

Agricultural Spraying

Business Name:		ABN:
Business Address:		
Contact Person:	Phone:	Email:

THIS RISK ASSESSMENT IS APPROVED BY THE PCBU ON THIS PROJECT

Under the Work Health and Safety Regulation (WHS Regulation), a person conducting a business or undertaking (PCBU) is required to ensure that a RISK ASSESSMENT is prepared before the proposed work starts.

Full Name:		
Signature:	Title:	Date:

CLIENT OR PRINCIPAL CONTRACTOR DETAILS

Client:	SCOPE OF WORKS
Project Name:	
Project Address:	
Project Manager:	
Contact Phone:	
Date Risk Assessment supplied to Project Manager:	



RISK MATRIX									
LIKELIHOOD	INSIGNIFICANT	MINOR	MODERATE	MAJOR	CATASTROPHIC	SCORE	ACTION	HIERARCHY OF CONTROLS	
ALMOST CERTAIN	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4 ACUTE			Elimination Remove the hazard.	
LIKELY	2 MODERATE	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4A ACUTE	DO NOT PROCEED	Substitution Replace the hazard.	
POSSIBLE	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	4 ACUTE	3H HIGH	Review before work starts.	Isolation Isolate People from the hazard	
UNLIKELY	1 LOW	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	2M MODERATE	Ensure control measures in place.	Engineering Isolate the hazard	
RARE	1 LOW	1 LOW	2 MODERATE	3 HIGH	3 HIGH	1L LOW	Monitor and keep records.	Administrative Change	
								PPE	

Risk Rating & Required Action:	
4A	Stop work. The risk is intolerable. Eliminate the hazard or redesign the activity before proceeding. A Safe Work Method Statement (SWMS) or higher-level authorisation is required.
3H	Review and approve additional controls before task starts. Senior supervisor sign-off needed.
2M	Ensure all nominated controls are in place and effective. Proceed with caution; monitor conditions.
1L	Proceed, following standard operating procedures. Monitor and keep records.

Consequence Scale:			
Consequence	People (injury/illness)	Project / Assets	Compliance / Reputation
Catastrophic	Fatality or permanent total disability	project shutdown	Significant regulator intervention; criminal prosecution
Major	Serious injury/illness (hospital > 5 days)	critical delay	Improvement notice; major media coverage
Moderate	Medical-treatment injury; lost-time > 1 day	moderate delay	Minor breach; adverse client comment
Minor	First-aid only, no lost time	negligible delay	Isolated non-conformance
Insignificant	No injury	no schedule impact	Deviation caught and corrected on site

Notes on Hierarchy of Controls:
Remember to apply controls in the preferred order shown by the coloured pyramid:

1. **Eliminate**
2. **Substitute**
3. **Isolate**
4. **Engineering**
5. **Administrative**
6. **PPE**

Always document **why** a lower-order control is accepted if elimination or substitution is not reasonably practicable.

aligned with Safe Work Australia's Managing the risk of fatigue at work (2023) and ISO 45001:2018 clauses 6–8.

JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
1. Governance, WHS Duties and PCBU Oversight	<ul style="list-style-type: none"> Lack of clear WHS governance for aerial and ground-based spraying operations PCBU and Officers not fully understanding due diligence obligations under WHS Act 2011 Inadequate consultation with workers, contractors and other PCBUs (e.g. neighbouring farms, aviation operators) No formal WHS objectives, KPIs or review processes specific to crop spraying Inadequate allocation of resources to manage complex spraying risks (aviation, chemicals, remote work) Failure to integrate agricultural spraying risks into the organisation's WHS management system 	4A	<ul style="list-style-type: none"> Establish a documented WHS governance framework that explicitly includes agricultural spraying (boom, self-propelled sprayers and crop dusters) Define and document WHS roles, responsibilities and accountabilities for Officers, managers, pilots, ground crew and contractors Demonstrate due diligence by ensuring Officers receive regular briefings on key spraying risks, legal duties and performance indicators Integrate spraying risks into the organisational WHS management system, including risk registers, audit programs and incident reporting Implement formal consultation and communication arrangements with workers and other PCBUs involved in or affected by spraying activities Review and approve an annual WHS plan and budget that specifically covers spraying equipment, training, supervision and monitoring Conduct regular management reviews of spraying safety performance, including chemical exposure data, incident trends and audit findings 	3H
2. Safety Management System for Spraying Operations	<ul style="list-style-type: none"> Absence of a documented safety management system covering both aerial and ground spraying Fragmented procedures and inconsistent practices between properties or contractors Lack of integration between aviation safety procedures and farm WHS procedures Poor document control leading to use of outdated chemical, aircraft or equipment procedures No systematic process for identifying, assessing and controlling new or changed spraying risks 	4A	<ul style="list-style-type: none"> Develop a comprehensive spraying safety management system (SMS) that covers aerial spraying, boom spray and self-propelled sprayer operations Standardise procedures and templates across all sites, including risk assessments, permits, job planning forms and communication protocols Integrate aviation operator's safety management system with the farm WHS system through shared procedures, risk registers and emergency plans Implement formal document control for all spraying-related policies, procedures and SDSs, including version control and review dates Establish a change management process to assess WHS impacts of new chemicals, new aircraft types, new spray technology or new work methods Schedule internal and external audits of the spraying SMS, with corrective actions tracked to completion 	2M
3. Contractor, Pilot and Operator Management	<ul style="list-style-type: none"> Use of unverified pilots or aircraft operators for crop dusting and aerial spraying Inadequate vetting of contract boom spray and self-propelled sprayer operators 	4A	<ul style="list-style-type: none"> Implement a formal contractor management procedure specifically covering aviation operators and spraying contractors Require documented evidence of pilot licences, endorsements, flight currency, medicals and operator competencies prior to engagement Include WHS performance, incident history and safety management system maturity as key selection criteria in all spraying contracts 	2M

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	<ul style="list-style-type: none"> No system to verify licences, endorsements and medicals for pilots and machinery operators Poor definition of WHS responsibilities between PCBUs (farmer, aviation company, spraying contractors) Contractor selection based purely on cost without WHS performance criteria Insufficient monitoring of contractor compliance with site rules and WHS procedures 		<ul style="list-style-type: none"> Develop written WHS interface agreements with aviation and spraying contractors defining responsibilities for risk assessments, supervision and emergency response Establish induction requirements and site-specific briefings for all pilots and spraying operators before commencing work Conduct periodic field inspections and performance reviews of contractors, with the ability to suspend work for safety breaches 	
4. Competency, Licensing and Training Systems	<ul style="list-style-type: none"> Operators and pilots performing spraying tasks without verified competency Inadequate training in pesticide handling, drift management and label compliance No formal training for ground crews in loading aircraft, mixing chemicals and managing spills Lack of refresher training for seasonal workers and contractors Insufficient instruction on fatigue risk, low-level flying hazards and agricultural flight operations Training records not maintained or unable to demonstrate compliance to regulators 		<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	2M
5. Plant, Aircraft and Equipment Procurement & Design	<ul style="list-style-type: none"> Acquisition of aircraft or sprayers that are unsuitable or unsafe for specific crops or terrain Lack of engineering controls such as enclosed cabs, filtration systems and fail-safe shut-offs on sprayers Spray equipment not compatible with current chemical formulations or application rates No WHS input into procurement decisions for new aircraft, boom sprayers or self-propelled units 	4A	<p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p>	2M

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	<ul style="list-style-type: none"> • Use of non-compliant tanks, pumps, hoses and fittings that increase risk of leaks or spills 		[REDACTED]	
6. Inspection, Maintenance and Calibration Systems	<ul style="list-style-type: none"> • Inadequate maintenance of aircraft, spray rigs and self-propelled sprayers leading to mechanical failure • Failure to detect worn hoses, seals or fittings, resulting in chemical leaks and spills • Spray nozzles and booms not calibrated, causing over-application, drift or ineffective treatment • Maintenance schedules not aligned with manufacturer requirements or aviation regulations • Poor record keeping for maintenance, inspections and defect rectification 	4A	[REDACTED]	2M
7. Chemical Selection, Storage and Inventory Management	<ul style="list-style-type: none"> • Use of chemicals without consideration of toxicity, environmental impact and compatibility with spraying equipment • Inadequate segregation and storage of pesticides and herbicides, increasing fire, spill and exposure risks • Outdated or missing Safety Data Sheets (SDS) for products used in aerial and ground spraying • Poor inventory control leading to expired, degraded or unlabelled chemicals on site • Failure to consider substitution of less hazardous chemicals or formulations 	4A	[REDACTED]	2M
8. Chemical Handling, Mixing and Decanting Systems	<ul style="list-style-type: none"> • Uncontrolled manual handling of concentrated chemicals during mixing and loading • Inadequate systems for preventing splash, inhalation and skin contact when decanting and transferring product 	4A	[REDACTED]	2M

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	<ul style="list-style-type: none"> No standardised mixing instructions or verification checks, resulting in incorrect concentrations Inadequate facilities for eye-washing and decontamination at mixing and loading areas Insufficient control of ignition sources when handling flammable formulations 		[REDACTED]	
9. Flight and Spraying Planning (Aviation Risk Management)	<ul style="list-style-type: none"> Inadequate low-level flight planning near powerlines, trees and structures Insufficient assessment of weather, turbulence and wind conditions leading to spray drift and loss of control Poor coordination between pilot, ground crew and farm management regarding spray areas and exclusion zones Lack of formal processes for wire and obstacle identification and marking No structured pre-flight risk assessment or go/no-go decision framework 	4A	[REDACTED]	2M
10. Spray Drift, Environmental and Neighbouring Property Management	<ul style="list-style-type: none"> Uncontrolled spray drift impacting neighbouring crops, residential waterways or sensitive ecosystems Failure to respect exclusion zones around schools, houses, organic farms and water sources Inadequate systems for monitoring weather conditions during spraying Poor communication with neighbours about planned aerial or boom spraying activities Non-compliance with label instructions and regulatory requirements relating to drift mitigation 	4A	[REDACTED]	2M
11. Fatigue, Rostering and Seasonal Workload Management	<ul style="list-style-type: none"> Long shifts and cumulative fatigue during peak spraying periods leading to error and accidents 	3H	[REDACTED]	2M

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	<ul style="list-style-type: none"> Inadequate rostering practices for pilots and operators, especially during favourable weather windows No formal fatigue risk management system for low-level flying and night or early-morning operations Seasonal and casual workers not covered by organisational fatigue policies Pressure from production targets overriding safe work hours 		[REDACTED]	
12. Traffic, Ground Movement and Airside Coordination	<ul style="list-style-type: none"> Uncontrolled movement of trucks, fuel tankers, chemical delivery vehicles and sprayers near aircraft operating areas Lack of separation between pedestrian, plant and aircraft movements during loading and turnaround Poor layout of loading zones, taxiways and parking areas leading to collision risk Inadequate marshalling and signalling systems between ground crew and pilots No formal traffic management plan at temporary or improvised airstrips and mixing pads 	3H	[REDACTED]	2M
13. PPE Programs and Health Surveillance for Chemical Exposure	<ul style="list-style-type: none"> Reliance on ad-hoc or inappropriate PPE for highly hazardous chemicals No systematic fit testing, training or maintenance for respiratory protection Failure to identify workers requiring health surveillance under WHS Regulations Inconsistent decontamination and laundering arrangements for contaminated clothing Lack of monitoring of cumulative exposure for frequent mixers, loaders and operators 	3H	[REDACTED]	2M

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14. Emergency Preparedness, Spill and Incident Management	<ul style="list-style-type: none"> Inadequate planning for aircraft crash, chemical spill or fire involving pesticides and fuels Lack of accessible spill kits and emergency equipment at airstrips and mixing areas Poor coordination with local emergency services regarding aerial spraying operations No structured post-incident investigation process to address root causes Failure to practise and evaluate emergency drills involving pilots and ground crews 	4A	[REDACTED]	2M
15. Remote and Isolated Work, Communications and Navigation	<ul style="list-style-type: none"> Spraying activities conducted in remote paddocks and isolated airstrips without reliable communication systems Delayed emergency response due to poor location tracking of aircraft, vehicles and operators No formal check-in/check-out procedures for pilots and spraying crews working alone Insufficient mapping and signage information for new or temporary spray sites Inadequate planning for breakdowns or forced landings in remote areas 	2M	[REDACTED]	2M
16. Consultation, Reporting, Audit and Continuous Improvement	<ul style="list-style-type: none"> Workers and contractors not consulted on practical spraying risks and control effectiveness Under-reporting of near misses, chemical exposures and minor incidents Lack of formal inspections and audits specific to aerial and boom spraying activities No structured mechanism to review new technology (e.g. GPS guidance, auto-boom control, drones) and integrate it safely 	3H	[REDACTED]	1L

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	<ul style="list-style-type: none"> Failure to close out corrective actions arising from incidents, audits or regulator notices 			

SAMPLE

EMERGENCY RESPONSE – CALL 000 FOR EMERGENCIES

Ensure to have an Emergency Management Plan in place as well as adequate numbers of trained first aid staff with easy access to fully stocked first aid kits, rescue equipment, material safety data sheets, adequate access to emergency communication equipment and fire-fighting equipment suitable for all classes of fire and ignition sources.

LEGISLATIVE REFERENCES

RELEVANT LEGISLATION AND CODES OF PRACTICE. DELETE THE LEGISLATIVE REFERENCES FOR ANY STATE THAT ARE NOT APPLICABLE

Queensland & Australian Capital Territory

Work Health and Safety Act 2011
 Work Health and Safety Regulations 2011
 Legislation QLD: <https://www.worksafe.qld.gov.au/laws-and-compliance/work-health-and-safety-laws>
 Codes of Practice QLD: <https://www.worksafe.qld.gov.au/laws-and-compliance/codes-of-practice>
 Legislation ACT: <https://www.worksafe.act.gov.au/laws-and-compliance/acts-and-regulations>
 Codes of Practice ACT: <https://www.worksafe.act.gov.au/laws-and-compliance/codes-of-practice>

Victoria

Occupational Health and Safety Act 2004
 Occupational Health and Safety Regulations 2017
 Legislation VIC: <https://www.worksafe.vic.gov.au/occupational-health-and-safety-act-and-regulations>
 Codes of Practice VIC: <https://www.worksafe.vic.gov.au/compliance-codes-and-codes-practice>

New South Wales

Work Health and Safety Act 2011
 Work Health and Safety Regulations 2025
 Legislation NSW: <https://www.safework.nsw.gov.au/legal-obligations/legislation>
 Codes of Practice NSW: <https://www.safework.nsw.gov.au/resource-library/list-codes-of-practice>

Western Australia

Work Health and Safety Act 2020
 Work Health and Safety Regulations 2022
 Legislation Western Australia: <https://www.commerce.wa.gov.au/worksafe/legislation>
 Codes of Practice WA: <https://www.commerce.wa.gov.au/worksafe/codes-practice>

Northern Territory

Work Health and Safety (National Uniform Legislation) Act 2011
 Work Health and Safety (National Uniform Legislation) Regulation 2011
 Legislation NT: <https://worksafe.nt.gov.au/laws-and-compliance/workplace-safety-laws>
 Codes of Practice NT: <https://worksafe.nt.gov.au/laws-and-compliance/codes-of-practice>

Safe Work Australia Links

Law and Regulation (All States): <https://www.safeworkaustralia.gov.au/law-and-regulation>
 Model Codes of Practice: <https://www.safeworkaustralia.gov.au/resources-publications/model-codes-of-practice>

South Australia

Work Health and Safety Act 2012 (SA)
 Work Health and Safety Regulations 2012 (SA)
 Legislation for SA: <https://www.safework.sa.gov.au/resources/legislation>
 Codes of Practice for SA: <https://www.safework.sa.gov.au/workplaces/codes-of-practice#COPs>

Model Codes of Practice

- Managing noise and preventing hearing loss at work
- Confined spaces
- Labelling of workplace hazardous chemicals
- Managing risks of hazardous chemicals in the workplace
- Welding processes
- First aid in the workplace
- Managing the risk of falls at workplaces
- Hazardous manual tasks
- Managing the risk of falls in housing construction
- Managing electrical risks in the workplace
- Demolition work
- Excavation work
- Work health and safety consultation, cooperation and coordination
- Managing the work environment and facilities
- How to manage work health and safety risks
- Managing risks of plant in the workplace
- Construction work

Tasmania

Work Health and Safety Act 2012
 Work Health and Safety (Transitional and Consequential Provisions) Act 2012
 Work Health and Safety Regulations 2012
 Work Health and Safety (Transitional) Regulations 2012
 Legislation for TAS: <https://worksafe.tas.gov.au/topics/laws-and-compliance/acts-and-regulations>
 Codes of Practice for TAS: <https://worksafe.tas.gov.au/topics/laws-and-compliance/codes-of-practice>

Details of permits, licenses or access required by regulatory bodies (add or delete as required):

- Permits from local council
- Authorisation to commence work
- Any required documents.