



Opportunities to influence safe use of mobile augers in agriculture



Snapshot report, May 2024

The case study identified off-farm interventions to help increase safe use of mobile augers on farm:

- Featuring appropriate guarding in the selection of new equipment at purchase.
- Having a third-party training tool for the sector that increases confidence in safe use on farm.
- Increasing awareness of hazards and their control in new and older mobile augers.

Mobile augers are commonly used in agriculture and are seen as the riskiest piece of equipment on the farm by many growers. This concern is well-founded with recent examples of both [entanglement](#) and [fatalities](#).

There is a significant body of knowledge about hazards relating to augers and controlling the risks on farm, integrated into resources such as [Farmsafe Australia's Toolbox Talks](#).

The aim of this case study was to conduct a scan of the whole safety system to identify whether there were also practical opportunities to boost the safe use of mobile augers through off farm interventions.

Method

A Rasmussen-inspired approach, developed as part of the RSHA04 mobile plant project, was used for the safety system scan.

The scope of the scan was mobile augers (including smaller pencil augers) as conveyer and fixed auger types, while more complex, are inherently safer.

The scan started by interviewing Wayner Baker, a subject matter expert and Chartered Professional Mechanical Engineer with decades of experience providing OHS advice to farms. From this, the RSHA Working Group identified key areas that emerged as points for influencing safety around augers.

Further information about the augers available in Australia and regulations around auger guarding was explored in a desk audit by the subject matter expert.

The RSHA04 Mobile Plant Working Group met to discuss the findings and their implications.



Points on mobile auger use in agriculture

Mobile augers are used in agriculture to deliver product or shift grains or pellets within a farm (for example moving the residual from a bin ready for refill).

The volumes and required lift heights vary between farms, and can be large scale for some. Mobile augers range from 8-30 metres in length and from a flow rate capable of shifting a few tonnes to 120 tonnes per hour.

Despite this range mobile augers are relatively uniform in their components and design. They are generally powered by a small petrol engine (mounted on the auger) or by a connection to the Power Take Off of the tractor. There is an exposed screw at the lower end which moves product up the shaft as it turns. The auger sits on two wheels located at the centre of gravity and can be collapsed for transport. Some newer models are self-propelled. Bigger mobile augers have different folding mechanisms.

Fatalities and major injuries are in the main due to the feed-in and flight (which have engineering controls that make things safer) as well as a couple of cases where augers have collapsed (which means the operator was in the danger zone).

The lifetime of a mobile auger is about 30 years. They are often used on farm until they become obsolete in terms of flow capacity or height, or they wear out. As with many types of machinery, risks to safety increase with age due to structural wear.

A new high lift, high capacity auger can cost over \$100,000 while small secondhand units in good condition might be around \$5,000.

Most people learn to use augers in the farm workplace. It is important that induction and supervision is appropriate to ensure people who work on farm understand the risks and those who use the equipment have the necessary skills.

Off farm components of the safety system

The Australian Standard for machinery guarding (AS4024) was designed around industrial machinery and does not provide the functionality needed for farm (grain cannot flow at a sufficient rate). An agricultural [Industry Safety Standard](#), where a two-guard system is used to reduce access, was negotiated in 2009 and became the accepted practice for the sector - and effective in reducing injuries.

However it is now uncertain to what extent the Industry Safety Standard is endorsed by the agricultural sector in 2024 or what the state and territory regulatory authorities enforce around auger guarding.

Auger suppliers and images with flighting guarding

Brand	Country of origin	Online images viewed with guarding
Brandt	Canada	YES
Convey-All	Canada, USA	n/a (conveyers)
Farm King / Buhler / Versatile	Canada, USA	NO
Meridian	Canada	YES
Westfield / AGI / Hutchinson / Wheatheart / Herberger	Canada, USA	YES
Auger Supplies WA	Australia (WA)	SOME
Aust-Mech Australian Conveyor Systems	Australia (Qld)	n/a (conveyers)
Commander Ag Quip	Australia (SA)	SOME*
Cowra Equip	Australia (Vic)	SOME*
Fast Flow Augers	Australia (NSW)	SOME*
Finch	Australia (Qld)	SOME*
Grainline	Australia (NSW)	YES
GrainRite	Australia (Vic)	SOME
Protector Grain Systems	Australia (WA)	YES
Venning	Australia (SA)	SOME*
Vic Silos	Australia (Vic)	NO
Walsh & Ford	Australia (Qld)	YES

* Pencil/smaller augers seemed to lack the secondary guard.

With considerable consolidation of agricultural machinery manufacturing in recent years, Australian distributors typically support 2-3 brands sourced from a handful of international companies (mainly Canada and the USA). The stock is reassembled by resellers at Australian facilities.

The desk top review established that it is possible to purchase new augers in Australia with guarding that meets the Industry Safety Standards, but it is not a requisite (see table). Furthermore, safety or safety features are not key design elements communicated within promotional material.

Design safety is guided by the general obligations that exist to duty holders under state, territory and commonwealth workplace safety laws.

Next steps for consideration

The RSHA Working Group identified opportunities to help control safety risks for augers on farm that could be supported through organisations such as Farmsafe Australia, the state and territory worksafe authorities, equipment manufacturers, and the RDCs.

Recommendations:

- Industry explores what regulators expect about mobile auger guarding.
- Industry connects with (1) the Tractor and Machinery Association of Australia and (2) Australian equipment suppliers about featuring Industry Safety Standard guarding (and safety more broadly) as a selling point.
- Farmsafe Australia and RDC: (1) encourage growers to consider safety features when selecting new equipment; and (2) target safety messaging around older equipment ('if it is in the workplace, it has to be safe'). For example encouraging retrofitting of guarding where indicated and increasing awareness of hazards associated with structural wear and tear.
- Industry arranges development of a training/ induction resource on safe design and use that can be delivered by suppliers, competent trainers on farm, or third party providers. Preferably with 'evidence of instruction' (important to have if things go wrong).

