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GREAT SOUTHERN AGRICULTURAL REGION-Katanning

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Editorial

Welcome to the July Agmemo

At the time of writing, good rains have fallen in the Great Southern during the last week and over the weekend (on 1 July).

Despite these generally good rains there are still areas that have missed out consistently. If you and your farm are in one of these and are in need of support then the Department might be able to help. To service these needs the Department has instigated a Dry Seasons Incident Response Group similar to last year's. The contact for this in the Southern Agricultural Region is **Christine Thompson** in Katanning.

Her contact details are Ph: 98612022
Fax: 98612125 Mob: 0427986351
Email: cthompson@agric.wa.gov.au

So if you need help give Christine a call.

Included in this Edition of Agmemo is a range of useful information to help with your farming decision making and management.

This includes information on …

- ☑ **Managing the season:** Invitation to Workshops in Katanning and Kojonup (Thursday 12 July) addressing the impacts on management of seasonal variability.
- ☑ **Crops:** A handy Guide to cereal foliar fungicides registered for use in WA plus issues with sown seed viability.
- ☑ **Livestock:** The Sheep Health Statements and how they work; Current Sheep [management issues; options in the world after Mulesing
- ☑ **Agline:** If you have questions on any of the whole range of agricultural matters then call Agline on (Freecall) 1300 72 55 72 and let one of our friendly and helpful staff give you a hand.

There will be a Regional Farmer Group Leaders workshop held in Katanning on Tuesday 10 July. Call Lisa Mayer of the Local Farmer Group Network (on 6488 7937) to RSVP or contact Keith Ohlsen at the Katanning Office if you want to more information or you think you would like to attend this meeting.

That's all for this edition so until the next Agmemo (in September) we wish you the best in your farming endeavours. We trust that your decisions and plans to date put you in a good place to take advantage of the season we are getting. I hope to see some of you at the Managing Seasonal Variability workshops to look at how we can do that best into the future.

Until next time,

Keith Ohlsen, Development Officer ~ Farming Systems

In this Edition

MANAGING SEASONAL VARIABILITY
2007 SEASONAL OUTLOOK…IMPORTANT NOW, ESSENTIAL IN THE FUTURE!

Keith Ohlsen, Department of Agriculture and Food, Western Australia
David Stephens and Michael Meuleners,
Department of Agriculture and Food, Western Australia

Key points

- Managing Seasonal Variability Workshops to be delivered throughout the Wheatbelt
- Workshops to develop a greater
  - þ understanding of the ways to predict weather conditions
  - þ awareness of climate factors and the risks associated
  - þ awareness of the tools available allow for seasonal risk while making better decisions in farm management.

What are the workshops about?
The AcCLIMATise managing seasonal variability workshops are designed to provide farmers and farm advisors with a better understanding of WA weather systems, climate, soils and yield forecasting tools and how each can be integrated into a versatile management approach that allows for better management of seasonal risk

The presenters
Cameron Weeks from Planfarm is regarded as a leader in WA in the practical application and use of climate risk management information and tools in the farming sector. **Len van Burgel** has worked as an operational weather forecaster with the Bureau of Meteorology (BOM) for most of his working life. **Adrian Redmond** has also had a long term career with BOM with a specialisation in Aviation Meteorology and more recently has worked with Len in delivering Fire Weather training workshops throughout the state for CALM and FESA permanent staff and volunteer firefighters. These three presenters will be joined at various venues by DAFWA staff including **Kari-Lee Falconer**, **Lisa Sherriff** and **John Gardiner**, all of whom work locally with farmers in managing seasonal variability.

Details for Workshops are as follows…

12 July	Katanning	DAFWA office
	7.15am	11.30am
12 July	Kojonup	Kojonup
Lesser Hall	2pm	5.30pm

To secure your place registration is essential. There is no charge for attendance. Please either…... Phone Katanning DAFWA Office on **9821 3333**
Email your details to **kohlsen@agric.wa.gov.au**.

Meanwhile, if you want to keep an eye on the climate and get the latest about the weather from the DAFWA CROP group then don't forget to...

- I Stop and take the time to have a **look at the Climate Information on the DAFWA website** www.agric.wa.gov.au/climate
- (Give me a call at the office in Katanning and I will send the latest GSO to you!

Further Information or to give feedback on this article:
Please contact…
Keith Ohlsen at the Katanning Office
((9821 3214 or : kohlsen@agric.wa.gov.au)

FUNGICIDE MANAGEMENT OF CEREAL LEAF DISEASES

Ciara Beard, Research Officer, Geraldton

Effective integrated disease management requires regular **monitoring of your cereal crops from early stem elongation (Z31).** Walk through your crops (with priority given to the most susceptible, earliest sown crops) every 7-10 days. Systematic W patterns, stopping at regular intervals, are recommended to gain an overall understanding of infection. If disease is found, collect 10 stems from 10 locations on the monitoring W (100 stems in total), recording the crop growth stage, date, severity of infection and its location on the plant by leaf or stem position.

Samples for disease diagnosis can be submitted to AgWest Plant Labs. For information on sending samples and cost, contact 9368 3721 or website www.agric.wa.gov.au/agwestplantlabs.

Keep up to date with: the disease forecast for your area by going to www.agric.wa.gov.au/cropdisease, **and the disease finds across the wheatbelt** by subscribing to Pestfax (free subscription by emailing PestFax@agric.wa.gov.au).

For details on how to manage specific diseases refer to the following Farmnotes (available online at www.agric.wa.gov.au go to 'publications') and see the table on the following page for currently registered foliar fungicides.

- Farmnote 43/2005 **Managing stripe rust and leaf rust in wheat.**
- Farmnote 73/2004 **Managing stem rust of wheat**.
- Farmnote 59/2005 **Managing yellow spot and septoria of wheat**
- Bulletin No. 4539 **Identifying Wheat Leaf Diseases**.
- Farmnote 65/2001 **Leaf diseases of barley.**
- Farmnote 64/2001 **Managing barley leaf diseases.**
- Farmnote 33/1995 **Leaf diseases of oats.**

For further information please contact Kith Jayasena (South) on ph. 9892 8477, Geoff Thomas (Central) on ph. 9368 3262 or Ciara Beard (North) on ph. 9956 8504.

NATIONAL GRAINS INDUSTRY ON-FARM BIOSECURITY AND SURVEILLANCE PROJECT

Keith Devenish, National Grains Industry Biosecurity Officer, South Perth

Grain growers should be aware of a recent but significant change to the World Trade Organisation's (WTO) regulations which state that it is no longer acceptable for an exporting country like Australia to claim it is free from certain exotic pests without providing evidence that the pests "are known not to occur".

What used to happen

Certifications for the movement of grain exports were previously based on declarations that particular pests or diseases were not known to occur in the region where the grain was grown or exported from. This meant that if a pest had not been found in a particular country or region, a pest-free declaration could be made. This could occur even if no one was looking for the pest.

What should happen now

Changes to WTO trade agreements now means that substantiated scientific evidence is needed to support claims that an exporting country is free from exotic diseases, pests or pathogens. Whilst growers and agronomists are already looking for endemic pests as part of their normal business, unusual pests and diseases are usually picked up during these assessments. This information doesn't get recorded anywhere as evidence that could be used at an industry level.

To ensure "evidence of absence" for the grains industry the Grains Council of

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Crops

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Australia has funded the On-farm Biosecurity and Surveillance project through a partnership between Plant Health Australia and the Department of Agriculture and Food. This will link with grain growers and agronomists to start collecting and recording crop inspection information at the farm level.

Benefits of recording farm surveillance activities

The grains industry is required to provide evidence of absence to avoid the risk of loosing some international markets. More importantly, when a dispute arises overseas, evidence of "pests known not to occur" makes it easier to dismiss the situation quickly and saves costs otherwise shared by all grain growers. A recent example was in 2004 when it was claimed that an Australian grain shipment contained karnal bunt. It took considerable expense and some scrambling of resources to set up laboratories to prove conclusively this wasn't the case.

Exotic pests likely to be selected

The on-farm surveillance is likely to include the wheat stem rust Ug-99, barley stripe rust, Russian wheat aphid, Sunn pest and Hessian fly during the growing season and karnal bunt and khapra beetle at harvest time. None of these pests have been recorded in Australia and are considered to have the biggest impact on production and/or overseas markets. High costs and major losses in farm production are often associated with pests currently not recorded in Australia. For example, in USA between 1987 and 1992 Russian wheat aphid cost $US850 million in losses within the barley industry alone

Getting grain growers started on surveillance

In its first stage, the On-farm Biosecurity and Surveillance Project is seeking grain growers and agronomists willing to attend a one-day training course in August to learn how to collect "evidence of absence" of exotic pests during normal crop inspections, entering details onto a fax-back or email sheet several times throughout the growing season. This should also fit in well with EMS or QA programs. Data will be entered into the National Plant Surveillance Reporting Tool to support area freedom claims, help maintain market access and provide evidence during costly trading disputes.

Interested grain growers and agronomists wanting to attend the workshop early in August can contact me in South Perth on (08) 9368 3600 or email kdevenish@agric.wa.gov.au

SILO FAILURE HIGHLIGHTS NEED FOR IMPROVEMENT TO FARM

In a recent media release by Farmsafe, issues related to silo safety were highlighted. These issues were identified in a recent coronial report into the death of a farm worker when a silo full of lupins collapsed. The issues of particular interest to growers so this type of incident can be prevented in the future are:

1. Checking for corrosion of structural members, welds and fastening devices such as bolts and screws. It is recommended that silos are inspected at least once a year prior to harvesting season.
2. Avoid overloading silo and know its maximum rated load.
3. Only modify a silo structure with expert advice from an engineer or competent person.
4. Purchase silos that meet the properties of the stored material and storage capacity.

Anyone with further enquiries can contact Farmsafe WA Alliance on 08 9359 4118 or visit their website at www.farmsafewa.org.

Crops

POST EMERGENT HERBICIDE USE IN FIELD PEA

Mark Seymour, Senior Pulse Research Officer, Esperance

Generally speaking grass weeds are quite readily controlled in field peas with a wide range of selective herbicides. Broad leaf weeds are also more easily controlled in field peas than other pulse crops, but many of the herbicides we use do rely on the weeds being small. Therefore it is often better to spray a broad leaf herbicide early on, let the crop and grass weeds recover (7-14 days later) and then come back with a grass herbicide if necessary.

Any herbicide should only be applied to a healthy crop. Avoid spraying too soon after any physical damage such as sand blasting, rolling or frost. Similarly do not apply the herbicide to stressed plants – either waterlogged or drought. According to "Murphy's Law -anything that can go wrong will go wrong" this may lead to both poor weed control and damage to your crop!

Get to know your plant growth stages. Don't count the 2 scale nodes and only count nodes where the leaves or leaflets are fully unfolded. Most post emergent herbicides should be applied from the 3 node stage onwards. Spraying too early compromises crop safety and spraying past the 5-6 node stage usually compromises weed control as the weeds by then are too big. For further info see the Farmnote 144 "Visual guide to field pea".

Only add oil if the label tells you to. A few products work very well in pastures or other crops with the addition of oil – but may damage your field pea crop. Be very sure before adding oil to any herbicide applied to grain legumes. Similarly avoid tank mixes of grass herbicides or insecticides that require the addition of oil or have strong emulsifying agents in them.

Fortunately there are a number of products registered for field pea or we have permits for their use – for example diflufenican, metribuzin, MCPA NA, imazamox (Table 1). Combine this with the good early vigour and competitive ability of field peas and it is possible to clean up both grass and broadleaf weeds in field pea paddocks. In addition crop topping close to harvest can reduce the seed set of many weeds.

For further information contact:
Mark Seymour (08 90831 111) or Ian Pritchard (08) 9690-2158

(Herbicide table shown on page 7)

Department of Agriculture and Food

Boyup Brook
Sheep and Beef Updates

Boyup Brook Club
Tuesday 14th August 2007

*Booking Essential

Providing producers and industry access to the most relevant and up to date information on sheep and beef production

Morning Sheep Session and Afternoon Beef Session
Stay for one or both session
Whether you are a producer of beef, sheep or both – you can't afford to miss it.

Cost is $20: register now by calling Catherine on 97806 275

*See insert for registration and fax back details

(Continued from Page 6)

Table 1. Post emergent herbicides for the control of broadleaf weeds in field pea in WA. (Application rates in mL or g): Source of info includes: 2006/07 Canola, Pulse and Legume pasture Spraying Charts; APVMA Permit database and Kondinin Field Crop Herbicide Guide 6.

	Diflufencian 500 g/L (Brodal Options)	Diflufencian 500 g/L+ Metribuzin 750 g/kg	Metribuzin 750 g/kg	Flumetsulam 800 g/kg (Broadstrike)	Imazamox 700 g/kg (Raptor)	Picolinafen 750 g/kg (Sniper)	MCPA Na 250 g/L
Crop	3 node to pre flowering	3 node to pre flowering	Post S to 3 node	2-6 node	Up to 4	3 node to pre flowering	10-15 cm high (6- 8 node)
Weeds	2-6 leaf	2-6 leaf and not more than 120mm in diameter leaf	Up to 4 leaf and not more than 120mm in diameter leaf	< 5cm	Up to 3 leaf	2-8 leaf	seedlings
Cape Weed	200 S	100 + 100 S	100-180	25 S		50 S	
Doublegee		100 + 100 S	100-180	25 S	45 S		
Erodium					45		
Mallows	200 S						
Mustards	100-200		100-180		45		1000
Radish	100-200	100 + 100	100-180	25 S	45 S	33-50	
Turnip	100-200			25	45		1000
Wire Weed					45 S		
Registration	R	Permit	Permit	R	R	R	R
Plantback	Not available	6 months for brassicas	6 months for brassicas	Up to 2 years depending on rainfall, soil type and species – see label	Up to 21 months depending on rainfall, soil type and species – see label	Not available	7 days

Crops

DETERMINING VIABILITY OF SOWN CEREAL SEED

Steve Penny, Development Officer, Katanning

Many crops this year have been either dry sown or sown into marginal moisture. At the time of writing germination had commenced in some of these crops, but lack of subsequent moisture prevented the completion of the germination and emergence process. This can lead to a range of situations from seed that has absorbed moisture and swollen then dried, to seed with an emerging radicle (first root) that has dried.

Some growers have questioned the ability of sown seed to emerge once adequate moisture is available. Seed may still be viable if wetted and dried. How can you determine if seed /seedlings are still viable and if successful crop establishment is possible when the next rain comes?

Don't make assumptions!!
The visual state of the seed is not necessarily a good indication of seed viability. Seed viability can be affected by many factors. An important factor is the time and environmental conditions (including soil type) between when the seed started to germinate and when enough moisture becomes available for the germination process to recommence. It is therefore impossible to make general predictions about seed/seedling viability.

A rough indication of seed viability can be determined by wetting up small areas of the paddock. This method can be unreliable as emergence can take some time, depending on temperature conditions and seeding depth. Confidence about the state of the seed can be obtained by collecting seed from the furrow and running a simple viability test.

Simple viability test
Wetting a sample of seed and making observations over time can give a reliable indication of viability. Collect a sample of at least 10-20 seeds from the furrow and spread them on two sheets of moist paper towel. Cover seeds with two more sheets of moist paper towel, roll up the paper towel loosely, place the roll in ambient temperature conditions and keep moist. Make observations/measurements every 2-4 days to determine if coleoptile development is evident. Under these conditions, the coleoptile can grow up to 10-20 mm per day, depending on temperature, so these observations will give an indication of the state of the seed in a relatively short time.

Make comparisons with unsown seed
If unsown seed from the same source is still available, growers may choose to perform the same test with this seed simultaneously. Comparing the results with the test on seed collected from the furrow will give a good idea of how much viability and vigour has been lost.

Test seed from multiple sites
There may be a range of situations in different paddocks or different soils. Performing this test with seed collected from a number of different sites will give a clearer idea of the variability in viability of seed from different paddocks or even parts of the same paddock.
Further information: contact Steve on 9821333

ENERGY AND PROTEIN REQUIREMENTS FOR BREEDER CATTLE

David Highman, Development Officer, Katanning

If you are involved in managing breeder cattle at this time of year and would like further information on their nutritional requirements please contact me at the Katanning Office on 9821 3333. We have tables that you can use to estimate the feed requirements for different classes and weight ranges of cattle

WA SHEEP HEALTH STATEMENT: A FORM FOR BUYERS & SELLERS

The Western Australia Sheep Health Statement (WASHS) is an important document for buyers and sellers of sheep. It is intended to advise to sheep purchasers about the health management background of the livestock on offer. For sheep vendors it provides the opportunity to demonstrate the risk management efforts they have undertaken and enhance the buyer confidence and motivation.

The WASHS form is shown on the following pages. Copies of the WASHS form are available from: your local DAFWA office; stock agents; and via the DAFWA website. There are four sections to the SHS form. Producers can provide useful information about the origin of stock; worm and lice treatment products & dates; OJD and footrot status and indications of risk; ovine brucellosis accreditation and quality assurance programs; and details of any vaccinations the sheep received.

The WASHS enables prospective buyers to make better informed purchase decisions. The sheep health management issues covered in the sheep health statement have all been topical in WA. Buyers can evaluate the health status of the flock being purchased and assess any risk the new animals might pose to their existing flock. Ideally new stock should have a health status that is equal to or better than, the health status their existing flock. The information stated on the WASHS is given to the best of the vendor's knowledge however it is not a guarantee.

The greatest risk of bringing disease into your flock is through the introduction of new sheep. Accordingly, DAFWA always recommends that introduced animals are kept isolated from existing stock for as long as is practicable and possible. Depending upon the disease, visible symptoms of disease may take months or years to emerge, so the longer new animals can be kept separated the greater the opportunities and chances to contain the negative impacts of an accidental disease introduction.

SHEEP IDENTIFICATION & LIVESTOCK MOVEMENTS

All sheep need to be earmarked. A registered earmark consists of two distinct notches placed in specific positions as illustrated on your Brand Certificate. The ear mark is placed in the females left ear, and the male sheep's right ear. That is the sheep's left or right ear, not your left or right.

All sheep must have a tag imprinted with the breeder's brand. This must be the 'colour of the year' of birth. The breeders tag is placed in the opposite ear to the earmark.

Any sheep which you have purchased also need a pink tag imprinted with your brand; this is the resale tag and is placed in the same ear as the earmark. Existing tags must not be removed. Pink tags should not be used for other husbandry purposes.

Major abattoirs are now insisting on 'no tag, no sale' so previous exemptions no longer apply.

Waybills (NVD) must be completed for all movements. This includes details of property from where movement starts and the property of destination, as well as your brand and earmark.

The colour for 2007 is blue. Whilst ordering tags for this years lambs it may be useful to order a handful of pink tags, for and other sheep that have been purchased. Small batches of tags can be accommodated by tag suppliers.

These identification and movement requirements apply to all sheep and are the responsibility of sheep owner. There are no exceptions for backyard pets or small holdings.

BREEDING FOR BREECHSTRIKE RESISTANCE

John Karlsson, Senior Veterinary Officer, Bindi Murray, Research Officer & Johan Greeff, Geneticist, Katanning

If you are a keen observer and thinker you will have found that within a flock there are certain characteristics that differentiate the struck sheep from those not affected. Over hundred years ago excessive wrinkles was observed to be one of the predisposing factors. Then over time other traits have been added to the list. We are now starting to refer to these as 'resistance traits' or traits that indicate blowfly resistance.

At a first glance we simply need to select for the Resistance Traits. However, life wasn't meant to be that easy. Some of these traits may be associated with production traits and that may be the reason that they have become more prominent in sheep flocks.

In July 2005 AWI funded a collaborative project with DAFWA and CSIRO to breed for breech strike resistance. In this project we are evaluating the differences in incidence of breech strike, wool production and cost of production for sheep selected for increased resistance to breech strike and unselected sheep. We will also assess the potential for additional benefits such as higher fertility, growth rate, survival rate and ease of shearing. The project aims to breed resistant, "easy care" merinos that require less management intervention and are productive and robust in the local environment.

In 2005 we sourced 600 ewe lambs from 10 Western Australian sheep producers to initiate the research project. Lambing on the properties ranged from mid May to early September. We scored the lambs for resistance traits at lamb marking to allocate them to one of three breeding lines.

Those with high bare scores and low wrinkle scores were allocated to the intense selection (IS) line but animals that showed any dag formation or urine staining were not considered for this line. Ewe lambs that tended towards the average of the source flock were allocated to the control line and ewes taken at random to demonstrate the full variation of the resistance traits were allocated to the commercial selection (CS) line. We selected a total of 60 lambs from each of the 10 properties and 20 were used in each of the breeding lines.

The lambs were marked on the property between late July and late September and 50% of each line was mulesed with the other 50% left un-mulesed. All tails were docked. We moved the lambs to the Mount Barker Research Station after weaning in November and ran them as one mob.

Following arrival at Mt. Barker RS we scored the animals on the resistance traits in December, May and November. These resistance traits are listed in the table below and are scored on a 1–5 visual scoring system using standard pictures or descriptions apart from worm egg count. We also weighed and condition scored the sheep in March and September. We measured greasy fleece weight, yield, clean fleece weight, fibre diameter, coefficient of variation of fibre diameter, staple strength, staple length and fibre curvature when the wool was harvested using BioClip® in October at hogget age.

We did not apply and blanket treatments to prevent breech strike, including crutching or jetting. We monitored the sheep regularly, especially when flystrike was expected. We also monitored the fly challenge during the year by trapping flies. When any animals were identified with blowfly eggs or larvae present they were treated with a short acting fly treatment (extinosad) and we removed any infested dags and wool.

Resistance traits used to select for breech strike resistance and their abbreviations.

Resistance traits	**Abbreviation**	**Scoring method**
Fleece rot	FR	1 = no fleece rot to 5 = high fleece rot
Dermatophilosis	Dermo	1 = none and 5 = generalised

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Dags (DS) DS
1 = no dags to 5 = dags to pasterns.
Wrinkle score WS
1 = plain bodied to 5 = heavily wrinkled
Bare Area BA
1 = high wool cover to 5 = extremely bare
Urine Stain US
1 = no stain to 5 = stain to hock
Wool colour Colour
1 = white and 5= yellow
Faecal consistency FS
1 = firm pellet to 5 = liquid
Worm egg count WEC
Objective measurement
Fly strike Strike Y/N
affected, severity and location on body

Recorded when occurring

The Intense Selection (IS) line was plainer, barer in the breech area, less daggy and less prone to diarrhoea than the control line. When these animals were left un-mulesed they had the same incidence of breech strike as the mulesed control animals. .This means that the selection procedure we used to establish this IS line achieved the same level of protection in un-mulesed, resistant sheep as in mulesed, non-resistant sheep during the 2006 calendar year

Future results will provide more information on the relevance each of the traits between years. Mulesing reduced breech strike but the animals that were mulesed had lighter bodyweights even after they have regained condition.

Further details of this research will be presented at the Livestock Updates held at various regional locations during July and August as well as at the Mt. Barker RS Field Day on 23rd October.

Acknowledgments

This research was funded by Australian Wool Innovation (AWI), and is collaboration between the Department of Agriculture and Food WA and CSIRO. The authors would like to thank the industry flocks that have contributed to the project.

HOW WILL YOU MANAGE AFTER 2010?

John Karlsson, Senior Veterinary Officer, Katanning

The 'Sheep Industry' has given an undertaking that surgical mulesing will not be used after 2010. Leaving it for others to debate the relative merit of this decision, what are the short and longer term options to achieve a reduction in breech strike of the sheep flock?

Short Term Management Factors:-

- Timing of crutching and shearing
- Preventative chemical fly control
- Reduce scouring
- Monitoring
- Reduce local fly population

Permanent individual sheep treatments:-

- Clips that cause localized skin death and contraction on healing
- Chemicals that cause local skin scaring and contraction
- Chemicals that shut down wool follicles

Breeding to make the flock:-

- more resistant to the blowfly larvae
- less attractive to blowflies

What seems clear is that 2010 will mean that we have to move away from "silver bullet" solutions like mulesing and look at a more integrated approach. Of the options listed above, the first five are available now. The last five are being investigated at the moment and are in various stages of research and development. Producers need to think about which of these options are going to work in their sheep enterprise as there is no one size fits all solution on the near horizon.

If you would like any more information on these options please contact me at the Department of Agriculture in Katanning 98213333 or visit www.wool.com.au.

CURRENT SHEEP ISSUES

David Highman, Development Officer, Katanning

Nutrition

The quality of green pasture feed is very high – unfortunately there is little of it on most farms. It is important to do a feed budget to calculate how much extra supplementary feeding is required. A 50kg pregnant ewe 4 weeks pre-lambing requires 8.6Mj of energy/day compared to a 50kg lactating ewe 4 weeks post lambing that requires 14.3Mj of energy/day. The difference in requirements in 8 weeks is nearly 6Mj/day – an equivalent of 480g/hd/day of lupins!!

Currently there is a big challenge for ewes and lambs to survive.

Calcium

If the sheep's diet is mainly cereal [wheat, oats, or barley] – then calcium intake could be low. Healthy sheep require calcium to phosphorus intake of between 1:1 and 1:2. To overcome a calcium deficiency, finely ground limestone can be added to the supplementary feed. Adding 1% to 2% of finely ground limestone to the cereal supplement can overcome any calcium deficiency.

Finely ground limestone at 1% to2% is cheap and coats the grain like talcum powder. It is safe and can be poured over the grain fed out in troughs or grain trails. Wetting the grain and then pouring the limestone onto the grain trail helps prevent it from blowing it away.

Adding finely ground limestone to cereals, supplemented to sheep, also helps prevent urinary bladder stones and "water belly" caused by phosphate stone obstructions in wethers and rams fed cereal grain diets. You can obtain more information from Farmnote 56/89.

Pregnancy Toxaemia

Under nutrition during late pregnancy and early lactation harm ewes. Pregnancy toxaemia is low glucose and high ketones in the blood stream and is fatal to ewes. Pregnancy toxaemia is common in the April to July period.

Milk Fever

Milk Fever is also fatal to ewes and arises from under nutrition at lambing time. Milk Fever is caused by low levels of calcium in the blood. If lambing ewes are suddenly deprived of feed at lambing time, or after lambing, then they can become weak and collapse. Yarding the ewes can trigger milk fever. Recovery is quick if affected ewes are treated with an injection of calcium borogluconate. Often when symptoms are seen it is too late.

Good Lactation

The appetite of ewes increases enormously after giving birth – a lactating ewe needs about 2.5 times the amount of good feed compared to maintaining a dry ewe. Many ewes lose up to one body condition score during early lactation [about 7 Kg]. At this time body fat is mobilised to meet the needs of milk production.

As in late pregnancy, dietary protein assumes a greater importance. It is best to use lupins that have both high energy and high protein. [Farmnote 64/90]

Feeding Recommendations

- Aim to keep ewes in condition score 2.5 to 3. Aim to keep stock fit and healthy.
- Be guided by regular assessments of condition score or weight of breeding ewes [especially maiden ewes]. The penalties of lamb mortality and poor wool quality are high.
- Weigh the amount of feed accurately.
- Ewes in late pregnancy will need lots more feed. The ewe will weigh more because of the extra weight of the placenta. Use the condition score as a measure of the ewe's progress. Condition score of 2.5 to 3 is the target.
- Unlikely this year, but, over fat ewes are a problem – don't overfeed!
- Have a grazing plan in place to minimize hand feeding costs; to minimize weeds in future cropping paddocks; etc. Provide adequate watering points to ensure paddocks are effectively grazed. [Farmnote 12/92] Even though it is July, the lack of green feed this year means that sheep are still drinking water!

WEED CONTROL IN LUCERNE

Kathi McDonald, Lucerne Research Officer, Katanning
Tom Bailey, Lucerne Field Technician, Katanning

With the opening rains and germination of clover and weeds, the time has come to think about the value of controlling weeds in your lucerne. Control of grass and broadleaf weeds can aid in improving the productivity and persistence of establishing lucerne pastures. It will also reduce weeds and weed seed set if you are moving from an established lucerne pasture into a cropping phase, and herbicide resistant weeds can be controlled by using a spray seed, simazine and diuron mix. There are several different options for weed control in lucerne depending upon what you are trying to achieve and at what growth stage your lucerne and weeds are at.

<u>Established lucerne stands:</u>
Options in an established lucerne stand include winter cleaning to remove all weeds or simply selecting those weeds that you wish to remove, leaving others (like clover) to help maintain a productive winter pasture.

Winter cleaning is of benefit in reducing weed burden and weed seed set prior to moving into a cropping phase. It is also of benefit in controlling herbicide resistant weeds. Before winter cleaning a lucerne paddock you need to check and make sure that you have a dense, even stand otherwise you are likely to end up with bare patches in the paddock. Eastern States data suggests that a density of at least 8 plants per square metre is necessary to maintain sufficient ground cover and pasture productivity. Prior to any spraying, you should graze the stand heavily to reduce lucerne foliage and then remove stock and leave the pasture for 2 - 4 days to allow the weeds to recover. For winter cleaning, spraying in July/August when lucerne is not very active is recommended, however from mid June to the end of August is okay.

Spray options for winter cleaning include:

- Sprayseed 1L, Diuron 1L, Simazine 1L (preferred option)*
- Sprayseed 1 - 2L, Diuron 1L
- Sprayseed 1 - 2L

*Some growers have reported losses and suppressed growth of lucerne after using Simazine. If silver grass is a problem, you will need to include Simazine in your mix.

These options should remove all weeds and clover from your lucerne, so that you will only have lucerne left in the paddock. Lucerne growth will be slowed immediately after spraying, but if the correct procedures are followed it will bounce back fairly quickly.

Several options exist if you do not wish to remove every annual grass or broadleaf from your lucerne pasture. As lucerne is generally not that productive over winter, it can be beneficial to leave clover and some grasses (if you are not worried about weed control for future crops) to improve winter production.

Spray options for grass only control include:

- Fusion, Verdict, Targa and Fusilade for all grasses apart from silvergrass.
- Sertin for the removal of ryegrass only (beware of resistance).
- Paraquat for all grasses.

Spray options for broadleaf weed only control include:

- Bromoxynil and Jaguar for the control of capeweed, wild radish, wireweed, wild mustard, wild turnip and doublegee.
- Broadstrike for the control of doublegee, Paterson's curse, wild radish and capeweed. This option is also soft on any clover you may want to keep in the pasture.

Spray options for the control of grass and broadleaf weeds:

- Spinnaker for all broadleaf weeds and ryegrass, barley grass and wild oats.
- Simazine for all grasses (especially

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silvergrass), capeweed, wild mustard and wild turnip.
- Raptor for barley grass, brome grass, wild oats, wild mustard, wild turnip and suppression of doublegee, wild radish and wireweed.

For appropriate rates and tank mixes of the above herbicides, it is best to read the label and confer with your agronomist. Recommended label rates only of each product should be used. Herbicides should be used while weeds are small (1 – 4 leaf stage) or their efficacy could be compromised. Knockdown herbicides such as Spray Seed, paraquat and diuron should only be used on lucerne that is at least 1 year old.

New lucerne:
Winter cleaning as described above should NOT be used on lucerne stands under 12 months old. There are grass and broadleaf selective herbicides available for use on new lucerne. Weed control in new lucerne stands is important as lucerne seedlings are not very competitive against weeds and stand density can be reduced if there are heavy weed burdens on establishing lucerne.

Spray options for weed control in new lucerne include:
- Trifluralin pre-sowing of lucerne, post emergent of weeds for ryegrass, wild oats and wireweed control.
- Bromoxynil and Jaguar for control of broadleaf weeds from the 3-leaf stage of lucerne.
- Fusion, Verdict, Targa and Fusilade for control of grass weeds at the 2 – 3 leaf stage of lucerne.
- Sertin for the control of ryegrass only (beware of herbicide resistance though).
- Raptor for barley grass, brome grass, wild oats, wild mustard, wild turnip and suppression of doublegee, wild radish and wireweed, after the full emergence of the 3rd trifoliate leaf of the lucerne.
- Broadstrike for broadleaf weeds, especially doublegee, Paterson's curse, wild radish and capeweed, from the 3-leaf stage of lucerne.

Once again, for maximum efficacy weeds should be sprayed while they are still small, and label rates and directions of all herbicides should be followed to avoid crop damage, or poor weed control. For a list of options and timing of application, please refer to the Farmnote No 26/2003 – "Lucerne in Pasture-crop Rotations – Establishment and Management".

Further Information – please contact Tom Bailey or Kathi Davies at the Katanning Office of the Department of Agriculture, 9821 3333.

Farmnote 26/2003 "Lucerne in Pasture-crop Rotations – Establishment and Management".

MONITOR PESTS AND WEEDS IN AUTUMN SOWN TEMPERATE PERENNIAL PASTURES.

Ned Crossley, Development Officer, Narrogin
and John Moore, Research Officer, Albany

Newly established perennial pastures are slow to establish and therefore vulnerable to pest attack and weed competition. For these reasons it is critical that you spend time monitoring pastures and take the necessary steps to give them the protection they need. The highest pasture density you will achieve is what you have at the end of the establishment year and with successful weed and pest control your perennials can significantly increase pasture productivity and reduce land degradation.

To ensure success you need to sow perennials into a weed free paddock, as you would a crop. Ensure that pre-seeding weed control is effective by employing good herbicide practice during spring or pre-seeding control as post emergence herbicide options are limited until plants get beyond the 3 leaf stage.

Crash grazing autumn sown temperate

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perennials (once FOO reaches 1200 kg/ ha) can be effective for controlling annual grasses. The perennials will recover and continue to grow once stock are removed while the annual species begin to senesce. Grazing can also reduce pressure from pasture pests by reducing the amount of plant biomass available and encouraging crown or root development. In the first year lucerne should not be grazed before flowering and phalaris and veldt grass need to set seed before they are grazed.

Pest management is particularly critical in the early emergence period. An insecticide should be applied at or soon after seeding. Rigorous and frequent monitoring of emerging pastures for pest infestations every 3-4 days will pay dividends allowing for timely control of sucking insects.

The following tables list herbicides that give control of most common weeds. NB Use of proprietary names below is to help the reader identify products and does not imply a recommendation; alternative products with the same active ingredient may perform as well or better than the ones mentioned here. Please consult the Paddock Spray Guide or Spraying charts for information on control of specific weeds. Users should always read the product label and follow label directions.

Broadleaf weed control in lucerne (table one)

In seedling lucerne pastures where pre establishment weed control has been inadequate, it may be best to start again and get weed control right before reseeding.

Broadleaf weed control in Chicory and Plantain

There are really no options other than grazing so make sure you've controlled broadleaf weeds well prior to seeding. Graze chicory in spring once established to maintain palatability and remove stock to allow flowering and recovery.

Grass control in Lucerne (table two)

Grasses may be removed from established lucerne through 'winter cleaning' in preparation for a following crop, and if resistance is an issue, choose grass selectives carefully. Paraquat and diquat can be used effectively to clean pastures in winter on established lucerne.

Sertin is the only grass selective herbicide registered for use in Chicory and Fusilade is the only grass selective herbicide registered in Plantain. An APVMA permit would be required before using other grass selective herbicides.

Weed control in perennial grasses

There are few registered options for chemical control of weeds in emerging perennial grass pastures so it comes back to getting good weed control prior to seeding, beginning in the previous year. Allow weeds to germinate then use a knockdown to control them. No till seeding can minimise disturbance helping to reduce the germination of weed seeds. Monitor pests but don't graze until pastures have at least 1200 kg /ha of dry matter; before grazing Phalaris and veldt grass, let them set seed.

Thanks to John Moore and Mike Page for herbicide information. For more information on specific weeds in particular pasture situations contact call the AgLine one on 1300 72 55 72.

(Please over page for tables)

Table one. Broadleaf control in lucerne

Chemical	Lucerne stage	Comment
Bromoxynil	From 1 leaf stage	Cheapest
Bromoxynil/Diflufenican (eg Jaguar®)	From 3-8 leaf stage	For a wide range of weeds
Imazamox (eg. Raptor®)	3 leaf and before flowering in 2nd year on.	More expensive, limited range of weeds
Imazethpyr (eg. Spinnaker®)	From 2 leaf stage onwards	More expensive, limited range of weeds, works best on very young weeds.
2,4-DB	From 1-8 leaf stage	Good for Capeweed and Doublegee
Broadstrike	From 2-3 leaf stage onwards	Good for range of weeds
Broadstrike + Diuron	From 2-3 leaf stage onwards	Good for range of weeds inc. Doublegee and Wireweed

Table two. Grass control in lucerne

Chemical	Group	comment
Fluazifop (eg. Fusilade)	A (fop)	Only grass selective registered for use in plantain
Haloxyfop (eg Verdict)	A (fop)	Also controls Storksbill or Erodium.
Propaquizafop (eg. Correct)	A (fop)	Also controls Storksbill or Erodium.
Quizalofop-P-ethyl (eg.Targa®)	A (fop)	Cheapest. Not for group A or FOP resistant grasses
Butroxydim (eg. Falcon)	A (dim)	
Sethoxydim (eg. Sertin)	A (dim)	Only grass selective registered for chicory (suitable for ryegrass only)
Butroxydim + fluaxifop (eg. Fusion)	A (dim + fop)	
Imazamox (eg. Raptor)	B	
Propyzamide (eg. Kerb®)	K	

Natural resource management

WEST AUSTRALIAN STATE NATURAL RESOURCE MANAGEMENT CONFERENCE 2008

Organisation and planning of the West Australian Natural Resource Management Conference for 2008 is well underway. With the theme of "Regional NRM - Bridging the Barriers to Better NRM", the Conference will be held in Bridgetown in the picturesque Blackwood Valley from the 31 March - 3 April 2008.

The organizers of the conference, the Blackwood Basin Group, have been able to secure as keynote speakers the services of Ian Kiernan from Clean up Australia, and Jon Dee from Planet Ark.

The conference will be cover the following topics. In addition to these will be poster displays, workshops, and field trips, and social events allowing delegates many opportunities to update their skills and knowledge, reunite with friends and acquaintances and meet new colleagues within the NRM industry.

Regional Systems & Grassroots NRM
Keynote Speaker: Dr Graham Marshall from Rural Futures

Healthy Land and a Healthy Life
Keynote Speaker: Ass. Prof. Peter Dingle from Murdoch Universities School of Environmental Science

Protection by Purchase: Regulations & Incentives
Keynote Speaker: TBA (Australian Wildlife Conservancy)

Embracing Diversity & Change in NRM
Keynote Speaker: Peter Andrews of Natural Sequence Farming, Landline & Australian Story Fame

Industry, Environment & Climate Change
Keynote Speaker: Dr Penny Whetton from CSIRO's Climate Impact & Risk Group & Member of the Intergovernmental Panel on Climate Change

For further information please contact the Boyup Brook Telecentre, Phone: (08) 9765 1169, Email: telecentre@boyupbrook.org and/or go to the conference web site www.nrmconferencewa2008.com.au

WHAT'S NEW IN THE GSARI OFFICE

Since the last Agmemo edition the office has welcomed two new staff members, these are:

⇒ Chrissy Kerin, joined the office in June and is working as Land Potential Development Officer with the Natural Resource Management Team. Chrissy has recently returned to Katanning to live with her husband, Simon who is a local Katanning farmer.

⇒ Trudy Clarke, joined the office in March from the Albany office to work as the District Veterinary Officer.

The office also farewell's two valued staff members, these are:

⇒ Narelle Simpson (nee Hill) who is taking time off to enjoy being a full time mother of daughter Josie. Narelle worked as a Research Officer on the High Rainfall Cropping project for the past six years. Narelle is married to Orchid Valley farmer Daniel Simpson, so no doubt Narelle will be applying some of her knowledge on the farm.

⇒ Thomas Schultz, has taken a position with the Australian Tax Office in Sydney. Thomas has been the District Economist for the past three years.

HEALTHY SOILS FOR HEALTHY FARMS

Hi, my name is Mark Whitten and I'm running the new 'Healthy Soils' project with the Department of Agriculture and Food. The project aims to improve soil health through better understanding and management of soils by landholders across the South West NRM region.

An important part of this project is to fund local level work that addresses serious soil health issues. This funding will be open to individuals and groups (could be a couple of neighbours) which can show a need for funding to help them combat any issues impacting the health of their soils, assist with running field days / workshops or producing publications, such as booklets etc. Soil health issues include, but are not limited to, acidity, fertility, waterlogging, soil carbon levels, salinity, structure, water repellancy and biological activity.

Designed for farmers, the project will also develop easy to use practical guides for soil identification. These will include information on the soils productive potential and limitations especially their potential degradation risks. The guides will include information on the best methods of soil sampling for lab tests and will help to translate the often hard to understand lab results. The guides will aim to be practical, easy to use and both industry and area specific. I want to avoid publications which are not only hard to understand, but irrelevant to the individual farmer.

The project is an initiative of the South West Catchments Council and is funded jointly by the West Australian and Australian Governments through the National Action Plan for Salinity and Water Quality and the National Heritage Trust).

Overall the project aims to promote innovation, so put your thinking caps on, and don't hesitate to contact me with any proposals, ideas or questions you may have. I can be contacted at the Bunbury office on (08) 97806 297 and I look forward to talking with you.

BARRIERS TO ADOPTION: WHY WE DON'T DO IT

Cengiz EROL, Development Officer (NRM), Bunbury

Why do some farmers not undertake Natural Resource Management (NRM) or Landcare practices?

A new Departmental project **"Increasing landholder adoption of improved surface water management practices"** will try to answer this question on the medium to low rainfall areas of the region which, in the South West Region from Boyup Brook/Darkan out to Kukerin and Nyabing.

Local experience suggests that the barriers depend on the farming system and include broadly grouped as;

- *soil and landscape factors,*
- *economic and time constraints and competing priorities,*
- *lack of access to advice that land managers feel they can trust, and,*
- *experience of previous failures due to poor design or construction.*

As background to the project thirteen relevant case studies from across WA and Australia were reviewed to find out the possible barriers, key findings and suggested solutions to adoption of surface water management practices.

The review found out the barriers were financial (time, equipment), technical (information, advice), motivation & others and bio-physical,

- *Identified financial barriers to adoption included lack of money, financial incentives that the costs outweigh the benefits and lack of equipments and time.*
- *Identified technical barriers to adoption included limited knowledge, advice and information,*

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Natural resource management

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lack of clear written materials, lack of access to adequately skilled and trusted NRM advisors.

- *Identified motivation and other barriers to adoption included lack of direction from government bodies, the wrong extension model, lack of confidence, lack of support and cultural resistance to change.*
- *Identified bio-physical barriers to adoption included variable seasons, poor productivity (because of salinity, acidity, trace elements), poor off farm drainage, small and patchy land.*

In order to understand the reasons why farmers in our region are not undertaking Surface Water Management Best Management Practices (SWM BMP's), we are going to survey farmers in the project area later this year.

After identifying the key barriers (through the survey) farmers and landholder groups will be encouraged to implement surface water management on ground. We will be helping farmers with planning and funding on ground demonstrations.

This project is an initiative of the South West Catchments Council and is funded jointly by the West Australian and Australian Governments through the National Action Plan for Salinity and Water Quality.

For more information please contact Cengiz EROL on (08) 97806294

livestock

SHEEP WORM CONTROL TRAINING

John Karlsson, Senior Veterinary Officer, Katanning

To encourage and facilitate a more proactive approach to sustainable worm control we have held a series of worm egg count (WEC) workshops. They have proved to be very popular and usually oversubscribed.

We are planning two one-day workshops for **Wednesday 11th and Thursday 12th of July**.

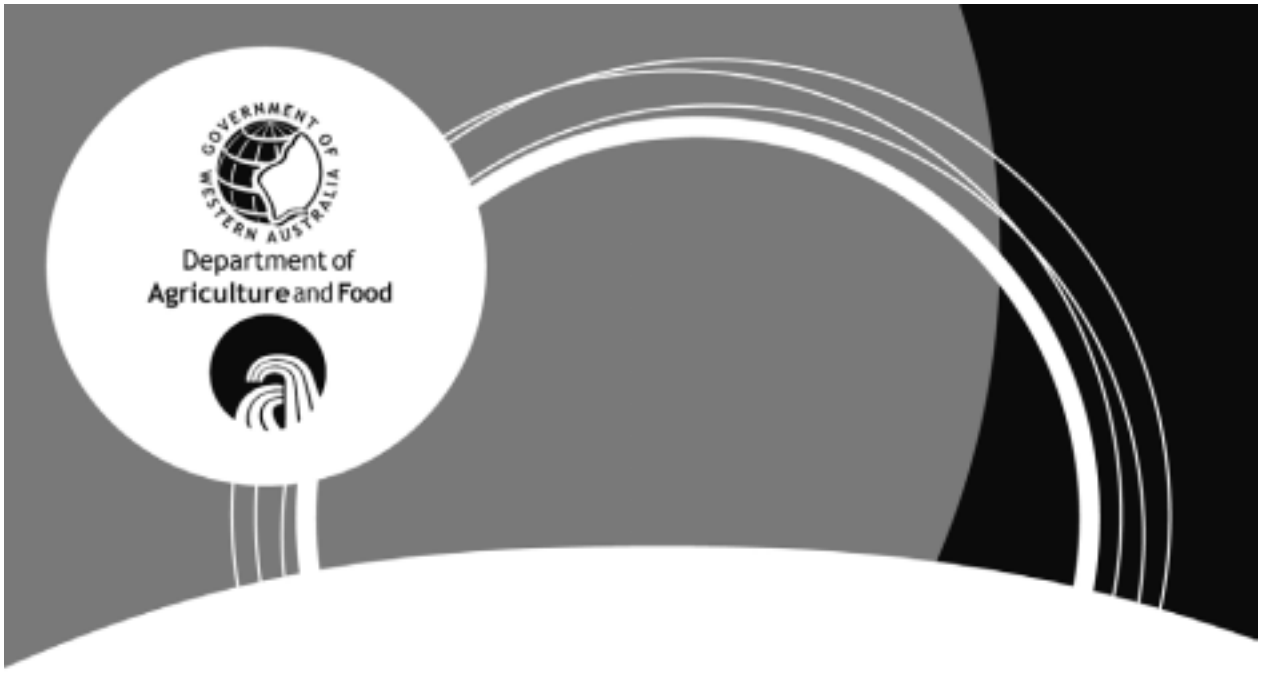
The workshops provide a combination of the theory of WEC monitoring and hands-on laboratory training.

The one-day workshop will not be able to teach you to an expert laboratory technician level or an expert on worm control. The aim is to provide the first stage of awareness of WEC monitoring and what is involved. Some people will progress on to set up to do their own WEC's, others will use it to improve their general understanding of the new WEC monitoring based worm control approach. Because we are offering a hands-on laboratory training opportunity we can only take a maximum of 10 people each day.

Interested people must therefore register their interest. The final offer will be based on a first in basis.

Cost per person is $200 plus GST, covering written material and catering. Primary Producers are eligible to apply for a 65% FarmBis refund.

Register your expression of interest with the Katanning office of Department of Agriculture and Food, preferably by faxing your contact details to 98 213334, or by phoning 98 213333.



AgLine

Farming info direct to you

1300 725 572

The Department of Agriculture and Food has developed this new telephone service, which is available to primary producers and agricultural consultants seeking advice on agricultural issues.

- easy access to a range of information, support and advice on agricultural issues
- providing answers to your questions on crops, livestock and horticulture
- cost of a local call from anywhere in the state
- dedicated specialist available weekdays 8:00am to 5:00pm*

*(*except public holidays)*

www.agric.wa.gov.au