

October
2008

Non-mulesing Network

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WELCOME

Welcome to the 1st edition of the Department of Agriculture and Food's newsletter on the transition from mulesing and managing breech strike. The purpose of this newsletter is to inform, generate discussion and to share successes and failures during the transition to unmulesed flocks. The newsletter will provide an update on the department's work and provide an important forum which brings together the latest thinking and experiences from all over the State (and beyond).

Please pass this newsletter on to anyone who is interested and encourage them to register for future editions by emailing Julia Smith (DAFWA Albany) jessmith@agric.wa.ov.au

If you have experiences of your own that you would be happy to share please email us. If you have questions on management or breeding, please send them in and we will respond to them through our network.

The Department of Agriculture and Food ceased mulesing on its research stations this year in order to develop practical strategies for producers based on the experience of managing the commercial flocks on Badgingarra, Wongan Hills, Avondale, Katanning and Mt Barker Research Stations. The research will add to knowledge on chemical use on unmulesed sheep, importance and value of crutching and shearing time as well as the practical impact of selecting for indicator traits such as breech wrinkle. Doing this work on the research stations will allow producers to gain information on particular management strategies without added risks of testing these strategies in uncontrolled conditions.

Mt Barker research station is also home to the genetic research on breeding for breech strike resistance.

To know more see the [Breeding for Breech strike newsletter](#)

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Unmulesed sheep on DAFWA Research Stations

Rob Woodgate, Veterinary Officer, DAFWA, Albany

The monitoring and management of unmulesed 2008-drop lambs has commenced on all of the department's Research Support Units (research stations).

This activity is in response to the department's decision to cease mulesing from 2008 onwards and gather information about unmulesed sheep under typical paddock conditions around the State. This information, and other research findings, will contribute to the development of practical and effective management strategies to help producers manage unmulesed sheep.

With peak fly pressures looming large on the horizon, monitoring of sheep for fly strike has been stepped up on all research stations. Sheep are currently being checked at least four times a week and all strikes of unmulesed sheep are recorded in detail to allow future investigation of possible risk factors.

The extremely dry August has probably decreased fly activity thus far in 2008, but there are clear expectations that activity will increase as the season progresses.

On the research stations, strike has been reported for a couple of weeks or more in areas around or north of Perth and hence sheep here have been crutched, jetted and/or shorn during the last couple of weeks.

Further south, fly activity is just beginning to occur and we already have recent reports of strike in several mobs of ewes and even some prime lambs. Again, current management is being aimed at minimising dags, with close monitoring of all sheep a crucial activity.

Faecal worm egg counts are the best way to begin to investigate any scouring and these have confirmed some mobs of ewes with high results during the last month or so. Effective drenching and crutching are the best short-term remedies but re-thinking the overall worm control program could help to prevent recurrence of this problem in future years.

Cases of low-WEC scours (especially older sheep that are scouring but do not show a high WEC when checked) have also been detected. These are most likely due to stimulation of the sheep's immune system by a challenge of worm larvae off the pasture and should decrease after a couple of weeks or so as the sheep's immunity strengthens. It is hoped to conduct more research into this form of scouring in the near future.

Planning is also underway to begin individual assessments of breech and body wrinkle in unmulesed sheep within a couple of weeks after their first shearing. The AWI-sponsored breech-strike resistance work of John Karlsson and Johan Greeff has already collected a lot of data suggesting the importance of wrinkles as a risk factor for breech strike and it is thought that the best time for scoring this trait is once animals are a little older and in only very short wool.

As results come to hand, we will gladly let producers know our strategies and findings on the department's research stations



Worm control for scouring and dag prevention

Brown Besier, Senior Veterinary Parasitologist, DAFWA, Albany

As sheep producers begin to plan strategies to combat blowfly strike in unmulesed sheep, the need to minimise dag formation will become a major factor. Almost all scouring is due to worms, but not all of this is due to the presence of a worm burden in the sheep's gut. It is important to understand the cause, so the most effective action can be given.

Research over the past decade has shown that scouring in reaction to worms takes two major forms, with different causes and treatments.

High worm burden (drench responsive) scours: burdens of adult worms develop in sheep which do not have a strong immunity to worms, and cause the typical signs of ill thrift or poor growth, with scouring if enough worms are present. This is common in lambs in their first year, and often occurs in ewes around the lambing period and in sheep in poor nutritional condition. Faecal samples show high worm egg counts, and drenching with an effective product usually has an immediate effect.

Low worm burden (larval challenge, non-drench responsive) scours: recent field research in WA has confirmed that earlier findings in Victoria that scouring frequently occurs as a reaction to worm larvae in worm-immune sheep. This results from a 'hypersensitivity' reaction (similar to a short-term allergic reaction) in adult sheep, or occasionally hoggets, when they first pick up worm larvae from pasture in winter after a prolonged absence of worms over the dry season. The resulting gut inflammation dislodges worm larvae before they can develop to adult worms, but in some sheep the gut damage leads to scouring for a few days. The full immunity to worms then returns and worm larvae are again rejected without gut damage.

'Low worm scouring' is mostly a problem in environments where there is a prolonged period of dry summer pastures, and hence no worm intake. The severity varies greatly between years and flocks - over 50 per cent of sheep in a particular mob may have severe dags while others are clean, but next year different mobs, or no mobs, may be affected. Pasture plants are generally not considered a cause of scouring, but some make it worse once it begins. There is a genetic basis, seen especially where a small number of sheep have dags but all others are clean.

Unfortunately, at this stage there is no known effective treatment. As adult worms do not develop, worm egg counts are zero or very low, and drenches have little effect. However, sheep do get over it quickly, and once crutched will generally stay clean.

The recommended action in the face of scouring is to take worm egg counts to determine whether it is likely to respond to a drench. If the scouring is due to worms, it can usually be quickly stopped, but if counts are low, the presence of non-responsive larval worm scouring, or the less-common non-worm causes, must be considered.



Barber's pole worm (*Haemonchus contortus*)

Unmulesed sheep - implications for chemical use

Di Evans and Brown Besier, Department of Agriculture and Food WA

As producers begin to adopt changes to management to prevent a higher risk of strike in unmulesed sheep, there may be an increase in chemical usage, at least in the short term until there is confidence in the effectiveness of other IPM strategies including genetic selection and possible changes in shearing and crutching times.

Chemical treatments are used to prevent or treat strike. Chemical treatment of unmulesed sheep may raise specific questions such as 'Will lambs need a breech treatment at marking?', 'Will the effectiveness of current treatments be similar on unmulesed versus mulesed sheep?', or 'Will chemicals with longer protection periods be more effective?'. Currently, some of these questions remain unanswered. Resistance to chemicals is a key consideration, and farmers should avoid those to which flies have developed resistance such as organophosphates. Resistance to diflubenzuron (e.g. Fleececare and Strike) has been reported on properties in the eastern states where reduced effectiveness was identified (3). It is also essential to avoid using ectoparasite products repeatedly, including those used for lice treatment (4). Complying with wool withholding periods will help minimise pesticide residues.

Breech application at marking

Presumably all chemicals registered for preventative treatment could be applied to the intact breech area at marking. This would only be considered if there was a high risk of a dirty breech occurring during the high fly risk period. Given the very short length of wool on lambs, a spray-on formulation may be more effective

than using jetting fluid. The options are Clik or Vetrazin Spray-on. Relative costs and protective periods can be compared in the table below

However, it is essential to remain watchful of market requirements. For example, the European Eco-label, which is a voluntary standard, may not be met for some chemicals even if label directions are adhered to. Currently, there are no maximum residue limits set for the commonly used fly preventatives cyromazine (Vetrazin etc) and dicyclanil (Clik), as well as ivermectin (Coopers Blowfly and Lice Jetting Fluid), although this may change. Similarly, Export Slaughter Intervals for chemicals applied to sheep for slaughter must be observed.

Preventative treatment of adults – these treatments can be applied as a jet, dip or spray-on. Whole mob treatments are normally done strategically (in anticipation of high strike risk) or tactically (some animals already struck). If done strategically, trial work using dicyclanil (Clik) showed that longer protection was achieved by applying the chemical six weeks after shearing or crutching compared to treatment at shearing or crutching (5). Table One summarises currently available treatments (not all registered products are included).

Treatment of breech strike

Current recommended treatments for individually struck animals should suffice for those that are unmulesed. Cleaning up the strike wound area on plainer breeched sheep will be easier and may have a lower risk of re-strike than their more wrinkly and woolly counterparts.

Group	Products	Application	Length of protection	Wool WHP	ESI (days)	Cost*
IGR	Fleececare etc	Jet	12 wks	6 mths	Nil	34c
	Magnum	Spray-on	12 wks	6 mths	42 days	\$1.15
	Clik	Spray-on	18-24 wks	3 mths	120 days	\$1.44
	Magik [#]	Spray-on	18-24 wks	3 mths	70 days	\$1.65
	Vetrazin, Cyrazin	Spray-on	11 wks	2 mths	14 days	45c
	Vetrazin, Cyrazin	Jet	12-14 wks	2 mths	14 days	48c
IVM	Coopers Blowfly & Lice Jetting Fl	Jet	12 wks	6 wks	7 days	36c
SPN	Extinosad	Jet	4 weeks	Nil	Nil	48c

IGR – Insect Growth Regulator; IVM – Ivermectin; SPN – Spinosyn WHP- Withholding Period; ESI – Export Slaughter Interval

*6 mths wool for 50kg sheep for body & breech; approx based on 2008 Farm Budget Guide

for use off-shears or up to 7 days after shearing only

Case Study: Non mulesed lambs sold early!

Unmulesed lambs at the Wongan Hills Research Station have been sold recently due to them growing well and not having mulesing scabs at this time of year. The local Elders stock agent has inspected the lambs and, given the lambs current good growth and size, has offered to buy many of the wethers at a good price.

Typically the lambs wouldn't be able to be sold this time of year because they

would not be able to be yarded and transported due to scabs from mulesing wounds. They have grown well as they didn't suffer the setback of mulesing.

This means the lambs will be off the property before summer, fetching a price similar to last year's lambs that had been kept over summer and sold in March. This adds up to considerable savings in feed and worry over harvest and the dry season.

Reported benefits from not mulesing:

- Can bring in ewes and lambs earlier as don't have to wait for scabs to heal...
- Higher lamb growth rates prior to weaning due to not getting a set back after mulesing ...
- Potential for earlier sales of lambs and stock off the property before harvest...
- Heavier weaners going into summer...

Don't stop mulesing unless you have a plan!

In the immediate term, woolgrowers need to plan their systems for managing breech-strike by balancing husbandry practices that will be:

(1) necessary in all years versus;

(2) additional measures that might be necessary in higher-risk situations.

Every woolgrower will need to formulate their own best-bet mix of techniques and practices within an overall risk-reduction strategy against breech-strike. Local knowledge will be imperative.

Younger sheep should be managed more closely. Wethers might be managed under different protocols than ewes as their physiology and the environment they might be running in may make them lower-risk stock.

Have a good look at your stock this season and see how they stack up with dags and scouring, wool length during times of risk, any issues that might arise due to chemical application and potential shearing date changes.

Remember most flocks have some flystrike in some seasons in mulesed flocks – investigate causes and work out how to deal with them prior to ceasing mulesing in future seasons.

Limited protection offered by Extinosad for lambs

Di Evans, Department of Agriculture and Food WA

Recent reports to DAFWA have shown that Extinosad may only provide about 10 days protection from flystrike on lambs which have been breech-jetted. The label states that around 4-6 weeks protection can be expected but this does not necessarily apply to lambs. Extinosad is lipophilic which means that lanolin is important for binding and retention. Lambs have less lanolin compared to adults so binding is reduced. In addition, the open hairy nature of lamb fleece allows greater exposure to sunlight resulting in quicker chemical breakdown.

Although Extinosad has a useful role due to the nil wool withholding period, it unlikely to provide sufficient protection to lambs within the last month leading up to shearing. If it is used more than 2-3 weeks prior to shearing, frequent and close monitoring is essential with the expectation that a second treatment may be necessary.

Alternative options include;

- applying ivermectin (e.g. Coopers Blowfly and Lice Jetting Fluid) up to six weeks prior to shearing;
- bringing shearing forward to avoid the high fly risk period or
- delaying shearing so that products with a longer wool WHP can be applied (e.g. Vetrazin - 2 months or Clik 3 months).

For individual lambs that are struck, Extinosad is a good maggot 'knock down' product but will not be effective in preventing re-strikes for an extended period.

For individual treatment, removing as many maggots as possible, and a treatment of vetrazin or ivermectin can be used but this has a default wool withholding period of at

least one month. Alternatively, Extinosad can be applied to the wound to kill any remaining maggots followed by application of cyromazine (e.g. Vetrazin) adjacent to the strike wound (again, allow at least four weeks prior to shearing). It is essential to always prepare a fresh mix of Extinosad daily when using it.

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