

FARM BIOSECURITY

Tasmania's reputation as a relatively weed, pest and disease free island opens many doors for our agricultural industries. Keeping weeds, pests and diseases out of Tasmania and its off-shore islands, and limiting the spread of those already here, is key to a healthy environment and economy.

If biosecurity risks are not mitigated, human health can be impacted and a whole industry closed overnight. Public perception of risk can be as damaging to an industry as real risks. The government, industry and community all have a role to play in activities that help to maintain Tasmania's enviable reputation. On-farm biosecurity is how anyone who owns livestock, an orchard, a vineyard, or grows crops, can contribute to these efforts.

Farm biosecurity is a set of measures put in place to protect a farm from the entry and spread of weeds, pests and diseases. It can be any activity that reduces the likelihood of the introduction and spread of unwanted organisms. Undertaking farm biosecurity activities can benefit farm profitability by improving the productivity of livestock, crops, and pasture through reducing losses from weed, pest and disease outbreaks.



Weeds, pests and disease causing pathogens can enter or spread around your farm through farm inputs, feral animals, poor on-farm biosecurity practices, visitors, vehicles and equipment. Your farm outputs can also be a source of unwanted organisms, which can impact on the livelihood of your neighbours, the people you do business with and potentially can put the productivity of your entire region or industry at risk. There is an added incentive for good biosecurity practice on organic farms, where chemical control of introduced weeds, pests and diseases is not an option.

To establish good farm biosecurity practices, consider the potential risks posed by activities undertaken and plan and implement preventive measures. This factsheet details both potential risks and suggests biosecurity measures for a range of common on-farm activities.

AS A PRACTICAL GUIDE
- THE EFFORT YOU
PUT INTO YOUR FARM
BIOSECURITY MEASURES
SHOULD REFLECT THE
RISK POSED; TO YOUR
FARM, YOUR REGION,
AND THE INDUSTRY AS A
WHOLE.



FARM INPUTS

INTRODUCED PLANTS AND LIVESTOCK

Introduced plants and livestock can carry weed seeds, pests and diseases that can impact your farm. Inspect a National Animal Health Statement (cattle, sheep, goats, alpacas) before making a purchase decision. Once you get your plants or livestock home, keep them away from production areas and existing livestock for at least 21 days. This provides a chance for:

- livestock to shed any ingested weed seed, or weed seeds on their fleece/coat, and/or
- signs of pests and diseases, that were not obvious at the time of purchase, to show.

Some pests and diseases may require a longer period before showing signs, for example, it can take 6 months before signs of lice may be obvious. For this reason, it's a good idea to keep introduced stock separate from existing stock until you're sure they pose a low risk.



REGULARLY CHECK NEWLY PLANTED AREAS (CROPS) AND LIVESTOCK HOLDING AREAS FOR PESTS AND WEEDS, AND TREAT ANY INFESTATIONS BEFORE THEY BECOME ESTABLISHED.

OTHER FARM INPUTS

Animal Feed

Request a Commodity Vendor Declaration (CVD) or Fodder Vendor Declaration (FVD) and ensure any feed purchased is fit for purpose. There are legal restrictions on what can be fed to some livestock. For example, ruminants (sheep, cattle, deer, goats) cannot be fed Restricted Animal Materials (RAM) and pigs and ruminants cannot be fed swill (see our Animal Husbandry factsheet), as these foods have spread dangerous animal diseases in other part of the world, and could be a way of introducing them into Australia. Fodder can also introduce weeds (such as ragwort or thistles) on to your farm, so it is important to make sure it is weed free, to always feed out in the same areas and to monitor and treat emerging weeds.

Water Sources

Many pest and disease-causing organisms can survive for a long time in water. To avoid water borne diseases, ensure water sources are secure from contamination by wild animals and pests. Some algal blooms are poisonous to stock (e.g. blue green algae), so prevent blooms by aerating or treating high nutrient water that is stored in dams. Care should be taken when using recycled water (or effluent) in irrigation systems, for example, use drip irrigation to avoid aerosol formation, prevent livestock from drinking from storage dams, and enforce withholding periods for pastures irrigated with recycled effluent.

Fertiliser

Organic fertilisers such as manure and compost can be a source of weeds if not composted thoroughly, and contamination of vegetables with un-composted manure can cause consumer poisoning (e.g. Salmonella or E. coli). Ensure manure and green waste is aged and thoroughly composted to destroy any weed seeds and disease causing organisms and maintain records of the source of organic fertilisers, the application dates and where it has been applied.

Aggregates

Road gravel and other aggregates can also be a source of weeds. Ensure newly established roads and other areas where aggregates are used are monitored carefully for weed seed germination and ensure appropriate action is taken to control any resulting infestations.

FARM OUTPUTS

MOVING PLANTS AND LIVESTOCK OFF YOUR FARM

The export of plant products and livestock can spread diseases, pests and weeds. Before moving livestock ensure that they are disease and pest-free and fit to travel, that they are identified (i.e. NLIS ear tag) and your records are up to date, and that the transport vehicle is clean. Provide copies of supporting paperwork such as National Vendor Declarations, Animal Health Statements or Interstate Certification Assurances to purchasers. If you are moving cattle, sheep, pigs or goats make sure you update the National Livestock Identification System database.

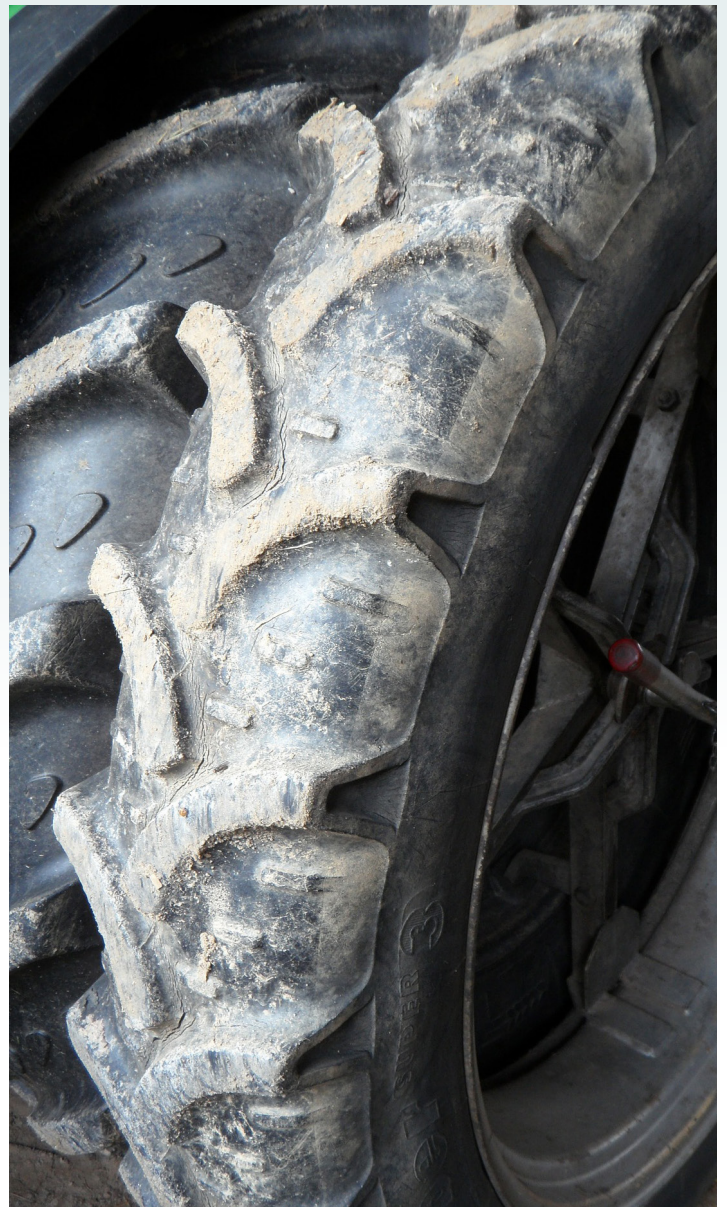
SHOWS, SALES AND STUD SERVICES

Events and services where livestock are brought together poses a risk for pest and disease spread. Stock can be exposed to pests and diseases by mixing with other stock, or coming into contact with contaminated pens/yards, vehicles, people or equipment. Only take healthy plants, produce or livestock to shows, sales and markets. Do not share equipment with others (unless thoroughly cleaned afterwards) and take your own supply of feed and water holding containers for livestock. When possible, isolate returning stock as you would for new introduced stock entering the farm.

PEOPLE, VEHICLES AND EQUIPMENT

Weeds, pests and diseases can enter a farm and be spread by equipment and vehicles, either directly or in attached plant material, soil or manure. It is important to ensure all vehicles and equipment are clean and well maintained.

It is also good practice to limit movements of visitors, vehicles and equipment around your farm, and where this isn't possible, to provide hygiene facilities (e.g. bootwash, vehicle wash) for use between production areas.



BIOSECURITY MEASURES THAT CAN PROTECT YOUR FARM

Gate Signage

Have biosecurity signs on your gate asking visitors to contact you before entering, or directing them to the parking areas or site office. If you use a contact number make sure the phone number you use is answered.

Visitor register

Make sure all visitors sign in, to enable tracking of resulting issues. Templates are available from www.farmbiosecurity.com.au

Parking area

Restrict visiting vehicles to designated parking areas, to minimise access to production areas.

Limit access

Once visitors are on the farm, limit access to and contact with crops and livestock, eliminating any unnecessary contact. Where you can't avoid contact provide hand washing facilities, footwear cleaning facilities or alternative clothing and footwear for use on-farm.

Clean-down facilities

Provide vehicle and equipment clean down facilities, making sure any water runoff or air clean down is diverted away from production areas and waterways.

Roads and tracks

Ask all visitors to stay on roads and tracks. Check areas next to roads and tracks for signs of diseases, pests and weeds, and treat before they establish and spread.



VISITORS

PLEASE RESPECT

FARM BIOSECURITY

Please phone or visit the office before entering.

Do not enter property without prior approval.
Keep to roadways and laneways.



FERAL ANIMALS, VOLUNTEER PLANTS AND EXISTING WEEDS

Feral animals may carry disease causing organisms. Volunteer plants that have escaped from production areas and created a 'green bridge' that can harbour pests or diseases between growing seasons. Weed species are significant biosecurity problems in their own right, as well as being alternative hosts of some agricultural and horticultural pests. Weeds can cause other issues for farm profitability - some can make livestock sick and many export markets have low to no tolerance for weed seed contamination, causing shipments to be rejected (e.g. grain markets). It is important to undertake active control measures for feral animals, volunteer plants and weeds (refer to our Landholder Series factsheets Managing Weeds and Invasive Species).



PRODUCTION PRACTICES

EQUIPMENT USE AND STORAGE AREAS

Poorly maintained farm equipment and storage areas can harbour and spread weeds, pests and diseases. There are simple measures that can reduce the risk of spread associated with these facilities:

Equipment: have dedicated tools, clothing and footwear available for use in production areas or on livestock and plants affected by pests or disease. Always work with sick plants or livestock last (work from clean to dirty).

Storage areas: clean and disinfect equipment storage areas regularly. Keep feed in a clean, dry store and regularly inspect feed supplies for insects, pests, mould, and damage. Ensure they remain secured and fit for purpose. Feed storage areas can be a point of contact for livestock and pest animals with issues like toxoplasmosis (cats) and salmonella (rodents) transferred to livestock through feed contaminated with excrement from infected pests.

FENCING

Damaged fences can allow livestock to stray, and potentially allow your neighbour's livestock to mix with yours. Ensure fences are maintained to prevent livestock from straying onto and off your farm. Double boundary fences prevent your livestock from making direct (and nose-to-nose) contact with neighbours' livestock. Alternatives with additional benefits are fenced-off revegetation planted as wind breaks or corridors between properties.

WASTE MANAGEMENT

Leaf material or fallen fruit, abandoned orchards or vineyards can attract or harbour pests and diseases. It is important to break the life cycle of insect pests. Collect all plant waste that shows signs of pests or disease and dispose of it by deep burial or burning, well away from water sources, nursery and production areas. For cuttings or healthy waste plant material, use a dedicated waste management facility or compost it thoroughly.

Effluent, waste and dead livestock can harbour disease-causing organisms. Disease agents in effluent can contaminate pastures, stockfeed and water sources. Dispose of animal carcasses and waste as soon as practical in a segregated area that cannot be accessed by livestock, or wild and feral animals. Select disposal areas to avoid the potential spread of contaminants by water, wind or animals.

PLANT AND LIVESTOCK HEALTH MANAGEMENT

Actively monitor the health of your crops and livestock. Isolating and treating stock as soon as an issue is detected can limit impacts on farm productivity, profitability and the environment. The consequences for introduction and spread of pests and pathogens can be severe, both in stock replacement costs and, when livestock are involved, animal welfare.

CONSEQUENCES OF THE INTRODUCTION AND SPREAD OF PESTS AND DISEASES FOR LIVESTOCK AND CROPS

There are significant consequences in failing to manage biosecurity risks for farms with livestock, cropping and/or perennial horticulture. The table below highlights some of these;

	PEST/DISEASE	HOST	SPREAD	SIGNS	CONSEQUENCE
LIVESTOCK	Lice	Sheep, cattle, goats, pigs	Physical contact, clothing	Itching, biting at wool and/or pulled wool, bare patches	Low wool quality Discomfort
	Johnes disease	Cattle (bovine) Sheep (ovine), alpaca, goat	Movement of infected livestock, and faeces	Persistent scouring and weight loss	Death of infected sheep and cattle
	Tapeworms	Dogs spread sheep measles to sheep, and hydatids to cattle and sheep	Dogs eating contaminated offal and meat, then defecating in pastures grazed by livestock.	No obvious signs when animal is alive. Cysts in muscle (sheep measles) and organs (hydatids)	Sheep measles – carcass trimmed or condemned at abattoir; hydatids – zoonotic (humans can contract it) and offal condemned at abattoir
	Footrot	Sheep and goats	Movement of infected animals	Lameness, foot lesions	Discomfort, lower feed intake, lots of time and effort to eradicate
	Toxoplasmosis	Cats, sheep, birds, marsupials	Infected cat faeces, cats ingesting infected meat (sheep carcasses, rodents, birds or marsupials)	Low lambing percentage	Abortion or stillbirth in lambs. Abortion in pregnant women or foetal abnormalities
CROPPING	Wheat Streak Mosaic Virus	Wheat	Seed and wheat curl mite	Leaf streaking, plants losing leaves or failing to grow	Loss in yield
PERENNIAL HORTICULTURE	Blueberry Rust	Blueberries	Movement of infected plants, spores on clothing	Lesions on leaves	Extensive defoliation
	Phytophthora	Wide host range of both cultivated and native woody shrubs and trees	Movement of infected soil and water	Drought like symptoms, yellowing of leaves	Plant death
VINEYARDS	Phylloxera	Grape vines	Infected plants, people and clothing, equipment and vehicles	Yellowing of vines and stunted growth	Yield decline



PLANNING, TRAINING, RECORD KEEPING AND MONITORING

Early detection of pests and diseases gives you the best chance of preventing them from establishing on your farm and ongoing additional expenses for their control. Early detection also increases the chances of eradicating a new pest or disease. Recording the absence of pests or diseases is just as important as recording what you do see.

Regularly monitor your crops and livestock. Become familiar with pests and diseases commonly found in your region so you will know if you spot something different. Sentinel plants or livestock can provide early warning of emerging pest problems. Display posters showing common pests and diseases to help staff and visitors with identification.

Developing and implementing a Farm Biosecurity Plan can help in the identification of risks and in designing appropriate biosecurity measures for your farm. These plans can also help in identifying training needs and record keeping to allow trace back of any problems on your farm.

The Livestock Biosecurity Network (LBN) run planning workshops where you can develop a biosecurity plan for your farm. LBN also facilitates groups of producers in developing regional biosecurity plans to prevent or manage livestock related weeds, pests and diseases.



YOUR FARM BIOSECURITY RESPONSIBILITIES



The responsibility for farm biosecurity is shared between farm owners, managers and handlers, the people working on the farm and farm visitors. Other groups that play a role in helping to protect Tasmania's agricultural industry from the introduction and spread of deleterious weeds, pests and diseases include Government (state and federal), the scientific community, veterinarians and the local community.

You have a responsibility to report unusual diseases, pests or weeds to an agronomist, vet, the Department of Primary Industries, Parks, Water and Environment (DPIPWE), the Emergency Animal Disease Watch Hotline (**1800 675 888**) or the Exotic Plant Pest Hotline (**1800 084 881**). It is a good idea to have these numbers in your phone.



FARM BIOSECURITY A spatial representation of good biosecurity practices on a livestock farm.



LEGEND

1. Gate signage.
2. Home & farm offices.
3. Car washdown, visitor boot and hand wash stations. (run-off away from resources).
4. Livestock quarantine area (new livestock kept separate from existing livestock until sure they pose a low risk).
5. Plant quarantine area.
6. Waste water (fenced from animal access).
7. Designated feeding out areas (monitored regularly for weeds).
8. Farm tracks (limit access and monitor regularly for weeds).
9. Restrict stock access to waterways using fencing and off-stream water points.
10. Vermin proof storage of stock feed
11. Re-vegetated buffer from neighbour's stock.
12. Coordinate stock movements with neighbour to prevent nose to nose contact.

FURTHER INFORMATION

- Livestock Biosecurity Network (www.lbn.org.au)
- Meat and Livestock Association (www.mla.com.au)
 - Biosecurity
www.mla.com.au/Research-and-development/Animal-health-welfare-biosecurity/Biosecurity
 - Commodity Vendor Declaration (CVD)
www.mla.com.au/Meat-safety-and-traceability/On-farm-risk-management/Feed-and-fodder-declarations
 - Transportation
www.mla.com.au/Research-and-development/Animal-health-welfare-biosecurity/Transportation
 - NLIS
www.mla.com.au/Meat-safety-and-traceability/National-Livestock-Identification-System/NLIS-database
- Farm Biosecurity (www.farmbiosecurity.com.au/)
- Gate signage (www.farmbiosecurity.com.au/buy-a-gate-sign/)
- Animal Health statements (www.farmbiosecurity.com.au/toolkit/declarations-and-statements/)
- National Livestock Identification System database (www.nlis.com.au)
- Sheep Connect Tasmania factsheets (<http://sheepconnecttas.com.au/>)
- Washdown Guidelines for Weed and Disease Control (<http://dpiwwe.tas.gov.au/Documents/Washdown-Guidelines-Edition-1.pdf>)
- Biosecurity Tasmania: <http://dpiwwe.tas.gov.au/biosecurity>
- Keeping it Clean Manual: http://www.nrmsouth.org.au/wp-content/uploads/2014/10/keeping_it_clean.pdf
- Biosecurity kits and field hygiene information: www.nrmsouth.org.au/biosecurity



This fact sheet has modified information from the Farm Biosecurity Action Planner for the southern Tasmanian audience

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