- Appendix A Fatal Incidents in Agriculture, Engineering Unit, August 2020
 Appendix B Prevention First Agriculture Fatalities, November 2020
- Appendix C Agriculture Strategy 2020-23
- Appendix D Agriculture Program Plan 2020-23



WorkSafe Victoria

Fatal Incidents in Agriculture.

Engineering Unit August 2020



The Statistics



Confirmed Fatalities



Data Range: 1 January 2010 to 18 June 2020, as at 19 June 2020

More analysis needed.

80 fatalities in the Agriculture sector.

Basic scan of the information:

Fatal Incidents in Agriculturel August 2020

18 of the 80 (22.5%) fatalities involved either

- i) someone being **ejected**, or
- ii) a person (sometimes appears to be the operator) being run over by the plant.



Example

Fatal Incidents in Agriculturel August 2020

44 year old male employee rolled tractor down an embankment.

72 year old male rolled a side by side and ejected from the vehicle.

73 year old male died when his **tractor ran over** him. It appears that the deceased has either **fallen from the moving tractor** or may have **started the tractor in gear** whilst still standing on the ground.

<u>3 year old boy</u> in a two seater (side by side) utility **overturned and ejected** both driver and passenger.







Hypothesis

Fatal Incidents in Agriculture | August 2020

The deceased were not in the protected operator area, or

There was **no system(s) that ensure they are within or remain within** the protective confines of the operator area whilst the vehicle is operating or in the throes of a serious incident such as a rollover.







Person not restraint



Person in vicinity



High risk of serious or fatal injuries



The Issue

Fatal Incidents in Agriculturel August 2020

- A ROPS alone will not provide full protection to the operator when there is a tractor overturn.
- A seat belt must be used in combination with the ROPS to provide the highest degree of safety.
- Without a seat belt, the operator will not be confined to the protective zone, and may be crushed by the tractor or even the ROPS itself.

Many seat belts are not interlocked, or sequentially interlocked. This does not ensure a seat belt is
used.



Without Seat Belts...

- You're thrown around inside the vehicle cabin
- You may hit the protective frame
- You can be thrown partially or completely out of the vehicle.
- You can be thrown against or through the **windscreen**.
- If you're thrown from the vehicle, there's a high risk that you'll be crushed between the vehicle and the ground.



Fatal Incidents in Agriculture | August 2020

The Issue

To be considered within scope of research on Safer Equipment



Powered Mobile Plant

- Modern plant have seat belts
- Existing older plant need upgrade.
- Some seat belts are interlocked (sufficiently?).
- Reluctance to use seat belt.



Side-By-Side



Preliminary insights:

- 1. Interlock only limit speed.
- 2. Solution could be bypassed by user.
- 3. Alternative to quadbikes.
- 4. Cinching



Potential solutions

To be considered within scope of research on Safer Equipment



Sequential Interlock Seat Belt



Seat pressure only

Seat belt switch only

Seat belt buckled prior to seat pressure

belt buckling

Seat pressure prior to seat





Sequential Interlock Seat Belt

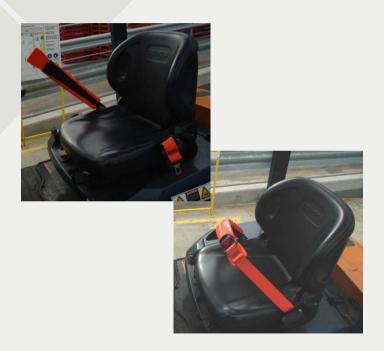


Preliminary insights:

- 1. Sequential interlocks supplied to Toyota (as well as others) for their forklifts.
- 2. They are able to work with companies to develop OEM solutions
- 3. Compatible with large type of vehicle.
- 4. Welcome farmers to contact them directly to address one-off issues.



Seat Belt Accessories



Preliminary insights:

- 1. Currently in use at prison farms and agricultural schools.
- 2. Address cinching with belt.
- 3. Built in wiring for interlocking.



The Legislation



OHS Act 2004

powered mobile plant means plant that is provided with some form of self-propulsion that is ordinarily under the direct control of an operator;



OHS Act 2004

30 Duties of suppliers of plant or substances

- (1) A person who supplies plant or a substance who knows, or ought reasonably to know, that the plant or substance is to be used at a workplace (whether by the person to whom it is supplied or anyone else) must—
 - (a) ensure, so far as is reasonably practicable, that it is safe and without risks to health if it is used for a purpose for which it was designed, manufactured or supplied; and
 - (b) give adequate information to each person to whom the supplier supplies the plant or substance concerning—

- (i) the purpose or purposes for which the plant or substance was designed, manufactured or supplied; and
- (ii) any conditions necessary to ensure that the plant or substance is safe and without risks to health if it is used for a purpose for which it was designed, manufactured or supplied; and
- (c) on request, give such information to a person who uses or is to use the plant or substance.

Penalty: 1800 penalty units for a natural person; 9000 penalty units for a body corporate.



OHS Regulation 2017

109 Powered mobile plant

- (1) An employer or self-employed person must, so far as is reasonably practicable, eliminate the following risks or, if it is not reasonably practicable to eliminate the risks, reduce them so far as is reasonably practicable—
 - (a) powered mobile plant overturning;
 - (b) objects falling on the operator of the powered mobile plant;
 - (c) the operator being ejected from the powered mobile plant;
 - (d) powered mobile plant colliding with pedestrians or other powered mobile plant.

- (2) The employer or self-employed person must ensure, so far as is reasonably practicable, that an appropriate combination of operator protective devices is provided, maintained and used to reduce so far as is reasonably practicable the risks to the operator set out in subregulation (1)(a), (b) and (c).
- (3) Subregulation (2) does not apply in relation to the fitting of roll-over protection on a tractor that conveys its power to the ground directly by wheels.

Note

See regulation 111.

(4) An employer or self-employed person must ensure, so far as is reasonably practicable, that no person, other than the operator, rides on powered mobile plant unless the person is afforded a level of protection from exposure to any risk that is equivalent to that provided to the operator.



The Guidance

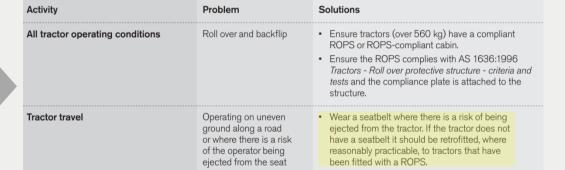


Hazards & Controls



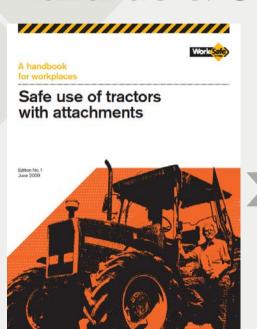
Safe use of tractors with attachments







Hazards & Controls





Activity	Problem	Solutions
People riding on attachments	Run over and other fall injuries	 Never ride on attachments, including carry-alls unless the attachment is specifically designed for people and this will not over-load the attachment. If the attachment is specifically designed to carry people as part of the operation (e.g. planting or vegetable harvesting), the attachment should provide protection from all hazards and in particular, the risk of falls, ejection and entanglement. A Front End Loader (FEL) bucket or attachment connected to the FEL linkages should not be used to lift people.
Getting on or off a moving tractor	Tractor runs over the operator	 Never get on or off a moving tractor. Never start or operate a tractor from the ground. Turn off the engine before dismounting. Even when dismounting to close or open a gate there is a risk of knocking the tractor into gear. Ensure the handbrake is always applied or park mode engaged. Maintain brakes to ensure they are effective for all terrain and strong enough to restrain the movement of the tractor should the tractor be knocked into gear. Steps, rails and guarding should ensure the operator steps off outside of the rear wheel track. When dismounting do not jump off the tractor. Always use the steps and handrails with three points of body contact.

Closing Thoughts



The potential inconvenience of these systems must be offset by the potential safety payoff they offer.

There must be a clear presumption in favour of safety over other considerations.





A joint initiative of







Prevention First – Agriculture fatalities

Dr Petra Bywood, Amanda Moo and Dr Janine McMillan

Introduction





- Work-related deaths in agriculture are a key concern for WorkSafe Victoria (WSV)
- In 2016, Australian agriculture represented <3% of the workforce, but 21% of work-related deaths²³
- January-June 2020, there were 33 deaths on Australian farms (10 in Victoria)¹
- 46% of farm deaths (over 18 months) were associated with quad bikes (22%), tractors (13%), Side-by-Side vehicles (8%) and motorbikes (3%)
- 89.3% deaths were males; >50% were aged over 50 years
- Quad bikes (also known as all-terrain vehicles) are used increasingly in modern farming
- Quad bikes have a narrow wheelbase and high centre of gravity – inherently unstable on uneven terrain



Objectives & method

Objectives

To identify initiatives to prevent fatalities related to use of farm vehicles

Method

- Rapid global desktop scan (Google, Google Scholar)
- Supplementary targeted scan on quad bikes with rollover protection and seatbelts

Inclusions

- All deaths related to use of farm vehicles quad bikes, tractors, Sideby-Side vehicles (SxS) - with focus on rollovers and run-overs
- All relevant interventions protective/safety equipment, behaviour change campaigns, programs, strategies, regulations
- Evaluation of initiatives and costs, where possible

Exclusions

Deaths from other causes (e.g. falls, poisoning, suicide)

Timeframe

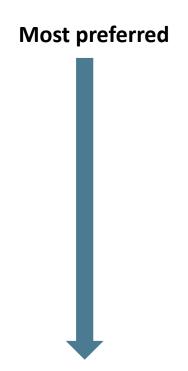
4-6 weeks duration

Protection devices on farm vehicles



- An Operator Protection Device (OPD) is a structure designed to form a protective space between the vehicle and the ground in the event of rollover, with the aim to prevent or reduce rider injuries incurred due to crushing or asphyxiation. OPDs can be installed on quad bikes.
- A Roll-Over Protective System (ROPS) generally incorporates an OPD with additional operator restraints, such as seatbelts, to ensure that the rider remains within the protective zone during the roll or crash event.⁶ ROPS are commonly used on heavy vehicles such as earth-moving equipment and **tractors**; and **side-by-side vehicles (SxS)**.

Hierarchy of control measures



Least preferred

Elimination: may not be feasible as farm vehicles are essential equipment

Substitution: use a more stable, less hazardous vehicle, such as a Side-by-Side vehicle

Engineering controls: any device or equipment installed on a farm vehicle to protect the driver/rider in the event of a rollover or run-over; including OPDs, ROPS and other devices

Administrative controls: training, incentives, regulations

Personal protective equipment (PPE): helmets

A strong safety culture in farming underpins all control measures

Elimination





- Drones are increasingly used in agriculture to map and monitor livestock or crops³
- Drones require less time, effort, manpower to complete tasks⁴
- Drones eliminate risk of accidents on farm vehicles; can be used in inaccessible or dangerous areas (e.g. steep terrain)
- Cost-effective: monitoring data collection is cheaper than satellite
- Easy to use: no license required; app-based software is easy to operate

- Initial outlay for drone is significantly higher than for a quad bike
- Weather and internet reliant
- Prone to damage from bird attacks
- Operator exposed to sun and stiff neck

Substitution





- Side-by-Side (SxS) vehicles are more stable vs quad bikes and recorded fewer farm workrelated deaths in Australia²
- SxS vehicles are more suitable and safer for carrying a passenger or loads (e.g. spray tanks) or towing loads
- SxS vehicles are fitted with ROPS (rollover protective structure and seatbelts)

Initial outlay for SxS vehicle is significantly higher than for quad bike

Engineering controls



Protective equipment on farm vehicles

- OPDs and seatbelts on quad bikes and SxS vehicles significantly reduce risk of death from rollover⁶
- Cut-off switch on new tractors is triggered when farmer gets off – to prevent run-overs⁷
- Safe tractor access platforms (STAPs): slip resistant platform with handholds prevents operator from standing between front and rear wheels – to prevent run-overs;¹¹ can be retro-fitted at reasonable cost; well-accepted by farmers when interviewed¹¹
- New equipment does not mean better safety as old tractors are still in use⁶
- Designs that add an extra step to a task may encourage farmers to bypass safety measures⁷

Engineering controls



Operator Protective Devices on tractors – Research evidence

- Tractor rollover fatalities decreased significantly by 7% pa in Australia (2000-2010) following promotion of OPDs. ¹³ However, since farmers voluntarily retrofitted tractors with OPDs before introduction of legislation, it was not clear whether the legislation reduced fatality rates.
- Analysis of tractor rollover fatalities in Italy showed that 72% were not equipped with ROPS; and 26% of these involved tractors where ROPS were removed or folded down.¹²

Engineering controls



Operator protective devices on quad bikes – Research evidence

- Independent research suggested that suitably tested and fitted OPDs significantly reduced fatalities related to quad bikes (and tractors) on farms.^{8, 9}
- NZ averages 7 deaths pa related to quad bikes (8-19% of all work-related fatalities).
 - Risk factors included driving backwards (2.5x risk vs driving forwards); carrying liquid load (3.9x higher risk); spraying (3.5x higher risk); early morning and late night collisions and rollovers more likely.
 - Preventive factors identified in analysis of quad bike accidents in NZ were: having formal training in use of quad bike; wearing helmet; good maintenance of vehicle; not having fluid load on a quad bike.¹⁴

Administrative controls



- Training, inductions in safe use of quad bikes and tractors (AgriFuture workshops)¹⁵
- Quad bikes: no children, no passengers, no towing, no carrying loads¹⁶
- Tractors: start only when driver is seated; turn off when getting off; no passengers
- Guarded power take-off shafts
- Rebate scheme for installing quad bike OPDs or switching to SxS vehicle – farmers generally positive about scheme¹⁷
- Farmers more likely to participate in rebate scheme if they believed OPD reduced risk of rollover fatality
- In contrast, views on 'Ban the Bar' website suggested OPDs may cause more injury/deaths; and insufficient evidence on effectiveness¹⁶



- Need to address inconsistencies in messaging about safety from credible sources¹⁷
- Need to engage farming community through consultation and outreach

Personal protective equipment (PPE)





 Wearing helmets on quad bikes and tractors significantly reduced risk of death or serious injury¹⁸ Helmets can be uncomfortable in hot environments

Farming culture



Difficulties in addressing safety

- Risk attitudes: accidents are inherent in farming; bad luck or lack of common sense⁷
- Fatigue leads to higher risk of accidents.¹⁹ In busy periods, farmers are sleep-deprived, leading to slowed reaction times, poor concentration, poor decision-making and physical illness; they push to 'get the job done'
- Time & money: investment in safety vs other needs¹
- Responsibility & liability: contractors take the risk; language barriers
- Intergenerational farming: always done things this way; lines blurred between work/home

- Frame the issue as farm economics
- Share learnings from 'near misses'
- Clear lines of responsibility
- Highlight safe practices vs replicating old practices¹

Economic analyses



In period 2012-2016, economic costs of farm deaths in Australia:⁸

- 61 tractor: mean cost/case = \$1,309,000
- 61 quad bike: mean cost/case = \$1,785,000
- 13 motorbike: mean cost/case = \$2,499,000
 - Younger age profile = more working lifetime lost

Economic analyses of initiatives:

- 124 Quad bike fatalities (Australia, 2001-2010)²⁰
- Retrofit ROPS (US):Total cost of injuries averted (2007-2017) = >\$US6M vs total cost of program \$US1.8M²¹
- Quadbar on quad bikes: estimated \$US3,943/quad bike benefit over purchase price: 8:1 ROI²²
- Economic efficiency of drones suggested

Human capital approach for quad bike deaths, Australia (2001-2010):

\$288.1 million \$2.3 million per death²⁰

Summary of evidence-based solutions⁸



Agent	Solutions	Potential deaths averted
Tractor – rollover	Tractor ROPS	21%
Tractor – run-over	Safe access stepsNo passengers	
Quad bikes	Crush protection (OPDs, ROPS)No children on quadsNo passengersHelmets	70%
Farm utilities	SeatbeltsNo persons in tray	46%
Motorcycles	• Helmets	19%

Supplementary targeted scan



Do OPDs combined with seat belts increase safety on farm vehicles?

Farm tractors



- Safety cabs where the driver is securely held inside the ROPS, have been found to be very effective in farm tractor rollover incidents.²⁴ For example:
 - US: more than an 80% reduction in fatalities and about 53% reduction in non-fatal injuries
 - Sweden: reduced deaths in rollover incidents by 99%
- US Occupational Safety and Health Administration (OSHA)
 regulation requires tractors to be equipped with OPDs and seat
 belts²⁹

Side-by-side vehicles



- A well-designed SxS with a ROPS and appropriate seatbelt restraint (3-point or harness) can provide good protection in rollover crashes
- Between 2009-2011, a high proportion of SxS crashes in newspaper reports in the Midwest/Great Plains region of the US documented injured victims being ejected and struck/pinned by the vehicle²⁷. Although the vehicles have ROPS, lack of safety belt use likely reduced their benefit

Quad bikes



- Safework Australia data shows 152 people have died from incidents involving quad bikes since 2011, including 23 children.
 - It is estimated that hundreds of people also present to hospital emergency departments each year as a result of quad bike related injuries.
 - There have already been 16 fatalities as of 12 October 2020, double last year's toll.
 - According to the Australian Competition and Consumer Commission (ACCC), about 60% of quad bike deaths are caused by the rollovers.
- Quad bikes are not fitted with occupant restraints to allow active riding, which is a technique that uses rider's shifting body weight to maintain machine stability. Similar to motorcycle riders, quad bike riders use active riding styles in maneuvers such as turning, negotiating hills, and crossing obstacles²⁸.
- OPDs are generally retrofitted on quad bikes in Australia.

Manufacturers are against putting OPDs on quad bikes



- Quad bike manufacturers are against OPDs because they claim²⁵:
 - OPDs raise the centre of gravity and reduce the stability of quad bikes.
 - OPDs increase the vehicle's height and cause it to fall with greater force,
 increasing the risk of crushing and coming to rest on top of the rider
 - Manufacturer-funded research suggested that OPDs on quad bikes were ineffective and contributed to fatalities.⁹
- Previous studies commissioned by the Federal Chamber of Automotive Industries (FCAI) and undertaken by Dynamic Research Inc. (DRI), an independent US firm, have shown no net safety benefit in fitting an OPD to a quad bike.

Manufacturers argue that it would be more effective to impose^{33,34}:

- mandatory wearing of safety gear such as helmets
- licensing of riders
- better training and education
- banning children under 16 from riding adult bikes

Reasons for fitting quad bikes with OPDs



- OPDs were found to potentially prevent serious injuries and death to quad bike riders as a result from overturns.
 - Based on limited experimental and simulation results, a 2012 ISCRR snapshot review concluded that OPDs showed the potential to reduce rider harm³¹.
 - QuadbarTM was found to be effective as an OPD for potentially preventing overturn-related injuries²⁸.
- University of New South Wales Transport and Road Safety Research Unit (UNSW TARS)²⁶ have carried out numerous studies, lab testing and a workplace survey over the years:
 - Found that in around half of the rollover cases, an OPD could have prevented death.
 - Overall sentiments from a 2017 survey report of quad bike fleet managers (N = 436 quad bikes where over 70% were fitted with OPDs) considered OPDs to be generally protective: OPDs prevented more serious injury from occurring and in one case it was claimed possibly a fatal injury.

Quad bikes with OPDs



- According to ACCC, there has not been a single reported fatality caused by an OPD in Australia since after-market OPDs were fitted to quad bikes in the last two decades.
- OPDs may contribute to injuries, however these will be minor in comparison to fatalities from asphyxiation and crushing³⁵.
- A 2020 paper²⁴ and UNSW Transport and Road Safety Research Unit²⁶ suggested that:
 - the negative impact of an OPD on a quad bike's lateral stability, as argued by manufacturers, could be effectively counteracted by increasing the quad bike's track width.
 - a lighter OPD had reduced impact on quad bike static stability compared to a heavy OPD.

What about quad bikes with OPD and seat belt?



- Studies on quad bikes with ROPS (OPD and seat belt) are limited, dated and lab- or simulationbased.
- The success of ROPS on tractors and SxS demonstrated the plausibility for fitting ROPS on quad bikes to protect riders in the event of an overturn.
- Monash University Accident Research Centre (MUARC) carried out a number of simulations with different scenarios in 2003 and found quad bikes with a ROPS reduced injury levels.
- If using a seat restraint, MUARC recommended that the most effective seatbelt system for rollover was a 4-point belt. The least effective was a lap belt (2-point)³⁰.



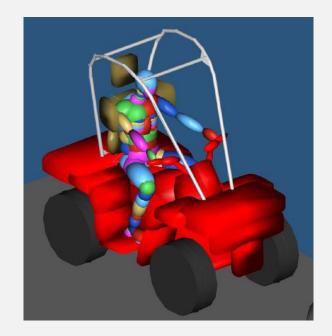
Roll-Over Protective System (ROPS) on quad bikes



Over the last thirty years, a few ROPS designs for quad bikes had been proposed by Dahle, Johnson and MUARC.

MUARC proposed that fundamental requirements for an effective ROPS required a combination of:

- A protective structure
- An effective occupant restraint system, comprising a suitable seat with back rest and side bolsters
- A 3-point or preferably a 4-point seatbelt system



Simulation model used by MUARC

New quad bike safety measures in Australia



All new and imported second hand quad bikes sold in Australia must now meet mandatory safety standards³²:

Stage 1: 11 October 2020

- Be tested for lateral static stability
- Display the angle at which the quad bike tips onto two wheels on a hang tag at the point of sale
- Carry a roll over warning label on the quad bike
- Owner's manual must also include rollover safety information.
- Must be fitted with a spark arrester and meet certain requirements of the quad bike safety standards. These relate to equipment such as brakes, clutch, throttle, tyres, drive train, handlebars and foot wells, maximum speed capabilities and the provision of safety information through warning labels and hang tags.

Stage 2: October 2021

 In addition to the above, fitting or integration of operator protection devices and minimum stability requirements will come into effect.

Three quad bike manufacturers have announced that they will be withdrawing from the Australian market, claiming they cannot meet the new mandatory safety standards³³.

Implications & considerations



- Independent research supports effectiveness of OPDs for reducing fatalities
- Effective ROPS includes combined protective structure and seatbelt
- Mixed messaging related to the use of OPDs on quad bikes – recognise influence of manufacturers
- Focus on safety training/induction for all workers using drones or farm vehicles
- Engage with farming community to address culture of safety on farms





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A joint initiative of







Disclaimer

This rapid Global Scan has been produced by ISCRR in response to specific questions from WorkSafe Victoria. The content of these slides does not involve an exhaustive analysis of all existing evidence in the relevant field, nor does it provide definitive answers to the issues it addresses. The findings were current at the time of publication, October 2020.

Thank you

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A good day is when people in the community really 'get it' - they are sharing ideas for how to work safely.

Michael, Senior WorkSafe Inspector.



Introduction

Farms are among the most dangerous workplaces in Victoria. The agriculture industry employs about 2% of the Victorian workforce whilst accounting for approximately 30% of workplace deaths across the state. The industry also records a significant number of serious injuries. This, together with the considerable risks that farmers and agricultural workers are exposed to, is why agriculture continues to be a high priority industry for WorkSafe.

We are taking a strategic approach to prevention across a number of key hazards and industries. This Agriculture Strategy 2020-23 (strategy) demonstrates and highlights our commitment to continue playing a leading role in preventing fatalities and reducing the incidence and severity of injury and illness, as well as promoting healthy and safe working environments for people working in the agriculture industry. This strategy supports our WorkSafe Corporate Plan to be a prevention-led and client-centric organisation with a focus on three key pillars of health and safety, recovery and value.

In recent years, we have collaborated with industry to improve health and safety across the sector through programmes, initiatives and regulation.

Despite these efforts there were five fatalities and almost 600 claims during the 2018-19 financial year. We believe that by working together with industry, health and safety representatives (HSRs), workers and their representative groups, and government agencies, improvements in health and safety outcomes that have a real impact, are achievable.

We will achieve improvements by implementing interventions aimed at reducing risks to health and safety and improving return to work outcomes:

- positively influence the agricultural sector to adopt mindsets, behaviours and practices that align with the belief that deaths and injuries are preventable
- influence and partner with relevant parties to align priorities, implement initiatives and promote healthy and safe practices in the industry
- co-design programs with stakeholders that improve state of knowledge in the industry and drive cultural change, ultimately reducing fatalities and injuries
- target compliance and enforcement activities to high risk areas and share learnings and consequences to achieve broader industry awareness and improvement in health and safety and return to work outcomes.

This strategy intends to drive improvement where it is needed most by focusing on the key issues contributing to fatalities and injuries.

We look forward to partnering with our stakeholders and the community to co-design and implement initiatives to achieve the desired outcomes.

Industry snapshot



Employs 2% of all working Victorians



95% of the industry are small businesses



Accounts for 32% of all fatalities in the past 10 years



75 lives lost in the past 10 years to 30 June 2019



Vehicles associated with 79% of fatalities (past 10 years)



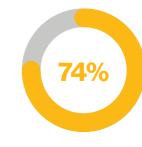
Sectors associated with livestock have the highest proportion of claims (76%)



Top causes of injury were materials and substances (22%) and animal, human and biological involvement (21%)



Average cost of claim is \$84k



74% of injured workers are back at work after 26 weeks, which is lower than the scheme average

Workforce snapshot



68% male*



32% female*



1.5% employment growth in the last five years*



-0.4% projected employment growth over five years (2018 - 23)*



37% are ownermanager of an enterprise"



11% from culturally and linguistically diverse (CALD) backgrounds"



5% lived overseas five years before**

The top five occupations

- 1 Livestock farmers
- 2 Crop farmers
- 3 Mixed crop and livestock farmers
- 4 Livestock farm workers
- 5 Crop farm workers

Farm deaths and injuries are preventable, not inevitable.

^{*}National data from Australian Bureau of Statistics (ABS) 2018

^{**}National data from Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) 2016

Industry challenges contributing to risk of fatalities and injuries

Nature of the work

- External factors, such as weather and fixed harvest seasons, can drive farmers to get the work done at any cost to protect produce and meet market needs. Productivity is often prioritised ahead of safety.
- The work can be heavy and repetitive and can involve hazardous manual handling, the use of powered mobile plant and attachments, and long hours spent working alone.
- Higher incidence of severe injuries has a negative impact on return to work outcomes.

Nature of the workplace

- · Workplaces are mostly (95%) small businesses, primarily family owned and operated. The family home is often on the same site, so children and visitors are frequently present.
- Farms typically don't have a conventional workplace structure. The director/manager is frequently also the owner/employer. Workers are often family members or employed as seasonal contractors or recruited as needed through labour hire organisations. The industry as a whole has low union representation.
- · Workplaces often lack suitable duties for return to work of injured workers.
- · External drivers including weather/environmental events and geographic isolation can be sources of stress.

Safety culture and mindset

- Implementing safety measures can be viewed as an additional cost, rather than an essential activity or something that may even aid or increase productivity.
- · In many rural communities, farm fatalities and serious injuries are part of the agricultural way of life.
- Recent research indicates:
- a common mindset is 'It won't happen to me'. 'I have been doing it for years', and 'We are in a good place when it comes to safety in Australia'
- the term 'safety' can have negative connotations impractical, authoritarian, bureaucratic, and costly
- there is often a patriarchal, masculine environment, where employees feel pressure to 'just get on with it' and don't speak up when safety is compromised1.

Worker demographics

- The industry has an ageing primary workforce, many work well beyond the traditional 'retirement age'.
- 11% (2016 data) of the workforce is from a CALD background, with some workers coming from countries where workplace safety is a lesser priority and different technology and equipment is used.
- Temporary workers are an important part of the workforce and are thought to be under-represented in official statistics. These include seasonal workers and workers travelling to Australia on short term visas, such as working holiday and 457 (skilled work) visas, those participating in the seasonal worker program. and those on bridging visas or who are undocumented.
- · Stakeholders report significant labour and skills shortages within the Australian job seeker pool.

Our goal and approach

The goal

To drive an industry wide cultural change that prioritises health and safety on agricultural properties and reduces fatalities and injuries.

Targeted approach

We will target high priority hazards and issues through this strategy. Initiatives will be developed in collaboration and consultation with key stakeholders.

Adopting a targeted approach will enable us to maximise impact with the finite resources available. Over time, as significant progress is made in the target areas, new priorities will be identified and addressed.

Through a prevention-led focus, we will continue to monitor all hazards and issues and may reprioritise work based on any significant emerging issues.

The focus areas have been informed by:

- data (fatalities, WorkSafe claims, inspection and return to work data, and hospital admissions data)
- · internal and external stakeholder insights and intelligence
- · workforce risk factors.

For the next three years, we will focus our efforts on the following hazards and worker cohorts:

plant

- vehicles have been involved in 79% of Victorian farm fatalities over the past 10 years
- of these vehicle fatalities, 53% involved tractors and 18% involved quad bikes or side-by-side vehicles.

- in addition to immediate risk (including dangerous goods incidents) there is a risk of development of occupational disease following long term exposure to certain chemicals

· interaction with livestock

- there have been seven fatalities involving interaction with animals in the past 10 years
- sectors associated with livestock have the highest proportion of claims (76%)
- feedback from industry stakeholders indicates that interaction with animals is a common cause of serious injury.

· vulnerable workers

- 11% of the workforce is from a CALD background
- temporary workers are an important part of the workforce
- feedback from industry stakeholders indicates significant under-reporting of incidents and a lack of knowledge regarding worker rights and responsibilities among this group.

Mental health and wellbeing

People living and working on farms experience a unique set of workplace-related challenges that can increase the risk of poor mental health. Good mental health supports people to thrive in their life, work and relationships with others. It is important to WorkSafe that mental health concerns and the scenarios that may generate mental health concerns on farms are addressed to ensure good mental health both in the workplace and at home.

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In the development of our strategy, key stakeholders identified mental health as being an issue for farmers, farm workers and their families. Stakeholders also recognised that WorkSafe has a broad range of activities and interventions in place to proactively promote positive mental health and the prevention of mental injury.

These interventions have been developed with, and are often delivered by, key agricultural industry stakeholders and other partner farm safety organisations and will work alongside this strategy to create safer farms.

To support farm mental health we:

- develop and provide farming-specific and general information and tools for employers to ensure mentally healthy workplaces
- fund industry partners to work with farmers to develop and deliver their own tailored programs to build mentally healthy workplaces
- promote mentally healthy workplaces through media and social media campaigns
- work across government and with many farming stakeholder organisations and mental health organisations to ensure knowledge sharing and coordinated, consistent approaches to improving mental health on farms.

To provid

WorkSafe Victoria's agriculture industry strategy

Purpose

To provide a holistic approach that drives positive change in Victoria's agriculture industry and reduces deaths and injuries.

Our vision is that Victorian workers return home safe every day. We will achieve this vision by working with Victorians to develop and implement a prevention-led program of work for the next three years. The agriculture program will seek to improve health and safety in the agriculture industry by targeting and influencing the traditional mindsets and workplace behaviours.

Strengthening workplace safety						
Vision	Victorian workers returning home safe every day					
Mission	Actively working with the community to deliver outstanding workplace safety and return to work, together with insurance protection					
Values	Connected	Dynamic		Persistent		
Goals	To embed in every workplace a proactive, prevention-led approach to health and safety across the state		To provide a personalised, tailored service for every Victorian who comes into contact with WorkSafe			

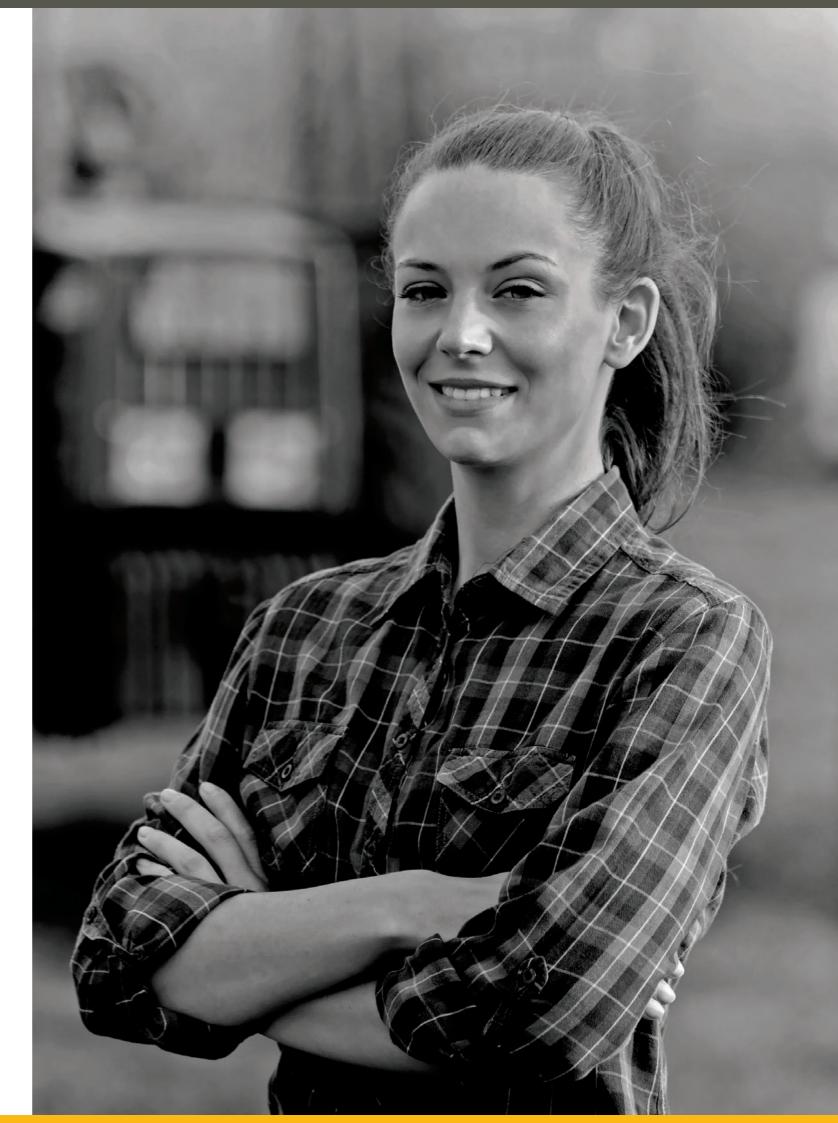
Strategic intent

The vision for this strategy is that rural communities adopt the mindset that farm deaths and injuries are preventable, not inevitable, and demonstrate this through behaviours and practices that reflect safety as a priority.

WorkSafe adopts a constructive compliance approach to prevention. This approach combines encouraging good practices using incentives, information and education, with deterring unacceptable performance through compliance and enforcement activity.

Our programs and initiatives must drive farmers/employers to understand that integrating safer ways of working into their operations can save lives and prevent injuries.

Agriculture strategy 2020-23				
Strategic pillars	Leadership and safety culture	Partnerships, engagement and influence	Compliance and enforcement	Education and awareness
Enabler	Evidence and data			



- Health and safety is prioritised by farmers/employers and seen as contributing to business operations.
- Workplaces share learnings with the industry to drive continuous occupational health and safety (OHS) and return to work improvement.

Why it matters

• Culture is critical to changing behaviours on agricultural properties.

Strategic goal

 The industry has adopted mindsets, behaviours and practices that reflect the mindset that deaths and injuries are preventable. Partnerships, engagement and influence

What this means

- This strategy and associated initiatives are co-designed and supported by industry stakeholders.
- We leverage existing partnerships and proactively engage new stakeholders to work together to drive improvement in the industry.
- We work with industry to engage and influence relevant government and oversight bodies to align priorities and drive health and safety and return to work improvement.

Why it matters

 Collaboration is necessary to ensure consistency in safety messaging and to maximise the efficient use of resources to achieve health and safety outcomes.

Strategic goal

 We have influenced and partnered with relevant parties to align priorities, implement initiatives and promote healthy and safe practices in the industry. **Education and awareness**

What this means

- We co-design programs and guidance to educate and support employers to meet their obligations and drive continuous OHS improvement.
- Examples of good practice and innovative safety products or initiatives are identified and promoted across the industry.
- Where relevant, programs and guidance are tailored to specific sectors and increase the state of knowledge in these sectors.

Why it matters

- Improving health and safety culture and performance requires not only compliance and enforcement but also programs that support employers through education and awareness.
- Improving the state of knowledge in the industry enables farmers/ employers to continuously improve and WorkSafe to regulate more effectively.
- Research suggests learning from peers is an effective strategy in this industry.
- Sharing and promoting best practice across the industry will drive improved health and safety outcomes.

Strategic goal

 Programs are co-designed with stakeholders that improve the state of knowledge in the industry, drive cultural change, reduce fatalities and injuries, and improve return to work outcomes.

Compliance and enforcement

What this means

- We use our regulatory levers, including inspector visits, notices, investigations and prosecutions, to ensure employers are meeting their health and safety and return to work obligations.
- Compliance and enforcement activities drive systemic improvement and commitment and investment in health and safety.

Why it matters

- We play an important role in deterrence through compliance and enforcement activity.
- Compliance and enforcement activities are vital to ensure farmers/employers understand the consequences of poor prevention and management of OHS and return to work risks and to drive systemic improvement in the industry.

Strategic goals

- Compliance and enforcement activities are targeted to the areas of highest risk and are strategically designed to drive systemic improvement at each workplace visited.
- Learnings and consequences from compliance and enforcement activities are shared across industry to achieve broader industry improvement.

Key enabler: evidence and data

What this means

- Leveraging data and predictive analytics to strategically inform where we focus our prevention-led initiatives.
- Data and trends are monitored to identify and respond to emerging issues.

Why it matters

 We must be able to demonstrate to ourselves and our stakeholders the rationale for our programs, initiatives and interventions and measure the outcomes.

Strategic goals

- Operational decisions, actions, and strategic initiatives are routinely informed by validated, empirical evidence and data.
- Data is used to support continuous improvement within programs.

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Strategic approach

The strategic approach outlines how we will achieve our goals.

Leadership and safety culture

- Raise awareness within agricultural communities that prioritising health and safety leads to fewer deaths and injuries and healthier communities.
- Facilitate opportunities for industry stakeholders to share information and promote adoption of health and safety and return to work practices.
- Identify levers to influence behaviour change around priority hazards.
- Adapt existing WorkSafe leadership and culture initiatives for the agriculture industry.

Partnerships, engagement and influence

- Develop a stakeholder engagement strategy that clearly identifies partnership and influencing opportunities, and the activities that will drive cultural change and health and safety improvement.
- Collaborate with Agriculture Victoria to support the election commitment 'Making our farms safer' and the Smarter Safer Farms program.
- Engage and influence relevant bodies to address systemic issues identified through programs and stakeholder feedback.
- Define target group/s of vulnerable workers to focus on, and identify and address the OHS issues most prevalent in this cohort.
- Partner with relevant bodies to identify the multiple factors that lead to deaths and serious injuries.
- Facilitate design thinkers and industry partners to develop and pilot design solutions to eliminate or reduce risk for priority hazards.

Education and awareness

- Develop targeted health and safety campaigns for priority hazards.
- Update and develop industry guidance material for priority hazards, tailored for sectors where appropriate.
- Identify and showcase workplaces demonstrating best practice health and safety and return to work across the industry.
- Engage relevant bodies to support consistent safety messaging to agricultural communities.

Compliance and

- Strategic inspector visits focus on the priority hazards.
- Develop a consistent approach to all inspector visits in the industry.
- Capture and communicate learnings from compliance and enforcement activities to inform both industry and WorkSafe activities.

Key enabler: evidence and data

Strategic milestones

- Key insights and intelligence gained from the analysis of agricultural industry data will underpin end-to-end planning and initiatives across our business.
- Identify and develop leading health and safety performance metrics to track progress and integrate into our existing governance and reporting frameworks.
- Identify and report on existing and emerging trends in the data and research.
- Use qualitative data to identify stories that support a more comprehensive understanding of safety in the industry and feed into education and awareness activities.
- Establish relationships with relevant organisations to facilitate the sharing of data and analysis.

Program development

We will work with stakeholders to identify, plan and implement integrated programs and initiatives to achieve the strategic goals outlined under each of the pillars.

Measuring success

We will work with industry stakeholders to identify key lead and lag measures and develop a monitoring and $evaluation\,plan\,to\,measure\,the\,cultural\,change\,and\,OHS$ and return to work improvement this strategy sets out to achieve. This will be finalised by May 2021.

Stakeholder contribution

We invited the following industry stakeholder groups to contribute to the development of this strategy and would like to thank those who provided valuable and constructive insights and feedback throughout the process:

- Agriculture Victoria
- · Australian Workers' Union
- · Country Women's Association of Victoria
- Dairy Australia
- Department of Health and Human Services
- Fruit Growers Victoria
- Livestock Rural Transport Association (Victoria)
- Monash University
- National Centre for Farmer Health
- Royal Children's Hospital
- State Agriculture Training Network
- Tractor and Machinery Association of Australia
- United Workers Union
- · Victorian Farmers Federation
- · Warakirri Asset Management.









WorkSafe Victoria

Agriculture Program Plan 2020-23



Agriculture Strategy 2020-23

The goal :

To drive an industry wide cultural change that prioritises health and safety on agricultural properties and reduces fatalities and injuries.

4 Focus areas:

- Plant
- Livestock
- Chemicals
- Vulnerable workers

>4 Pillars:

- Leadership and safety culture shared learnings
- Partnerships, engagement & influence working together
- Education & awareness communicating
- Compliance & enforcement targeted and communicated
- Key enablers: Evidence and data



Agriculture Strategy – Logic

- Equipment, materials and practices are safe
 - Safety of equipment, materials and practices is high and increases
 - High risk equipment, materials and practices are regulated or not available
- Farmers and workers are motivated to improve safety
 - Mindset for safety
 - Normalisation of safety behaviours
 - Compliance with the law and/or avoidance of prosecution
 - Workplace culture supports safety
- Farmers and workers are able to improve safety
 - Knowing the risks
 - Access to information on how to be safe
 - Having the money to implement changes



Agriculture Program Plan – Principles

- Better and different
 - Improvements and innovations will be necessary to change outcomes
- Focused
 - Concentrate on highest risks rather than trying to improve everything
- Collective impact
 - Interventions build on each other. Partners all working together
- Comprehensive
 - Focus areas, pillars and logic of the strategy are covered.
- Evidence-based and best practice
 - Strong rationale for decision-making and design. Pilots and trials to learn
- Practicality
 - Is it achievable? Are the risks manageable?
- > Impact
 - What difference will it make?



State-wide communications – two streams

- Using emotion to change mindset (eg. WSV culture change campaign)
- Consistent messaging and shared resources (eg. communication network)

Focus on fatalities / vulnerable workers / chemicals

- Multiple activities in a small number of locations based on highest risk (eg. Inspector blitz + Farm walks + Safety learning network + new guidances + local media campaign +)
- Fatalities in phase one, others mainly in later phases

Discovery phase projects

Strong concepts but require more investigation (eg. supply chain levers)

Partners' projects

 Aligned projects which we may be able to influence to have more impact on focus areas or from which we can learn (eg. Making our Farms Safer – Ag Vic/VFF online portal)



Networks

 Strengthen WSV connections with other agriculture safety organisations, industry organisations and academics

Still under consideration

Additional possible compliance and enforcement interventions (eg. legislation change)



STATE-WIDE COMMUNICATIONS

WSV culture change media campaign

WSV targeted communcations (inc social media)

Farm Safety Communication Network (inc linked web-sites)

Improve distribution models of guidances etc

Research - What motivates positive farm safety?

Research - Economic benefits of safety

FOCUS ON FATALITIES

Improved targeting of Inspector visits

Inspector "Safer town style" blitz

WSV Farm walks

Safety learning network pilot

Farm safety support group pilot

Support for existing bloggers/newsletters

Improved guidances (inc video guidances)

WSV Field days

Safety in whole farm planning

OHS Essentials to farmers

Nudge experiment

Theatrical education for safety pilot

Safer equipment

Research - Fatalities and related incident data deep dive

FOCUS ON VULNERABLE WORKERS

Inspector "Safer town style" blitz

Improved targeting of Inspector visits

Induction manual

Improved guidances (inc video guidances)

Translate guidances for CALD workers

Support for existing bloggers/newsletters

AWU Vulnerable workers program

Engage with Labour Hire Authority

WSV Farm walks

Safety in whole farm planning

OHS Essentials to farmers

Research - Improve understanding of vulnerable workers, support services, contact means, CALD requirements

FOCUS ON CHEMICALS

Inspector "Safer town style" blitz

WSV Farm walks

Improved guidances (inc video guidances)

Support for existing bloggers/newsletters

Safety in whole farm planning

OHS Essentials to farmers

Research - current and emerging issues



DISCOVERY PHASE PROJECTS

Org culture in ag business management training
Safety in Ag Rural Leadership Program
External incentives by suppliers
Increase visibility of safety practices

PARTNERS' PROJECTS

WorkWell Primary Producers Knowledge Network

Ag Vic MOFS - VFF Field days

Ag Vic MOFS - VFF Farm walks

Ag Vic MOFS - VFF Online platform

Ag Vic SSF - Consistent messaging project

Ag Vic SSF - Kidsafe child safety on farms

Ag Vic SSF - Gear Up for Ag

Ag Vic SSF - Farm Safety Rebate program

NETWORKS

Strengthening our connections - industry organisations

Strengthening our connections - safety organisations

Strengthening our connections - academics

