CATTLE HANDLING SAFETY

A **PRACTICAL** GUIDE

PRIMARY INDUSTRIES HEALTH AND SAFETY PARTNERSHIP

AUSTRALIAN CENTRE FOR AGRICULTURAL HEALTH AND SAFETY

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Introduction

This Safety Guide - Its Purpose

The cattle industry is a key agricultural industry in Australia. However, those working in the industry are at risk of injury and illness associated with their work.

This safety guide aims to assist cattle producers improve the health and safety of workers handling cattle by identifying safety hazards and outlining options to control safety risk. It is not designed as a compulsory standard which you must meet. However, issues that are the subject of specific legislation are noted.

Action to improve health and safety in the industry is not only a responsible step to take in terms of human health; it is a legislated responsibility under Work Health and Safety Acts and Regulations in each State. For all these reasons, it makes good business sense to manage safety and reduce the high cost of injury.

All persons who work with cattle, should participate in identifying safety hazards, however the primary responsibility to ensure effective control options are implemented rests with the owner/ employer, or a person conducting a business or undertaking (PCBU).

Although not exhaustive, the safety control options listed in this guide, are presented as an industry guide to a range of short and long term solutions. When selecting control options, you should consider how practical and cost effective these options may be for your farm business.

Whatever options you adopt, it is important to note that by planning and recording the steps taken to control risk, you will improve the safety of your farm and have direct evidence of your efforts in managing safety that is required by WHS legislation.

The document was first prepared under the direction of the Farmsafe Australia Beef Cattle Industry Safety Reference Group; comprising cattle producers and handlers, States Work Health and Safety Authorities, Farmsafe extension officers with representatives of the Cattle Council of Australia and Meat and Livestock Australia. This subsequent 2015 revision has been funded through the Primary Industries Health and Safety Program with technical inputs from cattle producers, the Cattle Council of Australia and Meat and Livestock Australia.

New Technologies

The development of new technologies that have the potential to improve health and safety require on-going monitoring. In adopting new technologies, it is important that old hazards are not replaced with new hazards.

Current advances in the industry include:

- ☐ Yard design
- ☐ Crush design
- ☐ Cattle handling
- ☐ Use of drones

Cattle producers should use this document in association with the *Beef Production Work Health and Safety Plan*. These resources are available from the Australian Centre for Agriultural Health and Safety www.aghealth.org.au and Farmsafe Australia www.farmsafe.org.au websites.

Health and Safety - Working with cattle

People working with cattle are exposed to risks of injury associated with a range of hazards, some are specific to cattle handling, others are common across agriculture in general.

Hazards associated with cattle production include:

- ☐ Mechanical hazards - of the cattle themselves, of the means of transportation of handlers (quads, motorbikes, utes, horses, aircraft)
- ☐ Manual handling hazards
- ☐ Biological hazards - infectious diseases e.g. Q fever and leptospirosis
- ☐ Chemicals - veterinary medicines and other pesticides
- ☐ Dusts
- ☐ Solar radiation - working outdoors in heat and sunlight
- ☐ Electricity
- ☐ Noise - causing hearing loss and tinnitus
- ☐ Stress and fatigue

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

Legal Obligations

All States and Territories have adopted model harmonised WHS laws. There are some minor differences in each State, however regardless of variation, the fundamental obligations are similar in all jurisdictions. Employers or a Person Conducting a Business or Undertaking (PCBU), have responsibility for the safety of all people working (employees, contractors and visitors). In addition, all workers have responsibilities to help reduce the risk of injury and illness associated with work.

Responsibilities of a *PCBU or Employers* include:

- Involving (consulting) with workers to implement and manage their health and safety.
- Providing a safe workplace and organising safe systems of work.
  - Maintaining work areas, machinery and equipment in a safe condition
  - Assessing health and safety risks to workers and others in the workplace and implement effective risk controls i.e. eliminate the hazard where reasonably practicable
  - Providing information, training, instruction and supervision to workers on safe work and using machinery safely

- Ensuring safe use, handling, storage and transport of dangerous goods and hazardous substances
- Providing Personal Protective Equipment and clothing (PPE) as required for workers
- Providing proper amenities (toilets, meal rooms) for the welfare of workers
- Planning for emergencies and providing facilities (first aid, fire extinguishers etc)

- Ensuring the effective treatment, rehabilitation and early return to work of injured workers.

Workers (employees and contractors) also have responsibilities (duties).

Workers:

- Must co-operate with management in their efforts to comply with health and safety directions
- Report hazards in the workplace
- Follow all reasonable safety instructions given to them, and
- Work safely so they are not injured and not to cause injury to others at work.

Manufacturers, designers and suppliers of plant, machinery and hazardous chemicals 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 information (Operator and Service Manuals, Safety Data Sheets) to ensure its safe use.

Each of these WHS obligations must be met by the business and on each individual farm.

Finding and Fixing Safety Problems

The key steps that must be set in place to manage WHS risk are:

Consultation - involve your workers (employees and contractors)

There must be ways for workers to actively participate in the business WHS planning. How the PCBU, employers and managers involve workers will differ, some methods may include:

- ☐ Regular meetings (toolbox talks or more formal safety meetings) where safety issues are discussed and resolved.
- ☐ Systems whereby health and safety representatives are nominated to have specific responsibility for liaison between workers and managers (PCBU).

Whatever system is in use, it is essential that there is a clear commitment to safety by the owner, manager and workers and that this is obvious by their work behaviour and daily farming activities conducted by employers and workers.

Hazard Identification - look for unsafe conditions and unsafe practices

Safety hazards must be identified systematically and regularly. This means that farmers, managers and workers must identify those jobs and situations that may cause injury or illness, not only to people working (including contractors), but also to bystanders and visitors.

Hazard identification should be ongoing and be carried out:

- ☐ On an on-going basis
- ☐ When systems are changed - i. e. when new equipment is purchased, facilities and/ or work practices are changed.

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

Risk Assessment - for each hazard, consider the likely outcomes.

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. However, if any hazard has the potential to kill or cause permanent harm, this should be classified as a high risk.

Risk Control - using the hierarchy of controls approach.

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

Eliminate Hazards

Where reasonably practicable, hazards must be eliminated from the workplace. This is obviously the most effective way to reduce risk. While it is often not always possible to eliminate a hazard, WHS regulations require employers to use this option first, where reasonably practicable. If it is not possible, then the next most effective solution should be sought and put in place.

WHS Codes of Practice provide information on minimum safety performance and quite often provide information on known controls or what is reasonably practicable. These will be used by Work Health and Safety Inspectors and Courts when serious incidents have occurred.

Substituting 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.

Isolation of Hazards from workers 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 many of the safety improvements that are put in place to reduce risk of injury as well as to be compliant with WHS regulations.

Administrative Controls

Administrative controls include Safe Operating Procedures/ Safe Work Method Statements or rules; organising work in such a way that reduces risk. This can include giving safety induction and training to workers; supervising unskilled workers and providing safety information to workers about the safety risk associated with the work to be done and how these risks can be minimised.

Personal Protective Equipment

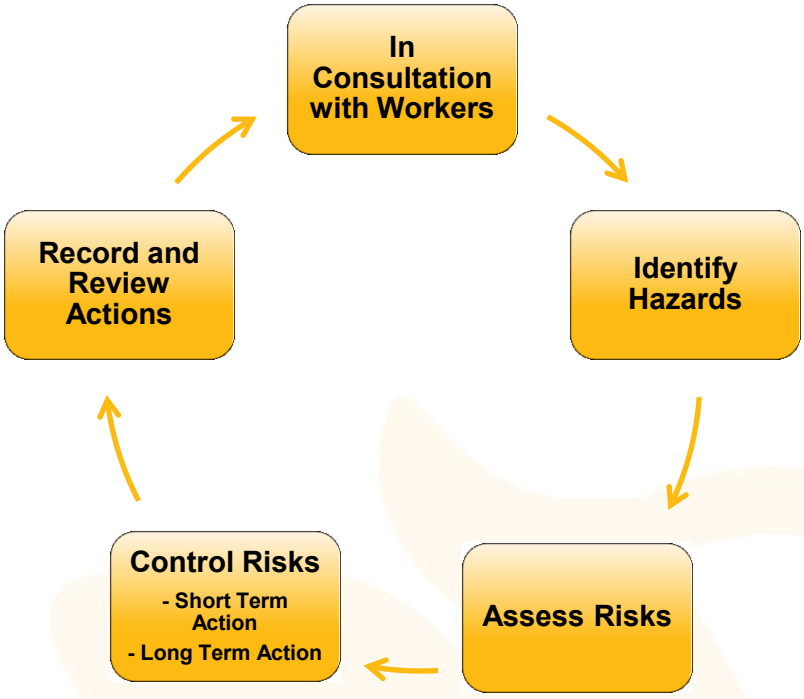
Personal Protective Equipment (PPE) must be provided and used where workers cannot be protected from a hazard by a control measure higher up the order. For example, providing helmets to protect from head injury for workers riding motorbikes, horses and quads or loud noise.

This safety guide suggests the higher order controls in the first instance, with the lower order, less effective controls depending on individual behaviour lower in the list. In practice, best practice WHS risk management will require a mix of controls for high risk hazards.

Record Keeping - Keep written records of your WHS management

Keep records of all your WHS plans and activities. It is very important to monitor progress and to provide proof demonstrating your proactive management of work health and safety issues to prevent injury - records must be kept.

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



These steps should become a key part of managing health and safety of workers in the business.

Successful businesses invest significantly in WHS in terms of time, money and commitment at all levels. These businesses understand that overall performance of the business benefits from good WHS practice.

These 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 and contractors is a critical management skill.

Hazards Risk and Controls: Designing Cattle Yards for Safety

One of the most important things to consider when planning for safe cattle handling is the overall plan and layout of cattle yards and handling facilities. Smooth movement of cattle, people and work is not only more efficient it is generally safer for workers, contractors and other bystanders, as well as maintaining meat quality. WHS Acts and Regulations require that hazards are identified, risks assessed and controls implemented to maintain a safe system of work. For cattle properties, that includes the design of cattle handling facilities to reduce risk of injury.

Hazards and Risks	Risk Controls

Principles of Good Design

Yards that are not designed to encourage good cattle flow will result in cattle baulking and an increased anxiety level that increases the risk of injury to handlers.

Absence of good escape routes for handlers increases the risk of injury.

Environmental considerations are important.

The comfort and health of animals is directly related to productivity and safety of handlers.

The working environment can pose specific risks to workers handling cattle in cattle yards.

Review the overall design and layout of the cattle yards and facilities. Improvements can be made to existing yards, and plans for improved facilities should make safety a key factor in design.[1]

The first principle is to design for the way cattle behave:

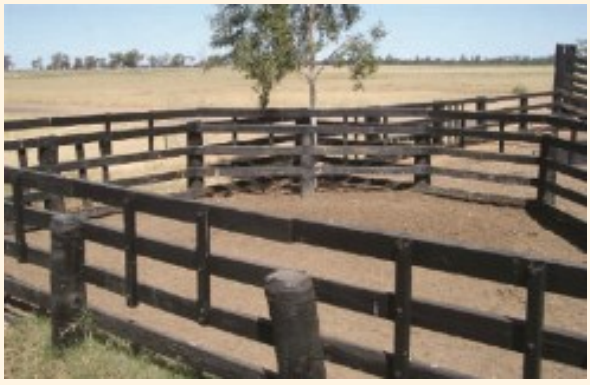
- ☐ Providing an appearance of a clear space ahead and reducing distractions will “draw” cattle through yards and races.[1]

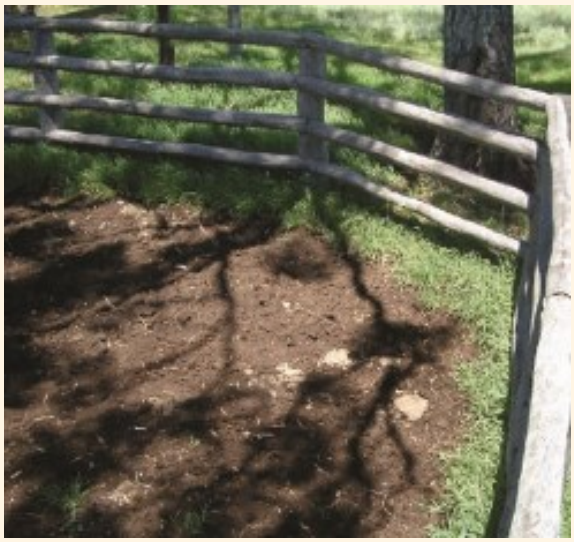
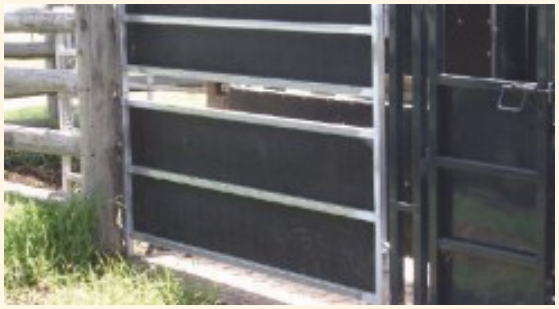
The second principle is to design for the safety and ease of work of the people:

- ☐ Self-latching gates, ready access and escape, surfaces that reduce risk of trips and falls, and isolation from the animal hazard.
- ☐ Consult with others in the industry who are experienced in designing cattle yards for improved efficiency and safe handling.[2]
- ☐ Consult with workers to identify potential hazards and improvements that could be made to cattle yards.

[1] ACC CoverPlus. *Better Yard Design*. 1999
[2] Evans M (Ed) *Handling the Herd - The complete guide to cattle yard design and modification*. Kondinin Group. 1998.

Hazards and Risks	Risk Controls
Temperature and Shade	
Working in hot environments can cause heat stress for cattle and handlers. Signs of heat stress in handlers include irritability, tiredness, inattention, muscular cramps, heat rash, heat exhaustion and in extreme cases heat stroke.  Dehydration from fluid loss can lead to heat stress and heat stroke which can be life threatening. In cases of heat stroke, sweating will stop and body temperatures will be high; the skin will be hot and dry and the individual may be confused or unconscious.	Yards should allow for adequate shade and water for stock. Shade trees and windbreaks are placed strategically around yards. Covered yards are more comfortable and stress-free for handlers. The race and crush area are the most important places to cover. To prevent heat stress and heat stroke, have an adequate supply of clean and cool water. Overall fluid intake in hot conditions should be approximately one cup of water or juice for every 20 minutes of work time. Try to avoid coffee, coke, tea and other caffinated drinks, as these increase urine formation and excretion, increasing the amount of fluid you lose and dehydration.
Light and Shadows	
Patches of sunlit ground or shadows will increase cattle baulking.	It is important that lighting is adequate for the job, but does not shine into the eyes of cattle. Design yards and facilities to reduce shadows and dappling.
Noise	
Noise will make cattle more prone to baulk and increase handler risk.	Utilise effective sound absorbing materials on noisy equipment and machinery to dampen noise. Placing any noisy equipment in locations which enable noise to dissipate. Reduce undue noise e.g. metal floors in cattle crushes tend to be noisier, making cattle baulk and harder to handle.

Hazards and Risks	Risk Controls
Slope and Surface	
Hard ground/ yard surfaces result in footsore cattle left in yards overnight, reducing animal well-being and making handling more difficult.	Floors of yards where cattle have to stand for any period should be soft.
Dust	
Dusts in the yard can initiate asthma attacks and other respiratory illnesses in susceptible people. Respiratory disease and Q Fever are two key risks.	Spray yards with water to settle dust before yarding cattle. Installing a sprinkler system will assist in dust reduction.
Location of Yards	
The location of cattle yards can help or hinder good cattle flow, and hence the safety of handlers. Injury associated with handling cattle is more likely where cattle baulk and become difficult to handle. 	The location of cattle yards should allow safe access in all weather conditions for cattle, people and transport. A site with good drainage, firm footing and allows quick drying in wet weather is ideal. The prevailing wind should be taken into account, as the wind may carry smells and dust. Cattle move best on a ground surface that has a slight upward slope. Cattle move best through yards if they are going back to the paddock. Designs that have cattle moving back towards the entrance through the forcing pen and race will help achieve smooth cattle flow.
Yards - Size and Shape	
Yards need to be adequate for the number of animals to be handled. Overcrowding leads to increased risk of injury for beast and handler. In rectangular yards, cattle bunched up in corners with heads facing away so that they cannot see the handler, increases difficulty of handling and increases the risk of injury.	Some experts recommend allowing a minimum of 1.5 square metres per adult animal in yards.[3] A top rail of 1,600 mm is adequate height for the yards, however, 1,800 mm should be allowed in forcing yards/pens and the drafting pound. Eliminate the risk of bunching up by boarding up the corners of rectangular yards. [3] *Stafford K. Cattle handling skills. Accident Rehabilitation and Compensation Insurance Corporation Wellington NZ. 1997.*

Hazards and Risks	Risk Controls
Drafting Pound	
A poorly designed drafting pound increases handling difficulty and risk of injury.	The drafting pound should be centrally located and a circular pound is best, with inward swinging gates. The pound gates should be fitted with slam/ shut, self latching gates.
Forcing Yards	
A poorly designed forcing yard increases handling difficulty and risk of injury. 	The forcing pen should be curved and designed so that the direction takes the cattle back to where they want to go - generally back towards their paddock. The forcing pen's maximum width should be 3 metres. This should allow cattle to be worked from the catwalk. The angle leading from the forcing yard/ pen to the race should be at least 30-35 degrees off a straight wall. Boarding up the walls of the forcing pen to block out distractions focuses the attention of the animal to the only way out - into the race. Forcing gates that travel through 360 degrees with ratchet systems that prevent them being pushed back onto the handler provide a safe way to move cattlein the forcing pen. [4] [4] *ACC CoverPlus. Better Yard Design. 1999*
Races	
Races that are too wide, allow small cattle to turn around or all cattle to put their heads down beside the animal ahead, or drop their heads. This can make drenching difficult. 	The race length will reflect the number of cattle being handled - about 1,600mm per adult beast. The width and height will depend upon the breed and class of cattle being handled - width between 660mm and 710mm of clear space. The race should lead to scales and crush that are in a straight line so that cattle are invited to the non-threatening view through the head-bail. Boarding up the walls of the race to block out distractions focuses the attention of the animal to the only way out - through the scales and crush.

Hazards and Risks	Risk Controls
Gates	
Poorly hung / designed gates and latches can make cattle work more difficult and pose an increased risk of injury to the handler. 	Gates should swing freely and the top gudgeon should be reversed to prevent gates being lifted off. Slam shut and self latching gates are preferable. Chains and closing latches by hand are hazardous as a beast may reverse and push back on the gate injuring the handler.
Access and Escape Ways	
Serious injury and deaths have occurred where there has been no escape for the handler from cattle in the drafting pound and forcing pen. 	Escapeways built into the pound and forcing pen allow for easy access of the handler to and from these areas. 
Crush	
Using head bails while treating animals or other husbandry activity will reduce the risk of injury. The main risk is being hit or crushed by the bar which goes across the crush at the back of the animal. Head bails where the locking devices are shut by hand rather than automatically, increases the risk of injury.	Cattle crushes should be designed properly restrain cattle to reduce injury risk to beast and handler. Check and test catching mechanism each day before cattle are handled.

Hazards and Risks	Risk Controls

Selection of a Safe Cattle Crush

First and foremost, a cattle crush must be able to do the job and do it safely.

A cattle crush can be assessed on its major features of:

- ☐ Versatility (how many different jobs can be performed using the crush - this will depend on access to the head, side and rear of the beast).
- ☐ Suitability for such jobs as dehorning, pregnancy testing, artificial insemination, stripping out and mouthing.
- ☐ Durability.
- ☐ Safety for handler.
- ☐ Price.
- ☐ Serviceability (how easy it is to maintain).

The following checklists will be helpful in assessing over-all performance:

Stock Movement

- ☐ The beast can see well ahead.
- ☐ There are no distractions to forward movement.
- ☐ There is no undue noise (greater with metal floor).
- ☐ There are no odd shadows or light patches.

Handler Access

- ☐ The baulk gate folds back out of the way.
- ☐ There is a vet gate.
- ☐ There is a split vet gate.
- ☐ There are split side gates.
- ☐ There is good head clearance.
- ☐ The facility give good handler access.

Stock Safety

- ☐ There are no obstructions.
- ☐ There is no risk of choking.
- ☐ There is no risk of leg damage.
- ☐ Flooring is non-slip
- ☐ The head bail has a solid yoke.

Handler Safety

- ☐ The baulk gate will not jam fingers.
- ☐ The yards are free of protruding obstacles.
- ☐ There are slam-latches on gates.
- ☐ The crush is secured to the ground.
- ☐ Head clearance for operators is adequate.
- ☐ Loud noise levels are controlled.
- ☐ Escape routes are adequate.
- ☐ Gates operate easily.
- ☐ Risk of being kicked is controlled.
- ☐ The rear kick gate has a kick-shut latch.

Hazards and Risks	Risk Controls
Stock Control	**Handler Operation**
☐ Baulk gate stops animals from going underneath. ☐ Baulk gate rail spacings are adequate. ☐ Degree of head control is adequate. ☐ There is an adjustment method for different classes of stock. ☐ There is a split Vet Gate. ☐ Latches operate easily. ☐ There are slam-latch gates. ☐ There are split side gates. ☐ There are positive gate latches. ☐ There is a squeeze. ☐ The crush unit is secured to the ground. ☐ Stock cannot baulk or turn back. ☐ Stock cannot rush through. ☐ Moving parts are physically easy to operate. ☐ The unit is secured to the ground. ☐ Stock cannot baulk or turn back. ☐ Stock cannot rush through .	☐ Baulk gate is simple and easy to latch. ☐ Head bail is easy to operate. ☐ Head bail has front / back operation. ☐ There is a simple adjustment method for different classes of stock. ☐ There is a simple to operate squeeze mechanism. ☐ Latches operate easily. ☐ Latches lock securely without undue time / effort. ☐ Levers should be of ‘break-away type” mechanisms to prevent facial injury. ☐ Rear gate features smoothness of ride. ☐ Moving parts are physically easy to operate.

Hazards and Risks	Risk Controls
Loading Ramps	
Poorly designed loading ramps can increase difficulty in handling and increase risk of injury to cattle handlers. 	Cattle will move up an incline of around 20 degrees, and the ramp slope should not exceed this. The ramp width should be around 800-900 mm. A V-shaped section will prevent smaller animals from turning around and enable safe access to a fallen beast. The ramp should have solid walls and cattle should be able to see a clear exit at the end of the ramp. The floor should be constructed with non-slip material that does not 'resonate' or create undue noise. There should be no space between the ramp and the back of the truck. A catwalk and handrail will assist handlers to move cattle and enhance safety. Lighting is important and loading facilities should be designed so that shadows are not cast across races and ramps. Ramps should be aligned north-south to avoid loading into the sun. Light should not shine into the eyes of cattle.
Catwalks	
Catwalks provide a safer means of undertaking cattle work such as drenching and vaccinating over the wall of the race. They also provide a safer system of moving cattle along the forcing pen and race. 	Steps and handrails will reduce risk of falls from the catwalk. Catwalks should be installed along the forcing pens, race and loading ramp. They should be at about buckle-height, be of sturdy construction and be wide enough to walk along freely and comfortably. It is important that the height is adequate to allow safe access to the cattle, without risk of falling onto the top of the animals. The surface should be non-slip e.g. using chicken wire or other grating fastened securely to the surface.

Hazards and Risks	Risk Controls
Amenities	
Lack of clean and accessible toilet and washing facilities puts the health of workers at risk. Lack of clean and adequate rest and eating facilities for use during work breaks reduces productivity and increases risk of ill health.	Washing and toilet facilities should be provided and be reasonably accessible from the work areas. These should be clean, private, secure and properly maintained. An eating and mess area should be provided that is separate from the work areas. Hand washing facilities should be close to the eating area.

Things you could do immediately to improve safety

You rarely have the opportunity to re-build your cattle yards from scratch, but here are a number of ideas provided by the Accident Compensation Corporation of New Zealand (ACC) that you could put in place almost immediately to improve safety.[5]

- ☐ Replace or re-hang gates so that they swing freely. Reverse the top gudgeon to prevent them being lifted off.
- ☐ Build catwalks on forcing pens, races and loading ramps.
- ☐ Cover catwalks securely with non-slip material.
- ☐ Build in access-ways, especially between forcing pen and work area.
- ☐ Make the race gate self-closing, install self-closing latches and a tail bar.
- ☐ Board up forcing pen at both sides of race mouth.
- ☐ Board out corners in yards.
- ☐ Put shelter over the working area.
- ☐ Put a roof over the working area.
- ☐ Divide large, square yards into smaller narrower ones.
- ☐ Divide a long race by installing gates.
- ☐ Concrete the race and forcing pen.
- ☐ Install a head-bail and crush, reposition to give a clear view ahead.
- ☐ Put a water trough in the yard.
- ☐ Reposition the entrance yard at right angles to the fence-line, up-hill or on level ground so cattle aren't moving into the sun as they enter the yards.
- ☐ Keep up minor maintenance.
- ☐ Nails should be hammered home and flattened off.
- ☐ Bolts that are too long should also be sawn down.
- ☐ Loose timbers on catwalks or rails should be fastened.
- ☐ The head-bail should be kept lubricated.
- ☐ Gates should be kept well-oiled and free-swinging.

[5] *ACC CoverPlus /Better Yard Design. ACC 663 Nov 99 0-478-10884-2 New Zealand*

Traffic Flow, Access and Movement around Cattle Yards

The safety of all people should be considered in planning and organizing for flow of traffic such as cattle trucks, other vehicles, cattle movement and people. The controller of the workplace is responsible for the safety of visitors and contractors under State WHS Acts and Regulations.

Hazards and Risks	Risk Controls
Workers and Visitors	
Workers and visitors to cattle yards, including transport operators, veterinarians and contractors, are at risk of injury if road access and visibility is poor. There is risk of collision with other vehicles, cattle flow or people. 	Access to the cattle yard area for all workers and visitors should be clearly defined and separated from vehicular traffic and cattle movement. It should be safe and free from slip, trip and fall hazards. Traffic around cattle yards must be controlled and vehicle operators / pedestrians should be clearly visible to each other to avoid collision. Speed limits should be set and signposted for traffic in the vicinity of the cattle yard area.
Visitors to the farm who are not aware of traffic hazards may pose risk to others as drivers or be at risk as pedestrians.	Visitors to the farm should be directed to the farm house or office, with clearly marked signs.

Working with Cattle

Hazards associated with cattle handling occur because of their size, speed and potential aggression. The life threatening hazards are associated with kicks and charging. Inadvertent crushing of a person against the side of a yard is also not uncommon. Associated hazards such as quads, horses and motorcycles used for mustering also contribute to the hazards from cattle. All cattle handlers should be trained and have the necessary skills to handle cattle safely.

Hazards and Risks	Risk Controls
General Principles of Safe Cattle Handling	
Where handlers are unaware of the principles of cattle movement such as flight distance and point of balance, the risk is increased because as animals move in an unexpected direction, injury risk is increased. Cattle that are overexcited or alarmed pose a greater handling risk. 	An understanding of the principles of animal behaviour gained through experience and training will help predict the way an animal will behave in any given situation. It is one of the most important controls to reduce injury. Handlers should use low-stress stock handling methods aiming to keep cattle calm and noise levels down in yards. The handler needs to look for signs of fear or aggression. These are indicated by the position of the head, tail, the ears and the nostrils, rolling eyes, pawing at the ground and snorting. The trained handler can spot differences in mood and behaviour quickly and turn this to his or her advantage. Animals are handled more efficiently when their levels of stimulation are appropriate for the task. For instance, when moving lead animals through gates, levels of stimulation need to be slightly raised - this may be achieved through the appropriate use of noise or other prompting methods. Once confined, stimulation levels need to be low so that stress is low for both handler and animals. The most effective way of maintaining appropriate levels is to keep the work environment quiet. Loud voices and gates that bang loudly disturb stock. Stock respond well to routine. Always bring in and let out stock in the same manner. Avoid handling cattle when tired as lack of concentration on the task will increase the risk of injury.

Four important tips for successful and safe cattle control[6]

1. Check the yards before working them

Before setting out the yards and races should be checked, obstacles and hazards for cattle and handlers removed, head-bail and gates checked and adjusted.

2. Keep cattle calm

Learn when it's best to back off and let things settle down - hard sometimes when the handler is impatient to get the job done!

3. Keep an eye on what is happening around you

Keep looking around so you know what the other cattle are doing. Incidents happen when the handler loses track of what others are doing.

4. Use your voice

Good stock handlers use their voice constantly in different ways - to soothe and calm, to assert authority and to let cattle know where the handler is. This is important in light of their different vision from humans.

[6] *ACC CoverPlus /Better Cattle Handling ACC 664 Nov 99 0-478-10883-4 New Zealand*

Hazards and Risks	Risk Controls
Cattle Gender, Breed and Temperament	
Cattle that have only been handled in yards only rarely pose greater risk of injury to the handler.	Selection and breeding for better temprement can reduce the risk of injury to stock handlers.
Cattle can often be harder to handle singularly or in small mobs.	While *elimination* of all cattle hazards is usually not an option, using artificial insemination and reducing bull numbers would be an example of hazard elimination.
Handling bulls, of any breed or temperament, always carries a significant risk. Horned bulls are more capable of causing serious injury.	Selling off horned animals or stock that are consistently difficult to handle is another example of elimination.
People who try to intercede between fighting bulls are likely to be injured.	Selecting against those animals that are difficult to handle even after consistent handling is a way of *substitution* of more docile animals for flighty or aggressive animals.
Cattle breeds and types vary in their aggression and intelligence levels. It is advisable to spend the time to get to know each herd as you work with them and to understand the general traits of British, European, Zebu breeds and their crosses.	Regular handling of young animals is essential.
Cows with young react instinctively when defending their calves from potential danger.	This handling can take place after birth, after weaning or/ and during feeding.
They therefore pose a greater risk than those without young, especially if they are separated from their calves.	Calves and weaners which have pleasant experiences during this handling will be calmer and easier to handle later.

Hazards and Risks	Risk Controls
	These handling experiences can include walking amongst stock while in the yards or riding between them out in the paddock to accustom them to the human presence. Working them through races and teaching them to follow a lead horseman will be helpful in later stages. Bulls must be handled with caution. Mothers of newborn and other young need to be approached with caution. They may be easily enraged. Cows separated from their calves deliberately such as at weaning time or accidentally also need to be approached with care.
Mustering	
Using a horse or motorcycle for mustering cattle carries less risk of fatal injury than a quad. Mustering by quad or motorcycle is not recommended for working with bulls. Many deaths are associated with mustering and using quads, specifically in rollover events. Using dogs and stock whips is not recommended for cows with calves due to their high anxiety levels. Mustering where the route has not been well established carries a greater risk due to potential delays and stock breakaways.	Select the safest machine for the job - bull catcher, side-by-side vehicle, motorbike, quad, utility or helicopter. This is the first essential consideration. Skills and safety induction including quad, motorcycle and horse handling (as relevant to the circumstances). All quads should be fitted with a Crush Protection Device (CPD). Helmets should be supplied and worn during mustering when using quads, motorcycles or horses. Smooth soled footwear is required for riding horses safely. Mustering needs to be planned to take account of the time of day, weather and location of water. Adequate time should be allowed. Mustering is best in the early morning or late afternoon when temperatures are cooler and after cattle have had a long grazing period. Stock that are rushed will be stressed and injury is more likely. Use laneways where possible.

Hazards and Risks	Risk Controls
Moving and Drafting Cattle	
Handling cattle in yards as soon as they are yarded increases the risk of injury due to their high arousal level. Where cattle are handled in herds that are too big for the number or skill of the handlers, or too small to allow for herding instinct, they may be difficult to handle and the risk of injury to animal and handler increases. Inadequate numbers of people to handle cattle increases the risk of injury. Lifting and carrying calves without using correct manual handling techniques increases the risk of injury.	Cattle should optimally be allowed to settle in yards before undertaking further work - give them 30 minutes or so. Cattle herd size should suit the size of the yards. Dogs should be kept out of cattle yards as they over-excite cattle which are then more likely to charge or kick. No more cattle should be put in the drafting yard than can be handled efficiently and safely.
Handling in Forcing Pens and Races	
Poor race design such as those that are too wide or narrow means the handler is intervening more often which increases the likelihood of injury. Handling cattle through the rails increases the likelihood of crushing of hands or arms. Where mesh is present, the risk of injury is a lot greater.	Work should be undertaken with a partner where possible. The forcing pen should not be overfilled, and the race should be packed as tight as possible to prevent cattle moving back and forth. Work should be undertaken from the outside of the forcing pen and race, on a catwalk if possible. To get cattle to move forward in the race, the handler should walk along the catwalk from the front of the race to the back. Arms, head or legs should not be put through the race walls - reversing cattle may not see you and / or not be able to stop.
Using the Crush and Head Bail	
The main hazards are presented by poorly designed / maintained equipment such as head bail handles that cannot be articulated and ratchet mechanisms that don't hold. Having to push up and catch with the head bail can lead to animals getting their shoulders through the bail and the stock person being injured by the lever / handle. Handling bulls is a major risk. In some cases bulls will not fit in a head bail, so work such as replacing lost NLIS tags is highly problematic.	Work should be undertaken from the outside of the crush. When using restraints on an animal, smooth, steady movements should be used to keep the animal calm and only enough pressure applied to hold the animal snugly. Handlers should stand to the side of the lever, not the end. Keep it at arm's length in case it jerks upwards. There is no one-size fits all solution for this issue. Examine your facilities to work out the safest option to complete the work. Take extreme caution in these situations.

Hazards and Risks	Risk Controls
Drenching	
Cattle that have a bad experience while undergoing veterinary practices such as drenching or vaccination will place the handler at higher risk of injury during subsequent tasks. Drenching methods that involve handling the animals head and mouth increase the risk of injury to the operator due to the animal tossing its head. Drenching or other procedures without the useful restraint of a head bail increases the risk of injury.	Use of pour-on drenches should be safer for the handler than drenching cattle using the head-bail. The principle is to make the experience as stress-free as possible for the cattle, so that they don't resist next time.
Injecting and Vaccinating Cattle	
Vaccinating places the handler at risk of crush injury and needle-stick injury. 	Cattle should be suitably restrained. Consider using self-sheathing syringes to reduce needle stick injury. Safety instructions on the vaccination label should be adhered to rigorously. Sharps disposal (needles and syringes) must be in accordance with contaminated waste requirements.
Branding, Dehorning and Marking	
Each of these tasks poses specific injury risks to the operator. Cattle that have been subject to these procedures will pose higher risk on release, if the exit is not clear.	These tasks should be undertaken with the beast securely restrained. These tasks should not be undertaken by a sole worker. Operators should stand clear when the animal exits the head-bail or restraint.
Veterinary Procedures	
Artificial insemination involves liquid nitrogen which carries the risk of burns to the face, hands and arms, particularly if gloves and goggles are not worn. Pregnancy testing, mating and calving carry the risk of zoonotic disease, particularly if adequate hygiene measures are not taken. During these procedures, the risk of kicks or crushing is also increased. Assisting calving is likely to result in manual handling injury if the correct technique and mechanical aids are not used.	Plastic/rubber gloves should be worn where there is contact with body fluids. Strict hand washing is essential to reduce the risk of infection in the animal and transmission of zoonotic disease to the worker. All people handling cattle should be vaccinated against Q Fever. Veterinary drugs and sharps disposal (needles and syringes) must be in accordance with contaminated waste requirements.

Hazards and Risks	Risk Controls
Loading and Unloading Cattle	
Where the footing is very uneven or does not provide a good grip, the risk of injury is higher for animals and their handlers. The risk of injury is increased where the loading race is not designed with a V-shaped section to prevent animals turning around and enable any fallen animals to be righted without getting into the race. Sides which animals can see through discourage a free flow of cattle and, therefore, increase the risk.	Handlers should use all available gates and hock bars to stop cattle reversing. The handler should walk down the ramp or catwalk to encourage cattle to go up, and vice versa. Cattle should be given time to unload - they will follow each other. Refer to the Australian Livestock & Rural Transport Association Guide.
Personal Protective Equipment	
Handlers are exposed to risk of foot injury from being trodden on by cattle, sunburn and skin cancer by work in the outdoors. Head injury is a risk associated with quads, motorcycles and horses. Those operators handling pesticides are at risk of exposure to chemicals. Dusts may cause eye problems in some conditions.	Where there is an increased risk of foot injury, handlers should be provided with reinforced capped boots and be supervised to adhere to rules regarding wearing suitable hats and using sun screen. Well-fitting riding helmets should be worn by each rider. Protective gloves, aprons, masks and overalls may be required for use of some pesticides. Safety glasses may be preferable to sunglasses under some dusty conditions.
Clothing	
Wearing loose clothing and inappropriate footwear increases the risk of injury. Loose clothing can catch on protruding nails and broken rails.	Clothing worn should be appropriate for the job tasks and include suitable footwear which covers the whole foot.

Handling Chemicals

Hazards and Risks	Risk Controls
Vaccination for Q Fever	
Q Fever is a risk for cattle handlers in most parts of Australia. Workers new to the industry are at special risk of contracting the infection.	Q Fever vaccination is available through Health Departments in each State, and should be made available to all cattle handlers, in particular, to workers not previously exposed to working with cattle.
Parasite Control	
Control of parasites may involve handling of chemicals that are hazardous to human health. Exposure to chemicals may occur by skin contact, by breathing in fumes, or from ingestion on contaminated hands or other articles such as cigarettes.	Hand guns to apply parasiticides should be in good condition. Make sure they don't leak. Storage of chemicals should be secure and inaccessible to children and visitors to the workplace. Hand washing and emergency wash down facilities should be accessible to operators handling pesticides and farm chemicals.
Hormonal Drug Treatments	
Hormonal drug treatments used in AI programs may be hazardous to handlers. Prostaglandins will adversely affect asthmatics and pregnant women.	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 and waterproof clothing. State WHS Regulations require that a record is kept for all hazardous chemicals stored and/or use in the workplace. Ensure that Safety Data Sheets are available for workers handling chemicals.

People at Special Risk

Hazards and Risks	Risk Controls
Children and Visitors	
Children are at special risk of injury in cattle yards. Farmers have responsibility to protect the safety of other visitors to the farm workplace.	Young children must be physically separated from cattle, particularly cows with calves. Visitors should not be allowed in cattle yards when working with cattle unless they are trained and supervised to ensure their safety. If older children have been taught the principles of animal handling, they need to be fully supervised while undertaking animal handling tasks.
Contractors	
PCBUs (employers) have responsibility to provide a safe workplace for all workers (including contractors) who enter the farm workplace.	Contractors including transport operators and veterinarians should be inducted into the safety systems and rules of the cattle enterprise and be made aware of their safety obligations.
Older Farmers	
Older farmers handling cattle, although they may be more skilled, are likely to be less agile and at greater risk of suffering injury. Furthermore, older farmers if they fall, are more likely to suffer a fracture than younger people.	Older people will recognise that they are less agile than young people and should take appropriate steps to reduce risk: Avoid working inside yards, forcing pens and races - work only from outside the yard if practical. Older farmers should use younger people to handle cattle (workers i.e. employees or contractors) - ensuring that they have the necessary skills to work safely and effectively.

Emergency Preparedness

All cattle properties must be ready for emergencies and have an emergency plan. Being well prepared with an emergency plan, people trained to provide First Aid, first aid equipment will ensure that injury is minimised when a serious incident happens.

- There should be a plan where all workers can participate in the identification of hazards should be adopted.
- Workers should know how to report hazards to the owner/ manager. This will reduce the risk of injury to all workers when action is taken to control identified hazards.
- Emergency plans and procedures should be prepared and communicated to all workers.
- Emergency plans should include plans for dealing with injury, poisoning, fire, explosion, 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, police and emergency services should be included in plans and induction.
- Communication systems should be in place (UHF radios, mobile phones etc) to ensure that all workers are in contact with others on the farm and that Emergency Services can be notified immediately.
- The property address should be signposted in accordance with Emergency Service and Rural Addressing requirements.

Hazards and Risks	Risk Controls
First Aid	
Providing appropriate First Aid and facilities is a key responsibility of the owner/ manager. The influence on the ability of workers to complete their work safely and effectively cannot be underestimated. The responsibility for a First Aid kit to be located on the farm rests with the owner and/or manager. The First Aid kit should be stocked to reflect the types of potential injury, checked and restocked regularly.	It is recommended that at least one person working on the farm is appropriately trained to provide First Aid, including Cardio Pulmonary Resuscitation (CPR) and Expired Air Resuscitation (EAR). Have a Fist Aid kit nearby when working in cattle yards.
Fire	
Work areas should be kept clear of flammable materials and the area around kept cleared. Fire extinguishers should be available where fire is a hazard.	All workers should be aware of and trained in emergency fire procedures.

WHS Policies and Practices

Induction for new workers

A safety induction form provides workers with a proposed approach to safety induction for new workers.

It should be noted:

1. 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.
2. Specific safety induction and safe work methods statements are needed for the specific jobs that workers will undertake. They will be required for:
    - Mustering
    - Working in cattle yards
    - Loading / unloading cattle
    - Fencing
    - Maintenance work

Managing Cattle Production Safety - Hazard checklist and business plan

Cattle producers can obtain a copy of the Managing Cattle Production Safety kit through Farmsafe Australia, or can download a copy on the Farmsafe Australia website www.farmsafe.org.au.

Managing Farm Safety | Cattle Handling | Hazard Checklist

PROPERTY NAME & ADDRESS:

PHONE: FAX:

COMPLETED BY: DATE:

ALL ITEMS NEEDING ATTENTION MUST BE ACTIONED AND RESOLVED

Hazards	OK	Needs Attention	Notes

Acknowledgements

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1. The members of the Reference Committee of the Work Health and Safety in Beef Production project (2015) and the producers that have generously provided comment and guidance.

2. The initial Health and Safety in the Beef Cattle Industry Reference Group (2005), whose members originally commissioned and made contribution to this Guideline.

3. Farmsafe Queensland Cattle Yards Checklist.

4. Accident Rehabilitation and Compensation Insurance Commission New Zealand:

5. Better Yard Design (1999)

6. Better Cattle Handling (1999)

7. The document produced by WorkSafe Victoria (2001) *Health and Safety in Shearing*, has provided relevant information that has been used with appropriate modification for this Guide.

8. Feedback from many producers over an extended period.

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Further Information and Contacts

State/ Territory Health and Safety Authorities

New South Wales

SafeWork NSW
Email: contact@workcover.nsw.gov.au
Phone: 13 10 50
www.safework.nsw.gov.au

Victoria

WorkSafe Victoria
Email: info@worksafe.vic.gov.au
Ph: 1800 136 089
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South Australia

SafeWork SA
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Northern Territory WorkSafe
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WorkSafe WA
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www.commerce.wa.gov.au/WorkSafe

Queensland

WorkCover Queensland
Ph: 1300 362 128
www.worksafe.qld.gov.au

National Contacts

Safe Work Australia

Ph: 1300 551 832
www.safeworkaustralia.gov.au

Farmsafe Australia

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

Standards Australia

Ph: 1800 035 822
www.standards.com.au

Australian Centre for Agricultural Health and Safety

Ph: 02 6752 8210
www.aghealh.org.au

Your local veterinarian, Department of Agriculture or Stock and Station Agent may also be good sources of information for health and safety and animal related problems.

AUSTRALIAN CENTRE FOR AGRICULTURAL HEALTH AND SAFETY