



Farmnote

Moving sheep and goats from pastoral to agricultural areas

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Biosecurity, health, welfare and management are factors that must be considered when moving sheep and goats to the agricultural areas of Western Australia. Among the issues are feed availability and trucking time, lice, metabolic diseases, cold stress, salt poisoning, pulpy kidney; worms, salmonellosis, coccidiosis, fleece rot, dermatophilosis ('dermo') and flystrike. Sheep from pastoral leases infested with declared plants must be shorn and inspected before being moved. Similarly, goats from infested properties must be inspected and may require shearing if seeds are present.

The movement of sheep from pastoral to agricultural areas is a practice established over many years that has proved feasible and profitable. In more recent times, large drafts of wethers are routinely moved from the Nullarbor Stations and other areas into the wheatbelt, where they are finished for the live export market.

Moving sheep from pastoral to agricultural areas needs a little more planning and attention to detail than moving sheep from the wheatbelt to higher rainfall areas. This includes contacting a veterinarian to discuss potential health problems and treatments relevant to the district of destination. For example, likely concerns east of Wongan Hills will differ from those west of the Albany Highway.

Pastoral goats may be domesticated and moved to agricultural areas under permit and a prescribed range of conditions and protocols.

Feeding and transport

Sheep transported over long distances may not start eating until one to two days after reaching their destination. While transport companies ask for sheep to be held off feed for 12-24 hours before loading, feed should be readily available up until this time and immediately after unloading. Hay should be provided if there is a shortage of feed in the holding yards or paddocks. Where practical to ease problems associated with changes of feed, use feeding regimes that partly match that on the destination property.

It is better for sheep to reach their destination during daylight, so they can start grazing in the new and unfamiliar paddocks immediately.

Care should be taken introducing hungry sheep to paddocks with toxic plants. These include slender ice

plant (*Mesembryanthum nodiflorum*) which is usually a dried remnant over summer and lush summer weeds such as 'goose foot' (*Chenopodium pumilio*) resulting from summer rain. Annual ryegrass toxicity (ARGT) has caused substantial losses in pastoral sheep sold or agisted into districts with a history of this. If in doubt an immunological (ELISA) fodder test is available from the Department of Agriculture and Food, Animal Health Laboratories, South Perth. If paddocks have not been grazed for some time it is wise to check for regrowth of potentially toxic native plants such as *Gastrolobium* species which contain fluoroacetate.

Animal welfare

Animal welfare is an increasingly important issue with all transport of livestock and particularly with long haul transport which is often unavoidable with pastoral sheep and goats. The Model Code of Practice of the Transportation of Sheep in Western Australia provides detailed information on preparation, loading, transportation and unloading of stock as well as emergency humane destruction. This code can be obtained from district offices of the Department of Local Government and Regional Development (Free call 1800 620 511) or www.dlgrd.gov.au. Any one journey should not exceed 24 hours unless the entire journey can be completed in less than 30 hours. Pregnant ewes should not be trucked within four and preferably six weeks prior to lambing. Similarly avoid transporting very young or unweaned lambs and kids except where consigned direct to slaughter. Animals suffering cancers, blindness, prolapses, hernias, open wounds, emaciation or exhaustion, mastitis and anything affecting their ability to stand comfortably should not be transported. The 'Is it Fit to Load?' Guide describes conditions that render an animal unfit to transport. This can be obtained from the Department of Agriculture and Food district offices.

Water and salt poisoning

Care needs to be exercised where sheep are taken off feed or water with a high salt content. Losses from salt poisoning may occur due to dehydration resulting from time off water associated with yarding and trucking, particularly in hot weather. While losses may not be seen immediately upon arrival at their destination, they may occur for a time after the incident and be manifest by

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reluctance to eat and drink. This is particularly applicable to the Nullarbor where animals may be taken off salt bush pastures and bore water which are often at the upper level of salt acceptability for sheep. Transported sheep should have access to clean, low salt water before and immediately after transport.

Cold stress

Some sheep which are off-shears and transported in wet weather, can suffer from cold stress. Treatment should not be needed if the sheep go onto good feed and start grazing immediately. Sheep which are reluctant to move should be put into a shed and provided with hay. More severe cases require warm bedding or heating. For more information see Farmnote 54/2005.

Declared plants

Some pastoral leases have infestations of declared plants (noxious weeds), such as Bathurst burr and horehound. Sheep from these areas must be shorn and inspected before being moved into the agricultural areas. Similarly goats from these properties have to be inspected and may require shearing if seeds are present. Intending vendors should contact the nearest biosecurity officer to discuss these arrangements.

Sheep lice

Saleyards prohibit the sale of diseased sheep. Although not explicitly excluded, sheep obviously infested with lice should not be presented for sale. Details of flock infestation and treatments should be included on a 'Sheep Health Statement' that accompanies the sheep.

Metabolic diseases

Sheep held off feed or transported over long distances are susceptible to a range of metabolic problems. These include hypocalcaemia (sometimes called milk fever), hypoglycaemia (energy deficiency), transit tetany (muscle tremors) and pregnancy toxaemia. Sheep can convulse and die quickly from these diseases, so they must be watched carefully for the first couple of days after arrival for any signs of staggering or convulsing. An injection of calcium borogluconate administered to affected animals can help in some cases, but veterinary advice should be sought.

Pulpy kidney

Sheep from pastoral areas are not usually vaccinated against pulpy kidney (enterotoxaemia) and tetanus. They should be vaccinated as soon as they arrive onto the agricultural property and then given a booster four to six weeks later, or as directed by the manufacturer of the vaccine used. Be aware the primary (or sensitising vaccination) does not take effect for two weeks so avoid starchy concentrates such as cereal grains and keep the animals on more fibrous feed for this time. Goats are highly susceptible to pulpy kidney and any animals to be confined on feed should be vaccinated.

Worms

Pastoral sheep and goats have little natural immunity to worms. Destination paddocks need to be chosen, and grazing, monitoring and treatment strategies need to be planned before animals move to the agricultural

area. It is best to place introduced stock onto a paddock which has been grazed by cattle or dry sheep, e.g. adult wethers.

The likelihood of significant worm burdens depends on the time of year plus the paddock history, and drenching strategy on the destination property. Paddocks grazed by lambing ewes or weaners should be avoided. Paddocks previously grazed by any sheep after March are considered to be at risk. Serial introduction of new mobs of pastoral goats and to a lesser extent sheep within the same green feed season is a serious risk. Watch introduced sheep and goats carefully for signs of worms.

If scouring or other signs of worms appear then verify the presence of a worm burden before drenching. Veterinary practitioners can do this by conducting faecal egg counts.

In coastal areas the barber's pole worm can be a problem and specific measures should be taken from October onwards. Contact the local sheep veterinarian for specific details of worm control in the area.

Salmonellosis

Sheep and goats which are held in yards and stressed by long transport can develop salmonellosis. The infection is transmitted by faecal contamination of food and water and the circumstances associated with pastoral sheep such as stress and confinement for transport can increase the risk. Salmonellosis can result in scouring and death. Veterinary advice should be sought if scouring develops to confirm the diagnosis.

Coccidiosis

Sheep and goats from pastoral areas have no natural immunity to coccidia, an intestinal protozoan parasite which can cause scouring and death. Typically if the sheep or goats are introduced to a paddock with many infective organisms usually associated with high stocking rates and moist conditions they can contract this disease. Consequently there is a greater risk in winter and even more so than for worms (detailed above), serial introduction of new mobs of pastoral goats and to a lesser extent sheep, over a short period of time onto green feed is a serious risk. Coccidiosis is not a common cause of death but losses of up to 12 per cent have been recorded.

The feed additive lasalocid is effective in preventing outbreaks in intensive feeding situations but treatment of affected animals will need to be prescribed by a veterinarian. Therefore seek veterinary advice if scouring develops to confirm the diagnosis.

Flystrike, fleece rot and dermatophilosis

Fleece diseases are associated with continuous wet conditions and pastoral sheep introduced to wet areas initially have a lower immunity to dermatophilosis and a predisposition to fleece rot. Consequently after periods of wet humid weather, they can become affected and develop body strike. In particular avoid yarding or holding wet sheep as this will spread dermatophilosis. Affected sheep may need jetting to control flystrike in spring or following periods of summer rain. Some sheep from pastoral areas, particularly wethers, are not

mulesed. If they scour because of the sudden change of feed or exposure to worms they may need a 'clean-up' crutching in August or early September.

Teeth

Sheep from pastoral areas have long teeth and may retain all their teeth up to nine years of age. In contrast, sheep from agricultural areas may start losing their teeth at six or seven years old. This status of a pastoral sheep's teeth is therefore not a reliable guide to the animal's age.

Tooth clipping, grinding or pulling are potentially cruel practices and there is no evidence that they improve production from aged sheep. This procedure is not recommended in the sheep welfare code of practice and therefore should not be undertaken.

Stock identification

It is mandatory for sheep moved off a property to be identified with brands and ear marks. Under NLIS (Sheep) it is mandatory for sheep and goats to have the brand on a year colour tag for the property of birth with additional pink post breeder tags for sheep not from their property of birth.

Ear marks for goats are optional for managed goats and an exemption from NLIS tagging may apply for pastoral goats consigned directly from their property of capture to slaughter over the hook.

Biosecurity

As livestock, machinery, fodder and people can introduce animal and plant diseases, weed seeds and pests the consignee should where possible follow a normal biosecurity protocol by inspecting the sheep before movement and request some form of biosecurity assurance. Specifically the consignee should request a 'Sheep Health Statement' which covers OJD, footrot, lice, brucellosis, drenching and vaccination history and to avoid introduction of multiple lines which increases risk of weed seeds, lice or any other problem. Introduced sheep should be confined to a designated area on the farm while any weed seeds drop off or pass out and they can be monitored for disease. This area should then be monitored for introduced weeds growing at a later date. Disease problems should be subject to veterinary investigation and animals brought up to the home farm health status with vaccination and worm control before introduction to the home flock.

Similarly pastoralists need to develop a biosecurity plan for their property to reduce the risk of introducing and passing these problems on.

Acknowledgement: This document is derived from the Farmnote 'Moving sheep and goats from pastoral to agricultural areas' by Don Burnside and others.



Stock from pastoral regions can be susceptible to pulpy kidney, worms and coccidiosis when moved to the agricultural area.

