, it is essential that there is a clear commitment to safety of the owner and manager, and that this is obvious by the safety behaviour and activity taken on a day-to-day basis.

2. Look for unsafe conditions and unsafe practice – *Hazard identification*

Safety hazards must be identified in a systematic way

This means that property owners, managers and workers must identify those jobs and situations that may cause injury or illness, not only to people doing the work, but also to bystanders and visitors.

Hazard identification should be an ongoing and be carried out:

- At least annually
- When systems are changed – new equipment, changed facilities, changed practice

All workers should be actively encouraged to report anything that could be considered hazardous to health and safety – any unsafe condition, or unsafe action needs to be identified and action taken to make the system safe.

3. For each hazard, consider the likely outcome – *Risk assessment*

Risk associated with each hazard must be assessed in terms of the severity of the potential harm that could occur, and the likelihood that such an outcome could occur – generally greater if workers are frequently exposed to the hazard.

4. Control risk using the hierarchy of control approach – *Risk control*

Risks must be controlled to prevent injury. The ***hierarchy, or order of effectiveness***, is as follows:

1. Elimination of the hazard

Where possible, the hazard must be eliminated, or removed from the workplace. This is obviously the most effective way to reduce risk. While it is often not possible to eliminate a hazard, OHS regulations require employers to consider this option. If it is not possible, then the next most effective solution should be sought and put in place.

2. Substitution for a hazard of lesser risk

Where it is not possible to eliminate a hazard altogether, consider whether the hazard can be substituted for something that will do the same job, but is less risky.

3. Isolation of hazard from worker and other engineering controls

In most hazardous situations it is possible and practicable to improve the design of work and/ or isolate the worker from the hazard. This is the basis of most of the safety improvements that should be put in place by grain production enterprises to reduce risk of injury as well as to be compliant with OHS regulations.

4. Administrative controls

Administrative controls include safe operating procedures or rules, organising work in such a way that reduces risk, giving safety induction and training to workers, supervising unskilled workers and providing safety information provision of information to workers about the safety risk associated with the work to be done and how these risks can be minimised.

5. Personal protective equipment

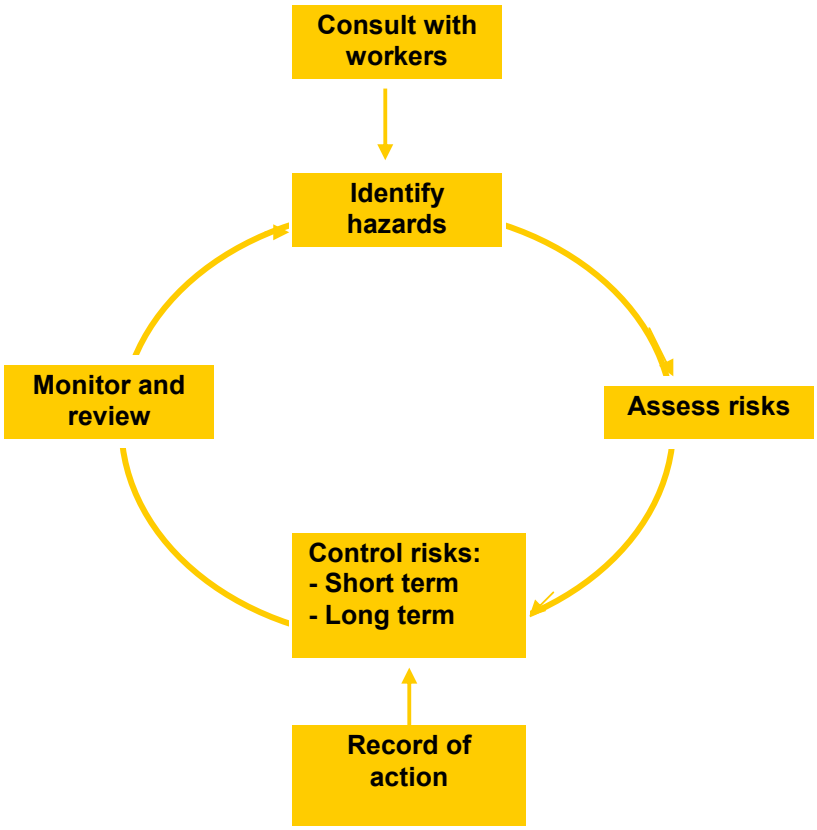
Provision and use of personal protective equipment must be provided and used where workers cannot be protected from a hazard by a control measure higher up the order 9 1-4 above). This includes providing helmets to protect from head injury for riders of motorcycles and quad bikes.

These guidelines suggest the higher order controls in the first instance, with the lower order, less effective controls that depend on individual behaviour lower in the list. In practice, best practice in OHS risk management will require a mix of controls for the high risk hazards.

5. **Keep a written note of your OHS activity – *Record keeping***

Records of all activity in your OHS program must be kept.

These are not steps to be taken on a one-off basis. The process would be better illustrated in this way:



These processes should become a key part of the management of the whole business. Successful businesses invest significantly in OHS in terms of time, money and commitment at all levels. These businesses understand that overall performance of the business benefits from good OHS practice.

Such businesses do not accept that the major responsibility for workplace health and safety rests in the workers themselves, rather the opposite – that safety is a key management responsibility, and involving workers is a critical management skill.

3. Ground preparation, sowing and cultivation

While no-till grain production is becoming routine for many farms, cultivation and ground preparation remains important for many enterprises. Occupational Health and Safety Acts and Regulations require that hazards are identified, risks assessed and controls be based on maintaining a safe system of work. This includes systems for ground preparation and sowing. Sowing is associated with grain handling risks.

Use of ***herbicides*** in ground preparation poses risk. See Section 4.

Handling ***seed treated with fungicides and insecticides*** poses risk. See Section 4.

Hazard and risk	Risk controls
Tractor and Machinery Operation	
Moving machinery Operators and bystanders are at risk of run-over injury by moving tractors and machines. Smaller tractors may also roll over and pose risk of crush injury and death. Moving machines on narrow or raised tracks or roads poses risk of the machine rolling over embankments and injury to the operator. Collision of machines with other vehicles may occur on farm or on public roads, with risk to operator and vehicle occupants.	Modify tractor access, steps and handrails to prevent slipping while dismounting and being run-over by the tractor. Information on how to modify tractor access can be obtained from the Australian Centre for Agricultural Health and Safety or the Farmsafe Australia website. Ensure that all un-cabined tractors are fitted with Roll Over Protection Structures (ROPS). Before starting and moving any machine or vehicle, check to ensure that all bystanders are clear and well away from machinery. Fitting a reversing alarm may alert and remind bystanders that tractor and machinery operators may have reduced visibility when reversing. When transporting tractors and machinery on public roads, survey and plan routes to be taken to ensure that roads are suitable. Where required, use escort vehicles on public roads.
Exposed moving parts Power-Take-Off (PTO) assemblies pose risk of entanglement and serious injury for operators and bystanders. Unguarded engine belts and pulleys, when operating, pose risk of entanglement and injury.	Fit and ensure that all PTO shafts and assembly guards are in good order and functional before tractors and machinery is operated. Ensure that all engine moving parts are properly guarded and guards are in place before operating tractor and machinery. Build and install engine guards where they were not manufactured on older tractors.

Hazard and risk	Risk controls
Hydraulics Hydraulic fluid under pressure poses risk of penetrating injury that is difficult to treat effectively due to the oil penetrating many tissue layers under the skin. If hydraulics fail, there is risk of serious crush injury if the rig falls.	Check and replace leaking hydraulic hoses and fittings. Before working under raised hydraulic machinery, ensure that hydraulic and ram locks have been fitted and that machinery is chocked and supported.
Hitching Crush injury can occur to hands and body of operator and/ or helper when reversing and hitching implements.	Fit quick-hitch mechanisms to draw bars and ensure helpers are not standing between the tractor and implements.
Noise Hearing injury occurs where the operator is exposed to damaging levels of noise. These may be due to engine noise, and/ or radio and stereo at loud volume. 	When operating un-cabined tractors or loud machinery, wear ear muffs or plugs. Turn radio and stereo volume down, excessively loud music also damages hearing.
Ergonomic risks Operating tractors for long hours can be associated with back, shoulder, and other pain and injury. Especially with poorly designed seats and controls.	Check that all seats are in good condition and repair. Take regular breaks to exercise neck and back to prevent neck, shoulder and back pain.
Slips, trips and falls Many operators are injured slipping and falling when getting in and out of the tractor, and from slipping off seeding equipment. Risk of injury is higher as you get older.	Check, install, modify and update tractor and machinery steps and handrails to reduce the risk of slipping and falling. Do not jump off machinery, face ladders when climbing up and down. Ensure that operators wear appropriate work boots

Hazard and risk	Risk controls
Distractions Operators are at risk of collision and of loss of control of machinery when distracted by use of devices that may include mobile phones and portable DVD players. Risk is greater at night and when using GPS guidance systems.	Discourage use of mobile phones, DVDs or reading magazines while operating tractors. Stop the machine while talking, texting and other mobile phones operations. Fit a hands free mobile phone kit to the tractor.
Fatigue Working for long hours without breaks increases risk of making mistakes that can lead to injury. Falling asleep is a real risk, with possible outcomes such as running into creeks and gullies, fences, trees and structures.	Organise the workforce to ensure that tractor and machinery operators can take regular breaks. When having snack or lunch breaks, stop and get out of the tractor or machine for a break to stretch and refresh, don't eat and drive on the run.
Refueling Risk during refueling relate to fire, and exposure to diesel	Check that fuel hoses and fitting are not leaking and there is a fire extinguisher on the tractor or fuel trailer or bowser
Fertilising ***Handling bags*** Injury may occur during handling of fertilizer either using fork lift or bucket attachments or by manual handling. Crush injury can occur if the load falls, or the lift fails, with subsequent crush injury. Bystanders are at risk of run-over injury. Manual handling of fertilizer may be associated with back and other musculoskeletal injury. Handling one-tonne bags poses risk of the operator working underneath being crushed under falling bags.	Use fork lifts, tractor mounted jib cranes or other lifting aids to move and carry fertilizer bags. Keep bystanders away when moving loads with fork lifts and jib cranes. Do not store one-tonne fertilizer bags in the sun to reduce sunlight perishing carry handles. Inspect carry handles before lifting bags with fork lifts and jib cranes. Use a support under raised bags to prevent being crushed if the bag or handle breaks.
Anhydrous ammonia Handling anhydrous ammonia poses risk of chemical burns to operators and bystanders.	Ensure that all operators have been trained according to suppliers requirements, in the transfer, application and safe use of anhydrous ammonia. Regularly check that all fittings and hoses are not cracked or leaking.

Hazard and risk	Risk controls
	Check that all safety and shutoff valves and taps are working and are not leaking. Make sure that all PPE (including respirators, gloves and eye protection) is carried on the tractor and is used when connecting and disconnecting vapour and liquid hoses. Carry a First Aid kit and water to treat ammonia burns.
Grain handling ***Augers and auger operation*** Operation of grain augers poses risk of hand, arm, feet and leg injury caused by being entangled in an unguarded auger flight. This injury is common. Crush injury may also occur in unguarded pulleys, belts and drive-shafts. Full augers are unstable, and pose risk of toppling when moved. Injury may occur if the operator or bystander in the vicinity. Electrically driven augers pose risk of electrocution.  	Ensure that all auger flights, engine pulleys, drive belts and shafts are properly guarded and that the guards are in good condition before using all augers. Make sure that all guards are in place before augers are operated, especially after maintenance. Ensure all bystanders are kept away. To prevent toppling, empty and lower augers before moving them. Check that all electric wiring is in good condition and augers are operated with a Residual Current Device (RCD) installed. Portable RCDs are available to prevent electrocution where augers are powered by generators or if an RCD is not installed in the power board.
Overhead power lines Electrocution of operator and others can occur when augers are moved or used under overhead power lines.	Relocate or put power lines underground where overhead power lines pose a risk of electrocution, especially around silos and grain handling areas where augers and tip trucks are regularly used.

Hazard and risk	Risk controls
	Plan work to avoid power lines, and provide detailed instructions to operators about where and how work should be done to avoid electrocution
Dusts Grain dusts pose risk of respiratory disease. People with asthma are at particular risk of an acute asthma episode. 	Ensure that all people who handle grain wear dust masks. Assess all people who work with grain for the risk of asthma. All people with asthma who handle grain should have an asthma management plan arranged with their doctor. Ensure asthmatics have ready access to their medication.
Noise Hearing injury occurs where the operator and/ or bystanders are exposed to damaging levels of noise associated with operating augers and motors. Damaging levels of noise are usually associated with use of grain augers.	Keep bystanders not associated with work away from loud noise. Ensure that hearing protection is provided and worn by all people when operating augers and motors.
Manual handling Moving augers can result in back and other musculoskeletal injury.	Empty and lower grain augers before moving them will make them lighter to move, improve their balance, and reduce the risk of back and muscle injury. Fit a jockey wheel to help move and maneuver augers. Get help from another person to help lift and move an auger.
Working in and around silos ***Falls*** Climbing silos to get inside, or to check levels and close and seal lids poses risk of falls and serious injury.	Fit bottom entry access to silos; fill level indicators, and self sealing lids that can be operated from the ground to reduce the need to climb silos.

Hazard and risk	Risk controls
	Before filling silos, check and repair silos that have been damaged or rusted. Before climbing any silo ladders, check and repair damaged hand rails and ladders. Ensure that silo ladders higher than 6m have a safety cage fitted. Before working on top of silos, ensure that a safety harness is worn and attached to the silo.
Grain engulfment Engulfment by grain can occur when silos and field bins collapse. Rust damage may weaken such structures. Flowing grain can also cause engulfment and death and poses risk to operators, bystanders especially children.	
Sweep augers Sweep augers in flat-bottomed silos pose risk of entanglement injury to all body parts for operators and helpers.	Ensure that grain augers, elevators and sweep augers are turned off and locked out before working inside a silo. Modify flat bottomed silos with conical bases to eliminate the need for seep augers.
Confined spaces Entry into silos poses risk of suffocation due to lack of oxygen or exposure to noxious gases, explosive gasses and dusts and fumigants such as phosphine gas.	***OHS Regulations require that a risk assessment is undertaken before anyone works inside a silo or other confined space.*** Check that all silos have proper warning signs informing the risks of working in confined spaces. Do not allow anyone to work inside a silo alone. Do not allow anyone to smoke in silos or grain sheds. Measure oxygen content before entering all silos that are filled with grain. If oxygen is low, then no-one should enter until the silo has been ventilated and oxygen levels are safe.

Hazard and risk	Risk controls
	Ensure that the silo has been ventilated to purge other toxic gasses and dusts before entry. Never get into a silo without a bottom entry.
Communication Where more than one person is working to prepare and sow grain crops, there is increased risk of injury due to poor planning and communication about work being done. Risk is associated with vehicle and machinery traffic.	Identify the likelihood of collision and run-over by machinery and vehicle traffic. Inform all workers of areas of increased machinery, truck and vehicle traffic. Plan and communicate to all people involved with sowing, work and traffic flow. Establish and post speed limit signs where required on areas around the farm, especially on roads around farm houses, workshops, grain handling and storage areas.
Machinery maintenance ***Changing tyres*** Injury risk when repaired tyres are being inflated is associated with tyre blow-out, falling machinery, split rims blowing apart.	Replace worn or damaged tyres to prevent blowout. Do not over-inflate or stand beside machinery tyres whilst being inflated. Ensure that machinery and vehicles are properly chocked and supported before removing tyres for repair. Make available and ensure tyre cages are used when inflating split rimmed tyres. Inspect rims before replacing tyres. Ensure the rim pieces are seated properly and inflate the tyres in 10 psi stages. Check the rim after each inflation.
In-field maintenance and repair People doing in-field maintenance and bystanders are at risk of entanglement while engines are running. Operators are at risk of crush injury while working underneath chocked machines. People working under machines may be at risk of being run over if the machine is operated with the person still underneath.	Turn off engines and remove keys before performing maintenance or adjusting any machinery. Ensure that machinery and vehicles are properly chocked and supported before beginning maintenance or working under tractors and machinery. Inspect and make sure all people are away from machinery before restarting or moving tractors and machinery.

4. Pest control

Weed control may be by mechanical means – inter-row cultivation, or by use of pesticides.

Pesticides used in grain production include herbicides for pre- and post emergent weed control ; insecticides to treat seed and crop infestations; fungicides to treat seed and crop infestation; and other including rodenticides where mice are in plague proportions. Pesticides may take the form of powders, granules, liquids, fumigants and baits.

Hazard and risk	Risk controls
Pre-emergent pest control	
Application of herbicides is associated with risk of exposure to chemicals for operator and bystanders during mixing, application and clean-down. Operators are also at risk of injury associated with the operation of spray machinery.	Select herbicides that have a low toxicity to operators. Use closed mixing and transfer systems to reduce operator exposure to herbicide spray mixtures. Checking hoses and connections, replace those that are cracked and leaking to prevent operator exposure. Use cabined tractors and spray equipment fitted with carbon/ activated charcoal air filters to reduce exposure of spray to thee operator. Ensure that all people applying pesticides have been properly trained and have current Chemical User Accreditation eg ChemCert or its equivalent. When using contractors to apply pre-emergent pesticides, use only operators that have approved and current accreditation to apply pesticides. Provide and ensure that personal protective clothing and equipment is worn as described on the pesticide label.
Seed treatment	
Seed treatments are often of higher toxicity. Operators are at risk of exposure to chemicals during treatment and handling of treated seed. Machines used for treatment may pose risk of entanglement.	Select those seed treatments that have a lower toxicity to human health. Use closed mixing and transfer systems to reduce operator exposure to seed treatments. Ensure that lids and seals on mixers are in good condition, and pumps, injection lines do not leak when treating seed. Ensure that all people applying pesticides have been properly trained and have current Chemical

	User Accreditation eg ChemCert or its equivalent. Provide and ensure that personal protective clothing and equipment is worn as described on seed treatments labels, to reduce contact with seed and seed dusts.
Post-emergent crop protection Herbicides, insecticides and fungicides may pose risk of chemical exposure for operators and bystanders during mixing, application and clean down. Operators are also at risk of injury associated with the operation of spray machinery. 	Select herbicides, fungicides and insecticides that have a low toxicity to operators. Checking hoses and connections, replace those that are cracked and leaking to prevent operator exposure. Use closed mixing and transfer systems to reduce operator exposure to herbicide, insecticide and fungicide spray mixtures. Use cabined tractors and spray equipment fitted with carbon/ activated charcoal air filters to reduce exposure of spray to thee operator. When using contractors to apply pre-emergent pesticides, use only operators that have approved accreditation to apply pesticides. Provide and ensure that personal protective clothing and equipment is worn as described on the pesticide label.
Rodent control Chemicals used for rodent control are usually of high toxicity and may have special handling and application requirements. Users are at risk of chemical exposure during preparing and laying of baits.	Use pre-prepared baits. Handle and apply baits as described on the rodenticide label. Ensure that all people applying pesticides have been properly trained and have current Chemical User Accreditation ie ChemCert or its equivalent. When using contractors to apply baits, use only operators that have approved accreditation to apply rodenticides. Ensure that personal protective clothing and equipment, including gloves and respiratory protection, is provided and used when handling and laying baits.

Aerial application of pesticides

Aerial application of pesticides poses risks to pilots, mixers, markers and rural communities.

Risks may be of contamination with chemicals from on - or off-target application.

Pilots are at risk of collision with power-lines, trees and other hazards, and of crashing during take-off from poorly constructed and maintained farm airstrips.

Select and use those pesticides that have a low toxicity to human health and the environment.

Use closed mixing and transfer system to reduce the exposure of pilot, mixers and markers to pesticides.

In areas where there is increased risk of contamination or off target application, apply pesticides by ground rig to reduce off target application.

Use only aerial operators who have an approved current accreditation to apply pesticides. To reduce the need for ground flaggers and markers, use aerial operators who have GPS spray guidance systems.

Use airstrips of proper length and clearance. Maintain airstrip surfaces in good condition, short grass, free of ruts, rabbit holes, damaged by cattle, horses and other livestock during wet weather, loose wire and other farm debris.

Grain protection

Treatment of grains for storage in silos or sheds poses risk of exposure to chemicals. Fumigants pose special risk due to high toxicity. Risk is associated with treatment, and opening of sealed storages or containers, including trucks.

Use fumigants and seed treatments that have a lower toxicity to human health.

Ensure that all people using fumigants and pesticides for treating stored grain have been properly trained and have current Chemical User Accreditation eg ChemCert or its equivalent.

Do not enter silos, containers or trucks without providing proper ventilation as stated on the pesticide label and observing re-entry or with-holding periods.

Ensure that personal protective clothing and equipment, including gloves and respiratory protection, is provided and used when handling and using grain fumigants.

Chemical storage, and transport

Exposure to chemicals can occur during transport and storage.

Risk to users and bystanders may be associated with leaks, spillages that may occur during routine storage and handling or in the event of a collision during transport.

All chemicals should be handled strictly in accordance with label safety directions, including the requirement for personal protective clothing and equipment such as gloves, masks, waterproof clothing, fire fighting and accidental spill containment.

Do not transport pesticides in a cabined vehicle with passengers.

State OHS regulations require that a record is kept for any hazardous substance stored and/ or used in the workplace, and that Material Safety Data Sheets are available for workers handling all chemicals.

Grain harvesting

Grain harvesting is a complex management job to get done efficiently and effectively, without injury to any of the people involved. It usually involves use of a seasonal workforce, and use of contractors for some of the work.

Hazard and risk	Risk controls
Harvest operation	
Moving Transporting harvesters and machinery Transporting and moving harvester machines on narrow or raised tracks or roads poses risk of the machine rolling over embankments and injury to the operator. Harvesting near gullies and erosions poses special risk to harvester operators. Collision of machines with other vehicles may occur on farm or on public roads, with risk to operator and vehicle occupants. Bystanders are at risk of run-over if not in view of the operator.	Plan and check routes before transporting harvesting machinery on public and farm roads. This will prevent machines colliding with other vehicles and rolling over embankments. Use escort vehicles where required when traveling on public roads. Fitting a reversing alarm may alert and remind bystanders that tractor and machinery operators may have reduced visibility when reversing. Before starting and moving any machine or vehicle, check to ensure that all bystanders are clear and well away from machinery.

Hazard and risk	Risk controls
Mechanical injury Unguarded belts and pulleys, exposed augers when operating, pose risk of entanglement and injury	Fit and ensure that all PTO assembly and exposed drive shafts and auger guards are in good order and functional before headers and harvesting machinery is operated. Ensure that all engine moving parts are properly guarded and guards are in place before operating tractor and machinery. Build and install engine guards where they were not manufactured on older tractors. A guide may be obtained from the Australian Centre for Agricultural Health and Safety.
Clearing blockages Clearing blockages poses risk to operators due to entanglement and crush injury caused by belts, pulleys, failing hydraulics, exposed augers.	Check and replace leaking hydraulic hoses and fittings. Before working under raised hydraulic machinery, ensure that hydraulic ram locks have been fitted and that machinery is chocked and supported.
Dust Grain dusts pose risk of respiratory disease, particularly asthma. Risk is increased for those who have asthma.	Ensure that all people who handle grain wear dust masks. Assess all people who work with grain for the risk of asthma. All people with asthma who handle grain should have an asthma management plan arranged with their doctor. Ensure asthmatics have ready access to their medication.
Fire Fire in the harvester is a major risk during harvest and is associated with ignition of trash accumulated around belts and pulleys. Fire can spread and become a risk for others. Fire can occur during in-field maintenance, and refueling. Fire in the crop can be associated with lightning strike.	Ensure that guards are in place to keep trash and straw away from drive pullets and belts. Regularly clean straw buildup from comb, reel, drive belts, pulleys and motor bay. Regularly check and adjust drive belts and bearings for wear to prevent overheating. Proper maintenance and service will prevent identify probable failure and cause of breakdown

Hazard and risk	Risk controls
	Check that fuel hoses and fitting are not leaking and there is a fire extinguisher on the header or fuel trailer. Keep a water trailer adjacent to harvesting operations in the case of stubble fire.
Slips, trips and falls Many operators are injured due to slipping and falling when getting in and out of the header, or climbing during maintenance. Injury is higher as you get older.	Modify harvester and machinery that have poor access steps and handrails to prevent slipping and falling while dismounting. Do not ride or dismount from moving machinery. Ensure that operators wear appropriate work boots.
Using GPS guidance systems Operators are at some risk of collision with other vehicles and machines, especially tractors and chaser bins, if they are not attentive to the operating environment, and distracted with reading, using mobile phones. Risk is greater at night.	Do not fit DVDs and other sources of distraction to self steering tractors and headers.
Other distractions Operators are at risk of collision and of loss of control of machinery when distracted by use of devices that may include mobile phones and portable DVD players. Risk is greater at night.	Discourage use of mobile phones, DVDs or reading magazines while operating headers. Stop the machine while talking, texting and using mobile phones. Fit a mobile phone hands free kit to the tractor or header.
Overhead power lines Electrocution of operator and others can occur when headers are operated under overhead power lines.	Relocate or put power lines underground where overhead power lines pose a risk of electrocution, especially around silos and grain handling areas where augers and tip trucks are regularly used. Plan work to avoid power lines, and provide detailed instructions to operators about where and how work should be done to avoid electrocution
Fatigue Working for long hours without breaks increases risk of making mistakes that can lead to injury.	Organise work to ensure that tractor and machinery operators can take regular breaks.

Hazard and risk	Risk controls
Falling asleep is a real risk, with possible outcomes such as running into creeks and gullies, fences, trees and structures.	When having tea or lunch, stop and get out of the header or tractor for a break, don't eat and drive on the run.

Haste Risk of injury is increased during times of intense haste, these may be associated with impending storms, rain, availability of transport, manpower etc.	Plan ahead, if short of man-power, step back and think about organising for safety. Slow down, don't try and do the work yourself or take shortcuts or accept injury risk.
Tractor and chaser bin operation ***Moving machines*** Operators and bystanders are at risk of run-over injury by moving tractors and bins. Smaller tractors may also roll over and pose risk of crush injury and death.	Ensure that all un-cabined tractors are fitted with Roll Over Protection Structures (ROPS). Plan and check routes before transporting tractors and harvesting machinery on public

Hazard and risk	Risk controls
Moving machines on narrow or raised tracks or roads poses risk of the machine rolling over embankments and injury to the operator. Collision of machines with other vehicles may occur on farm or on public roads, with risk to operator and vehicle occupants. Bystanders are at risk of run-over if not in view of the operator. 	and farm roads. This will prevent machines colliding with other vehicles and rolling over embankments. Use escort vehicles where required when traveling on public roads. Fitting a reversing alarm may alert and remind bystanders that tractor or machinery is reversing and operators may have reduced visibility. Before starting and moving any machine or vehicle, check to ensure that all bystanders are clear and well away from machinery.
Exposed moving parts PTO assemblies pose risk of entanglement and serious injury for operators and bystanders. Unguarded engine belts and pulleys on tractor and bins, when operating, pose risk of entanglement and injury.	Fit and ensure that all PTO assembly and shaft guards are in good order and functional before tractors and machinery are operated. Ensure that all engine moving parts are properly guarded and guards are in place before operating tractor and machinery. Build and install engine guards where they were not manufactured on older tractors. Replace missing master guards on tractors and chaser bins. A guide for fitment of a replacement master guard is available from the Australian Centre for Agricultural Health and Safety.
Hydraulics Hydraulic fluid under pressure poses risk of penetrating injury that is difficult to treat effectively due to the oil penetrating many tissue layers under the skin.	Check and replace leaking hydraulic hoses and fittings. Before working under raised hydraulic machinery, ensure that hydraulic and ram locks have been fitted and that machinery is chocked and supported.

Hazard and risk	Risk controls
Hitching Crush injury can occur to hands and body of operator and/or helper when reversing and hitching implements.	Fit a quick-hitch mechanism to draw bars. Make sure helpers or bystanders are not standing between the tractor and implements.
Noise Hearing injury occurs where the operator is exposed to damaging levels of noise. These may be due to engine noise, and/ or radio at loud volume.	When operating un-cabined tractors or loud machinery, wear ear muffs or plugs. Turn radios and stereos down, excessively loud music also damages hearing.
Ergonomic risks Operating tractors for long hours can be associated with back, shoulder, and other pain and injury. Body strain is increased with tractor speed. Especially with poorly designed seats and controls.	Check and maintain all seats are in good condition and repair. Take regular breaks to exercise neck and back to prevent neck, shoulder and back pain.
Slips, trips and falls Many operators are injured due to slipping and falling when getting in and out of the tractor, and from climbing up and down chaser bins. Risk of injury is higher as you get older.	Check, install, modify and update tractor and machinery steps and handrails to reduce the risk of slipping and falling. Do mount or dismount moving machinery. Information on how to modify tractor access can be obtained from the Australian Centre for Agricultural Health and Safety or the Farmsafe Australia website. Ensure that operators wear appropriate work boots.
Distractions Operators are at risk of collision and of loss of control of machinery when distracted by use of devices that may include mobile phones and portable DVD players. Risk is greater at night, and when using GPS guidance systems	Discourage use of mobile phones, DVDs or reading magazines while operating tractors. Stop the machine while talking, texting and using mobile phones. Fit a mobile phone hands free kit to the tractor or header.
Fatigue Working for long hours without breaks increases risk of making mistakes that can lead to injury. Falling asleep is a real risk, with possible outcomes such as running into the header.	Organise work to ensure that tractor and machinery operators can take regular breaks. When having tea or lunch breaks, stop and get out of the tractor for a break, don't eat and drive on the run.

Hazard and risk	Risk controls
Refueling Risk during refueling relating to fire, and exposure to diesel and petrol fuels.	Check that fuel hoses and fitting are not leaking and there is a fire extinguisher on the tractor or fuel trailer / bowser.
Electrocution Operators may be at risk of electrocution operating field and chaser bins under low overhead power lines.	Relocate or put power lines underground where overhead power lines pose a risk of electrocution, especially around silos and grain handling areas. Identify and check the height of power lines that headers and chaser bins may be at risk of contact. Arrange to have those power lines raised that are too low. Place markers (balls and reflectors) on over head power lines that cross the path of tall machinery. Identify power lines with a signs to identify those that that cross the path of tall machinery. Plan work to avoid power lines, and provide detailed instructions to operators about where and how work should be done to avoid electrocution
Work with field bins and temporary storages ***Field bins*** Operators and bystanders are at risk of grain engulfment is bins collapse, and risk increases if bins are moved when full.	Check the structure of field bins before use. Empty field bins to prevent damage and collapse during transport. Transport empty bins slowly.
Engulfment by grain Harvest operators and by standers are at risk of grain engulfment from collapsing field bins that may be affected by rust.	Repair rusted and broken weld, straighten bent field bins that may topple when filled. Keep bystanders away. Avoid climbing the side of field bins. Use a portable ladder.

Hazard and risk	Risk controls
Augers Operation of grain augers poses risk of hand, arm, feet and leg injury caused by being entangled in an unguarded auger flight. This injury is common. Crush injury may also occur in unguarded pulleys, belts and drive-shafts. Full augers are unstable, and pose risk of toppling when moved. Injury may occur if the operator or bystander in the vicinity.	Ensure that all auger flights, engine pulleys, drive belts and shafts are properly guarded and that the guards are in good condition before using all augers. Make sure that all guards are in place before augers are operated, especially after maintenance. Ensure all bystanders are kept away. To prevent toppling, empty and lower augers before moving them.
Tarping Harvest personnel are at risk of ergonomic injury pulling tarpaulins over field bins and trucks.	Fit rollover tarps to trucks, chaser, and field bins that can be operated from the ground. Use a portable ladder and use a helper to tarp field bins.
In-field maintenance of harvesters and machines People doing in-field maintenance and bystanders are at risk of entanglement while engines are running. Operators are at risk of crush injury while working underneath harvester and machinery. People working under machines may be at risk of being run over if the machine is operated with the person still underneath.	Stop harvester and machinery engines and remove keys from ignition switches to prevent the engine being started during maintenance. Before working under raised hydraulics, header fronts and combs, ensure that hydraulic and ram locks have been fitted and that comb is chocked and supported.
Grain handling ***Augers and auger operation*** Operation of grain augers poses risk of hand, arm, feet and leg injury caused by being entangled in an unguarded auger flight. This injury is common. Crush injury may also occur in unguarded pulleys, belts and drive-shafts. oaded augers are unstable, and pose risk of toppling when moved. Injury may occur if the operator or bystander in the vicinity. Electrically driven augers pose risk of electrocution.	Check and fit all guards on auger flights, drive shafts, belts and pulleys before operating any auger. Repair and fit any guards that are damaged or missing. A safety guide for construction of auger guarding is available from NSW WorkCover. Replace all guards after maintenance and before operating the auger Empty and lower augers to prevent toppling when they are being moved. Attach a portable RCD when electric motor augers are being used where a permanent

Hazard and risk	Risk controls
	RCD is not fitted to the power board or generator.
Overhead power lines Electrocution of operator and others can occur when augers are moved or used under overhead power lines.	Check for overhead power lines around grain handling areas. Re-route overhead power lines away from silos or bury them underground. Before raising or operating an auger, check that they are clear of overhead power lines. Plan work to avoid power lines, and provide detailed instructions to operators about where and how work should be done to avoid electrocution.
Dusts Grain dusts pose risk of respiratory disease, particularly asthma. All operators are at risk of inhaling grain and organic dusts during transfer of grain. Operators working in silos and grain stores at risk of death and serious injury from exploding grain dusts.	Ensure that all people who handle grain wear dust masks. Assess all people who work with grain for the risk of asthma. All people with asthma who handle grain should have an asthma management plan arranged with their doctor. Do not allow anyone to smoke or use naked flames in grain sheds or silos when filling or filled with grain.
Noise Hearing injury occurs where the operator and/ or bystanders are exposed to damaging levels of noise associated with operating augers. Damaging levels of noise are usually associated with use of grain augers.	Check that ear muffs and plugs are available and in good condition for auger operators. Ensure that hearing protection is worn by persons operating grain augers. Keep bystanders away from loud noise.

Hazard and risk	Risk controls
Manual handling Moving augers can result in back and other musculoskeletal injury.	Fit a jockey wheel to the auger to make them easier to move. Use another person to help move augers to prevent back injury and muscle strain.
Post-harvest stubble-baling ***Moving machinery*** Operators and bystanders are at risk of run-over injury by moving tractors and hay balers. Smaller tractors may also roll over and pose risk of crush injury and death. Collision of machines with other vehicles may occur on farm or on public roads, with risk to operator and vehicle occupants.	Check, install, modify and update tractor and machinery steps and handrails to reduce the risk of slipping and falling. Do not get in and out of moving machinery. Ensure that all un-cabined tractors are fitted with Roll Over Protection Structures (ROPS). When transporting tractors and machinery on public roads, survey and plan routes to be taken to ensure that roads are suitable. Where required, use escort vehicles on public roads. Before starting and moving any machine or vehicle, check to ensure that all bystanders are clear and well away from machinery.
Exposed moving parts Power-Take-Off (PTO) assemblies and other moving parts pose risk of entanglement and serious injury for operators and bystanders. Unguarded engine belts and pulleys, when operating, pose risk of entanglement and injury.	Fit and ensure that all PTO shafts and assembly guards are in good order and functional before tractors and machinery is operated. Ensure that all engine moving parts are properly guarded and guards are in place before operating tractor and machinery. Build and install engine guards where they were not manufactured on older tractors. A guide may be obtained from the Australian Centre for Agricultural Health and Safety.
Hydraulics Hydraulic fluid under pressure poses risk of penetrating injury that is difficult to treat effectively due to the oil penetrating many tissue layers under the skin. If hydraulics fail or are operated during maintenance, there is risk of serious crush injuries.	Check and replace worn and leaking hydraulic hoses and fittings. Before working under raised hydraulic machinery, ensure that hydraulic and ram locks have been fitted and that machinery is chocked and supported.

Hitching Crush injury can occur to hands and body of operator and/ or helper when reversing and hitching implements.	Fit quick-hitch mechanisms to draw bars and ensure helpers are not standing between the tractors and implements.
Noise Hearing injury occurs where the operator is exposed to damaging levels of noise. These may be due to engine noise, and/ or radio at loud volume.	When operating un-cabined tractors or loud machinery, wear ear muffs or plugs. Turn radios and stereos; excessively loud music also damages hearing.
Ergonomic risks Operating tractors for long hours can be associated with back, shoulder, and other pain and injury. Especially with poorly designed seats and controls.	Check that all seats are in good condition and repair. Take regular breaks to exercise neck and back to prevent neck, shoulder and back pain.
Slips, trips and falls Many operators are injured due to slipping and falling when getting in and out of the tractor, and from slipping off seeding equipment. Risk of injury is higher as you get older.	Check, install, modify and update tractor and machinery steps and handrails to reduce the risk of slipping and falling. Information on modifying tractor and machinery access is available from the Australian Centre for Agricultural Health and Safety. Ensure that operators wear appropriate work boots.
Other distractions Operators are at risk of collision and of loss of control of machinery when distracted by use of devices that may include mobile phones and portable DVD players. Risk is greater at night.	Discourage use of mobile phones, DVDs or reading magazines while operating tractors. Stop the machine while talking, texting and using mobile phones.
Fatigue Working for long hours without breaks increases risk of making mistakes that can lead to injury. Falling asleep is a real risk, with possible outcomes such as running into creeks and gullies, fences, trees and farm structures.	Organise work to ensure that tractor and machinery operators can take regular breaks. When having tea or lunch breaks, stop and get out of the tractor or machine for a break, don't eat and drive on the run.

Hazard and risk	Risk controls
Refueling Risk during refueling relate to fire, and exposure to diesel.	Check that fuel hoses and fitting are not leaking and there is a fire extinguisher on the tractor, fuel trailer or bowser.
Loading and transporting hay bales Tractor and forklift drivers are at risk being crushed from falling round and large square hay bales during loading and unloading. Truck drivers at risk of injury falling from the top of hay loads while securing loads	Fit a Falling Object Protective Structure (FOPS) to all tractor fitted to fork lifts and tractors to prevent the operator being crushed by falling bales. Wear proper work boots when climbing onto the top of loads. ***Work health and safety legislation requires a fall arrest harness and system to be used when working at height without a permanent or mobile work platform.***

5. Grain storage and transportation

The safety of all people should be considered in planning and organising for grain storage and transportation. The controller of the workplace is responsible for the safety of visitors and contractors under state OHS Acts and Regulations.

Hazard and risk	Risk controls
Vehicles, machines and traffic flow	
Workers and visitors to the grain storage areas and harvesting operations, including machinery operators, transport operators and contractors, are at risk of injury if planning of access and grain handling systems of work are poor.	Speed limits and should be agreed and sign posted for traffic in the vicinity of houses, grain handling areas and harvest operations. All workers and contractors should be provided with clear instructions as to route to be taken, for trucks and harvest machinery from the paddock to silos and grain sheds.
Grain trucks Transport drivers and contractors are at risk of injury if they become entangled in unguarded auger flights, drive shafts whilst shoveling and loading grain. Drivers and helpers are at risk serious head spine injury falling from trucks and grain trailers, especially climbing in and down from grain trailers to shovel and cover grain loads. Drivers and helpers are at risk of falling while tarping and un-tarping grain trucks and trailers. 	Guard and ensure that all auger flights, drive shafts, pulleys and belts are guarded before operating any auger. When loading trucks, use a helper to operate the auger so that truck drivers do not have to rush or jump down in a hurry from trailers to turn off augers. Avoid single operator operations when loading or unloading grain trucks. Fit a ladder and walk platform to truck to climb in and out of truck trailers. Fit roll over tarps to trucks and trailers so that grain loads can be covered and uncovered by the operator from the ground. Wear and fit a fall arrest harness where there is a risk of falling from a height greater than 1.8 m and a fixed platform is not available. Wear proper work boots when driving and working on trucks and trailers.

Hazard and risk	Risk controls
Electrocution Where trucks and trailers being emptied and cleaned or raised under overhead power lines, drivers and operators at risk of electrocution and death coming into contact with power lines. Electrocution and death can occur	Relocate or put power lines underground where overhead power lines pose a risk of electrocution, especially around silos and grain handling areas where augers and tip trucks are regularly used. Check for overhead power lines before raising tip trucks and trailers. Mark overhead power lines with marker balls and signs as a reminder to operators.
Road traffic risk Drivers are at risk of being injured in road traffic accidents road traffic accident due to mechanical failure, poor rural road conditions, excessive dust and fatigue.	Take regular breaks to manage driver fatigue. Slow down on gravel and dusty roads to avoid dust and prevent loosing control and collision with other traffic.
Changing tyres Drivers are at risk of crush injury working under unsupported trucks and trailers. Workers repairing split rimmed truck tyres are at risk of death and severe injury from split rim retaining ring exploding.	Ensure that trucks are properly chocked and supported before removing tyres for repair. Make available and ensure tyre cages are used when inflating split rimmed tyres. Inspect rims before replacing tyres. Ensure the rim pieces are seated properly and inflate the tyres in 10 psi stages. Check the rim after each inflation. Replace worn or damaged tyres to prevent blowout. Do not over-inflate or stand beside tyres while they are being inflated.
Grain dusts Grain dusts pose risk of respiratory disease, particularly asthma. All operators are at risk of inhaling grain and organic dusts during transfer of grain for transport or storage.	Ensure that all people who handle grain wear dust masks. Assess all people that work with grain for the risk of asthma.
Augers Operation of grain augers poses risk of hand, arm, feet and leg injury caused by being entangled in an unguarded auger flight. This injury is common. Crush injury may also occur in unguarded pulleys, belts and drive-shafts.	Ensure that all auger flights, engine pulleys, drive belts and shafts are properly guarded and that the guards are in good condition before using all augers. Make sure that all guards are in place before augers are operated, especially after maintenance.

Hazard and risk	Risk controls
Full augers are unstable, and pose risk of toppling when moved. Injury may occur if the operator or bystander in the vicinity.	Ensure all bystanders are kept away. To prevent toppling, empty and lower augers before moving them.
Grain storages All persons working in grain storages are at risk of injury from explosion by grain dust, respiratory damage and suffocation from grain engulfment.	Do not enter any confined spaces in a grain storage shed, especially the quick fill or grain pit without completing a risk assessment to work in a confined space. Do not smoke in a silo or grain store, especially when loading and un-loading trucks and moving grain. When working in grain storages, especially quick fill and grain pits. Do not enter alone without an observer present. Turn off power, lock and tag out switches to prevent augers being operated when servicing or cleaning augers in grain pits and quick fill.

6. People at special risk

The employer, and/ or the person in control of the grains production workplace has a responsibility to provide a safe workplace for all people in the workplace including workers, contractors and visitors.

Most grain enterprises in Australia are located on family farms and are accessible to family members, including children. The safety of all, including children and family visitors must be ensured.

At risk group	Risk controls
Children Children are at special risk of injury on Australian grain farms .	Young children must be physically separated from the workplace.
Visitors Visitors to the farm who are not aware of traffic hazards may pose risk to others as drivers or be at risk as pedestrians.	Farmers have responsibility to protect the safety of other visitors to the farm workplace. Visitors should not be permitted in the workplace unless that are trained and supervised to ensure their safety. Visitors to the farm should be directed to the farm house or office, with clearly marked signs. Visitors should only be allowed into the worksite when accompanied by a competent person.
Contractors Employers have responsibility to provide a safe workplace for contractors who enter the farm workplace.	Contractors including tractor operators, harvest contractors and grain transport operators should be inducted into the safety systems and rules of the farm enterprise, and be made aware of their obligations.
Older workers Older workers, although they may be more skilled in the work operation, are likely to be less agile and thence at greater risk of suffering injury. Furthermore, older people, if they do fall, are more likely to suffer a fracture than younger people.	Older people may not recognise that they are less agile than young people. Appropriate steps, including modifying machinery access, steps and improving handrails, allowing extra time to do job, can reduce the risk of injury.

7. Emergency preparedness

All grain properties must be "emergency ready". Being well prepared with emergency plans and equipment will ensure that the damage to people and property is minimized when accidents happen.

Risk controls

General

Emergency plans and procedures should be prepared and communicated to all workers.

Emergency plans should include plans for dealing with injury, poisoning, fire, explosion, pesticide and spills of hazardous substances.

All workers should be aware of emergency plans at induction, and be regularly updated.

Location of telephones and emergency numbers for Ambulance, Fire Brigade, Police and Emergency Services should be included in emergency plans and safety induction.

Communication systems should be in place to ensure that all workers are in contact with others on the farm, and that emergency personnel can be notified immediately.

The property address should be signposted in workshops, farm offices, and beside all farm phones and two-way radios in accordance with Emergency Service requirements. Record property rural address' and GPS co-ordinates of mail box and airstrips.

First aid

A suitable first aid kit should be accessible to all workers on the property. State Work Health Authorities detail the requirements for the type of workplace. The kit should be suitable for management of common farm injuries and snake bite.

At least one person, preferably two people, should be trained in First Aid and hold a current First Aid Certificate.

The telephone numbers of the Poisons Information Centre should be available.

Fire

Work areas should be kept clear of flammable materials and the area around workshops kept clean and clear of debris.

Fire breaks around the farm, grain crops and paddocks should be established and maintained to prevent the spread of fire.

Fire extinguishers should be available where fire is a hazard, especially during welding and using oxy-acetylene, refueling and carried on all vehicles during harvesting. The water trailer and fire cart checked and made ready.

All workers should be aware of and trained in emergency fire procedures.

8. Occupational Health and Safety Policies and Practices

Induction form for new workers

Farm safety induction provides grain producers and employers with a proposed approach to safety induction for new workers. It should be noted that this form is for use as an introduction to safety only – it is a preliminary communication to new workers about the importance of safety on the property.

Induction form contractors

Safety induction is also required for contractors who are employed at any stage of the production process – often as contract harvesters, or for transport of grain. *Attachment 2* is a proposed approach for safety induction for contractors.

Managing Grain Production Safety - Hazard checklist and business plan

Grain producers can obtain a copy of the Managing Grain Production Safety resources through the Australian Centre for Agricultural Health and Safety, or can download a copy on the Farmsafe Australia website www.farmsafe.org.au.

Pre-harvest safety checklist

*P*re-harvest checklist to help producers assure the safety of those involved in harvest and transport of grain. This does not take the place of the whole farm risk assessment and safety program that should be in place year-round.

Safe Operating Procedures

Specific safety induction and safe work methods statements are needed for the specific jobs that workers will undertake. They will be required for:

- Tractor operation
- Harvester operation
- Grain handling and using augers
- Riding motorcycles and quad bikes
- Machinery maintenance work

9. Further information and important contacts

State and Territory Work Health and Safety Authorities

New South Wales
WorkCover NSW
Ph: 13 10 50
www.workcover.nsw.gov.au

Queensland
Workplace Health and Safety
Ph: 1300 369 915
www.whs.qld.gov.au

Australian Capital Territory
ACT WorkCover
Ph: 02 6205 0200
www.workcover.act.gov.au

Northern Territory
Northern Territory WorkSafe
Ph: 1800 019 115
www.nt.gov.au/deet/worksafe

Victoria
Victorian WorkCover Authority
Ph: 1800 136 089
www.workcover.vic.gov.au

Western Australia
WorkSafe WA
Ph: 08 9327 8800
www.safetyline.wa.gov.au

Tasmania
WorkCover Tasmania
Ph: 1300 366 322
www.workcover.tas.gov.au

National Contacts

Grains Council of Australia
Ph: 02 6273 3000
www.graincouncil.com

Standards Australia
Ph: 02 8206 6000
www.standards.org.au

Australian Safety and Compensation Council
Ph: 02 6121 5317
www.ascc.gov.au

Australian Centre for Agricultural Health and Safety
Ph: 02 6752 8210
www.acahs.med.usyd.edu.au

Farmsafe Australia
Ph: 02 6752 8218
www.farmsafe.org.au

Notes


AUSTRALIAN CENTRE FOR AGRICULTURAL HEALTH AND SAFETY