

SOUTH WEST AGRICULTURAL REGION

Bunbury Regional Office (08) 9780 6100
Waroona District Office (08) 9733 7777

Manjimup Horticultural Research Institute (08) 9777 0000
Vasse Research Centre (08) 9753 0333

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The dry season

Bill Smart

The late break and poor outlook for rain makes 2006 look like a difficult year for producers. We have published a series of general articles in this Ag Memo looking at the situation and options to think about now. Later, as the season develops, we will be preparing more detailed information targeted at

particular industries. The outlook for a drier than average spring will require good management to produce and conserve as much fodder on farm as possible, given that lower than expected grain production means that grain will be at a premium in autumn 2007.

Potential impact of dry start to winter for horticulture

Alec McCarthy, Bunbury

Hopefully, by the time of reading this article the rains will have started and all will be well. If not, then the predictions of a below average winter, in terms of rain, not temperature will be looking rather accurate.

Thankfully, in most irrigated horticulture regions, the late break to the season is not as important as for those farmers who rely on the rains for germination of pasture or crops. Also, since last summer was quite mild, most growers relying on dam water supplies are most likely still with a healthy supply of water to last you over till it does start to rain again in earnest.

But, are there still issues you need to consider?

Frost, the lack of cloud cover and rain has resulted in some very cold mornings in many areas that wouldn't normally suffer greatly from autumn frosts. As a

result, hopefully all growers of frost sensitive evergreen crops such as avocados have been monitoring the temperature and operating their irrigation systems on frost cycles as required.

Continued irrigation requirements, this will be required for evergreen crops, particularly those still carrying crops such as avocados and some citrus. These crops continue to use water during sunny days and water stress can lead to fruit drop or impact on fruit quality. How much and how often you will need to irrigate will depend on your crop and soil type. Just remember to continue to monitor your soil moisture and not think that because it is winter you won't need to irrigate.

Straw mulch, for those growers who use straw as a mulch, you might want to investigate alternatives this season. With the late break to the season, this might not be a good season for straw.

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Salt flushing and filling of dams, many growers need to flush their dams of accumulated salts at the end of the season. This normally coincides with the first good rains and would still be recommended to maintain good water quality. Just don't overdo how much you flush. The salts gather at the lower level of the water in dams. As a result, you may like to just pump out lower part of the water by careful placement of the intake valve. We will continue to monitor the season to see if sufficient falls occur to fill dams and provide further advice on how to deal with reduced water supplies if required.

The season – June 2006

Bill Smart

For most of the high rainfall South West, 2006 is one of the latest breaking seasons on record, with autumn rain and rainfall for the year to date substantially below average.

The pasture break (germination) has started in the south, following rain in the last week of March. Pastures got away south of a line from about Margaret River to Pemberton to Albany, although pastures are still patchy, there are some very good areas towards the south coast.

North of this line, conditions are uniformly poor, with scattered and patchy germination of some pasture species, but no uniform and general germination of winter pastures. Rain from Manjimup north has been light and variable and falls well spaced out in time.

This has resulted at best in a staggered germination of ryegrass, but has not been sufficient to germinate sub clover on a lot of paddocks.

This means that all but the south coastal part of the high rainfall South West is still waiting for a comprehensive break.

Autumn rainfall has been lowest on record from Bunbury to Margaret River.

The outlook is not good, with most climate models predicting dry winter and a lower than average spring rainfall.

Department of Agriculture and Food staff are drawing up strategies that will be circulated to producers in various industries as the situation develops. There are several articles in this Ag Memo looking at options for horticultural and grazing enterprises.

Currently graziers should:

- Continue feeding stock producing meat or milk to maintain your required level of production.
- Assess feed supplies and secure more if needed and is available.
- Test all feed and formulate rations of known quality.
- Consider reducing non-productive stock numbers.

• Prepare to defer grazing once we have a uniform germination. This will happen at the coldest and slowest growing time of the year, so budget to feed 100% of requirement for at least two weeks after the break, while deferring any grazing and then reducing feed over the next three to four weeks during the first rotation.

• Consider applying nitrogen to grow more feed, so long as you have a good grass based pasture, have adequate soil moisture and pasture is growing. You should do the sums before spending money on nitrogen and remember that you will have to wait at least a month after application until you can graze.

There will be very little bulk of feed and the feed wedge will not build up quickly, so you will have to keep your grazing management on the ball this year.

Please contact DAFWA staff at Bunbury or Manjimup to discuss any of these issues on 97 806 263

Annual Ryegrass Toxicity in Hay

Bill Smart, Bunbury

Hay is in short supply and prices are climbing. Some hay is being offered for sale with a positive test for ARG. Here are some guidelines when buying hay:

- Only buy tested hay.
- Buy tested ARG free hay if possible.
- There is no safe level for ARG galls in hay.
- Buy the lowest ARG test count hay available if there is no other option. Monitor stock closely if feeding this hay.
- ARG test count is not a good indicator of possible ARG hazard. ARG is not uniformly distributed in the paddock and individual bales might differ widely in ARG level. Test should cover as many bales as possible from the batch.
- Get a test certificate covering the paddock or batch in the sale line.
- ARG infested hay will introduce the causal organisms to your property. They are very difficult to eradicate and ARG might express itself in the future if grazing practices change to allow short season ryegrass to flower in early spring.
- Buy hay on the basis of a feed test to ensure that you are buying good quality hay.

New publications

Nematodes in Western Australian vineyards: Bulletin 4667

Bulletin covers vine damage caused by Root Knot, Dagger and Root Lesion Nematodes in the vineyard, biofumigation and nursery hygiene.

Baby boabs - the exciting new taste sensation from the Kimberley in Western Australia; Bulletin 4672

Boab tubers are very versatile and can be used in most dishes, both raw and cooked. The tubers are crisp and crunchy, like a water chestnut, but with a refreshing taste that can adapt to the other flavours of any given recipe. Includes recipes utilising the boab tuber.

Managing Clubroot in vegetable brassica crops: Farmnote 110

Clubroot is a disease that affects plants of the brassica family. Brassica weeds such as wild radish and wild turnip can also be a host for the pathogen, increasing inoculum levels in the paddock. Covers infection and disease increase and Clubroot management.

White blister control in vegetable brassica crops: Farmnote 112

Covers identification, climatic requirements, white blister spread and management techniques.

Commonly used chemicals to treat sheep lice and blowflies: Factsheet 101

Covers benefits, chemical groups, risks and lice and fly treatments.

Sheep louse and blowfly insect growth regulators: Factsheet 102

Provides information about insect growth regulator chemicals specifically for sheep lice and blowflies including methods used for treatment and when treatment should occur.

Understanding sheep dip labels: Farmnote 106

Covers stripping and non stripping dips and the terms used in dip labels. Woolgrowers and contractors need to be familiar with these terms before starting a dipping program.

Virulent Footrot eradication in Western Australia: Farmnote 60/2005

Covers tests for footrot, symptoms of Virulent Footrot, scoring system, Virulent Footrot eradication program and policy, release from quarantine and the footrot vendor declaration scheme.

Five-day foot bathing treatment of ovine footrot: Farmnote 66/2005

Covers topical treatment of ovine foot rot, superficial and deep covert foot rots, why use five day baths, detection of lesions after treatment, factors and protocols for the treatment.

Sheep worms - faecal worm egg counts: Farmnote 104

Describes collection methods and the use of faecal worm counts for: assessing drench effectiveness; monitoring for potential production loss; monitoring for potential pasture contamination; and selecting worm resistant sheep.

Dry season response *John Lucey, Manjimup*

- or what you need to consider in the short, medium and long term to manage the late break to the season

Much of the south west is experiencing a disastrous start to the season, with the lack of rain seeing many grazing enterprises going into winter with poor pasture reserves and dwindling feed reserves. This is a **recipe for stress, not only for your stock but also for you!**

While we know the season will break eventually, the cold soil temperatures and short days result in slow pasture growth and therefore animal feed demand will far exceed pasture feed supply until spring.

Unless you take action now, animal performance will suffer reducing potential income. The simple fact is that **DOING NOTHING IS NOT AN OPTION!** This is particularly important for breeding enterprises where income is not only generated from this year's calves but next year's income will also be influenced by how you manage your cows this year.

While each farm's situation is unique, requiring a different mix of strategies to overcome this winter feed shortage, there are some basic management options and principles that all graziers should consider to minimise the impact of a late break to the season on their bottom line.

SHORT TERM

If you are running out of or have run out of feed reserves, then you have 3 basic options. You may choose one or a combination, depending on your circumstances. Your choice should be based on the relative economics of each option in terms of their impact on generating this year's profit and, if culling stock then also consider the herd's performance in future years.

1. Agisting stock off the property – potentially the easiest option if you can find agistment, but be aware of the extra work in management of stock away on agistment;
2. Culling stock - targeting poor performers first (empty cows, cows with poor calves) and then older animals
3. Purchase additional feed – remembering to compare alternatives on a relative cost of energy (ME)

Before you consider any of these options you need to develop a feed budget to identify the shortfall in feed for your production system and your traditional target markets. Once you

know how much extra feed you would need to purchase and its price, you can then compare the alternatives of agistment and/or culling to choose the most profitable for your situation

The sooner you make the decision of which of these options you will implement the more profitable and less stress it will be. Any agistment will go quickly, likewise supplies of hay will dry up and become more expensive the longer you wait. **A business decision is always better made when you have options rather than when you are forced to act.**

MEDIUM TERM

As the season progresses you need to continue to monitor the situation and consider some medium term strategies including;

- Strategic use of nitrogen – a cost effective method of growing extra feed, even in winter;
- Further culling and selling of stock dependent on how season goes;
- Early weaning to reduce overall herd feed demand, especially for heifers whose calves generally would not finish as vealers and to provide an opportunity for this high risk female group to receive adequate nutrition for their final growth;
- Priority feeding of different classes of stock e.g. drafting early calvers into a herd to be supplemented to finish calves as vealers, while late calvers run harder with calves marketed as stores

LONG TERM

The biggest factor that drives feed demand throughout the year in a cattle breeding enterprise is your choice of when to calve. As a cow's energy demand is highest after calving, the closer you can match calving to pasture supply the more a herd's feed demand can be supplied from pasture feed supply with minimal need for supplements. With our Mediterranean climate the earlier you choose to calve the bigger the mismatch of herd feed demand with seasonal pasture feed supply and the more expensive supplementary feeding will be required.

The practice of early calving has been driven by the traditional premium in the market for the "early vealers", but as we all know **you don't get anything in this world for nothing!** Early calving means that a cow's peak energy demand post calving comes at a time when there is either no or little pasture feed supply,

requiring expensive supplementary feeding (some early calving herds currently feed hay up to 2t DM/breeder).

The herds that are suffering the most from our late break are those that calve early and use first cross dairy cows to "chase" the high priced early vealer market. However, as we are seeing now this is a risky and expensive system when the break is late. So perhaps now is the time to ask yourself;

1. Should you consider delaying your calving period to better match herd feed demand with pasture feed supply?
2. Do you have the appropriate genetics for you're a breeding cow herd given our Mediterranean climate – first cross dairy females are high maintenance given their dairy genetics which have been bred for high nutrition systems, which means that in times of nutritional stress such as a late break they do it tough with resulting poor fertility?

THE BREAK HAS ARRIVED AT LAST

When the break does arrive there are some basic rules that you need to consider to optimise both pasture and animal performance.

1. Continue to supplement cattle when the rain comes as cold and wet weather will increase energy demand
2. Likewise, restrict cattle to a "sacrifice" area for at least 14 days to allow the newly germinated pasture to get away and develop a root structure that anchors the plants so they can withstand grazing
3. With slow pasture growth, it is critical that you use rotational grazing – shifting cattle onto new paddock/ area within paddock every 3 days or less - rather than set stocking over whole farm to give your pasture the optimal environment for future growth
4. Start grazing your first paddock when ryegrass plants have 2 leaves, with your first rotation being a light grazing that opens the pasture up to encourage tillering and brings you back to your first paddock when it has grown at least 2 leaves, remembering to maintain supplementary feeding
5. Monitor pasture growth and only stop supplementary feeding when cattle are being fully fed by pasture.

For further information and specific advice please contact John Lucey on 9777 0124, Emma Giumelli and Bill Smart on 9780 6100.

Feed management following a dry spell

Emma Giumelli, Bunbury

A survey of the various institutions producing three month outlook reports, indicates that we are in for a drier than average growing season. The patchy start to the season is predicted to continue. Whilst we have had some rainfall events over the last few weeks, the decrease in soil temperature will result in slowed pasture growth. For this reason it is important to consider how to manage feed availability during this time.

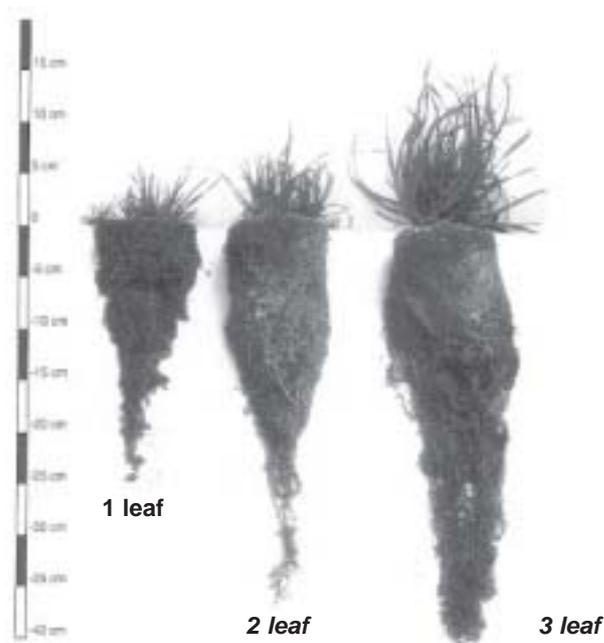
The Green Pick

Cattle will be naturally inclined to look for, and eat the green pick that germinates as a result of rain after a long dry spell. The problem associated with "chasing" this feed is that it uses up a lot of energy and although the short green pick is highly nutritious, the quantity that stock can eat soon after germination is not great and may be far less than their requirements, particularly if they are lactating. This time of the year also brings cold and windy conditions which will place added stress on the animal and further increase their demand for energy.

Grazing Too Early

In addition to requiring more energy, cattle chasing green pick can inhibit pasture growth. If plants are regularly grazed too early i.e. before the two and a half to three leaf stage for ryegrass, the result is a depletion of root and stubble energy reserves. The consequences of this are a stunted plant with limited root growth. If cattle are chasing green pick and nipping off new shoots the plant will continually put its energy into new leaves rather than root growth and stem. The first rotation can be started at the 2 leaf stage with a rapid light grazing to get all paddocks into phased rotation. The following picture illustrates the consequences of grazing continually at the 1, 2 and 3 leaf stage of a ryegrass plant. The plants that are grazed at 3 leaves per plant have larger roots systems thus enabling them to extract more soil nutrients and soil water than the plants grazed at 1 leaf per plant.

It is important to continue hand feeding cattle with an adequate ration even after pasture has germinated for the reasons outlined above. Ideally stock should be confined to a relatively small area of the farm, or sacrifice paddocks, to allow the pastures to adequately establish.



Access to some green pick is beneficial as it allows the rumen of the animal to adjust gradually to green feed. These sacrifice paddocks can be resown with oats or cheap seed once animals are moved onto the remainder of the paddocks by which stage they should have developed a feed bank.

Nitrogen for More Feed

An important strategy to be aware of is the use of nitrogen to promote extra growth. Although there are costs involved and adequate rainfall is still required, it may be an option for some producers and is a far cheaper alternative than buying in more hay. The calculation below demonstrates that per unit of energy, nitrogen (as urea) is substantially cheaper assuming average responses from the fertiliser. An average response time is three to four weeks so action needs to be taken early if using this option.

In selecting paddocks for this strategy look for ones with good existing nutrient levels, adequate pasture cover and containing productive species. If in doubt try a test strip and observe what happens.

Temperature Interactions

A good rule of thumb is that while pasture is growing, nitrogen fertilisers can increase growth rate. It is not until soil temperatures fall below 3-4°C that grass response to nitrogen will be limited.

Soil Moisture

Responses to N are restricted if pasture is moisture stressed. At least 8-10mm of rain is required to dissolve N fertiliser into the soil. Ideally nitrogenous fertilisers should be applied to a dry soil surface just before rain or irrigation. If the root zone is not totally dry, usually 20-25mm of rain in the days before N application will leave sufficient moisture in the soil surface for the N to be utilized by the pasture.

1kg of nitrogen produces an extra 15kg of DM.

67kg of N produces 1 tonne of DM.

If urea is landed and spread for \$500/t the cost of nitrogen is \$1.09/kg N or \$72 to produce 1 tonne of DM. Hay costs \$176.50/tonne of dry matter – nearly 2.5 times the cost.

The savings are further enhanced when you look at quality.

An average energy value for hay might be 8 MJ/kg DM and young fresh growing pasture might be 11.5 MJ/kg DM. Assuming the same costs for nitrogen above it costs 0.6c/MJ for the extra feed produced by using nitrogen whereas the hay will be 2.2c/MJ which is more than three times the cost.

Typical rates are 65-90 kg/ha urea.

Six-spotted mite – an old mite but a new pest of grapevines in WA

Stewart Learmonth, Entomologist, Manjimup

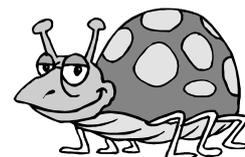
Twenty years ago, six-spotted mite arrived in WA on avocado seedlings from Queensland. They were found in one consignment sent to Pemberton. No problems have been reported on avocados on that property and it was thought that the mite had disappeared from the state. But this season a mite problem that started 2 years ago in a vineyard in the southern Margaret River region has been confirmed to be caused by six-spotted mite.

HORTGUARD, the Department's pest watch section, has consulted with representatives of relevant industries and a collaborative decision has been made that the mite is considered to be endemic to WA.

A farmnote is being prepared on this pest, a small scale survey around the infested vineyard is almost complete and a miticide demonstration trial has been conducted to clarify the biology and control of the mite.

The pest status of the mite in the main potential host crops – grapevines, avocados and citrus – will really only become clear over the next few seasons.

To learn more of this pest, visit the Department's web site (www.agric.wa.gov.au) and search under "six-spotted mite" to view an information note.



White blister a problem?

Kristen Stirling, Bunbury

Are you finding white blister difficult to control in your brassica crops? If so, don't despair! Trials are currently being conducted in Western Australia, Victoria and Tasmania to evaluate the tolerance of broccoli varieties to infection from white blister. These trials are part of a national project supported by funding from the vegetable R & D levy which aims to develop management strategies for the control of white blister in crucifer crops. Broccoli varieties will be assessed during the trials to determine if the disease is present, and if so, how severe the infection is. This will enable the identification of broccoli varieties requiring less intensive white blister management. Dr Liz Minchinton, plant pathologist with the Victorian DPI and lead scientist on the project attended a field walk at Manjimup on 14th June to discuss white blister.

techniques. Manjimup brassica producer Greg Jones agrees that further research is necessary. "With the recent

increase in broccoli production in this area, trials such as those being conducted at Manjimup are a great idea.

White blister can cause serious economic damage to broccoli crops and we need more research to help us manage this disease".

A computer based, disease-forecasting system is also being assessed as part of the project. The model called Brassica^{Spot} was developed in the UK by Dr Roy Kennedy (HRI) and is now used by over 50% of UK growers to time their fungicide sprays for white blister control. The model uses weather data such as temperature and leaf wetness to predict the likelihood of white blister infection occurring in vegetable brassica crops. The model lets growers know when they should inspect crops and depending on the results, whether spraying is necessary. An initial trial of the model in Victoria has indicated that spray applications can be halved whilst still keeping white blister under control. Further evaluation of the model will occur on vegetable brassica grower properties in Western Australia and Tasmania during 2006.

White blister, a fungus which can cause serious economic loss in crucifer crops was first identified during the summer of 2001/02 in Victoria and since that time has spread throughout Australia. The fungus infects a range of crucifer crops such as broccoli, Brussels sprouts, cauliflower and Chinese cabbage. Initial research has provided some control strategies for this disease however further investigation is required to learn more about the disease and to develop additional management



For information on current white blister control strategies or further information on the trial program please contact Dr Kristen Stirling at DAFWA on (08) 9780 6219 or Dr Elizabeth Minchinton at the Victorian DPI on (03) 92109224.

Chinese wax scale taking a liking to avocados

Alec McCarthy, Bunbury

The last couple of seasons has seen an increase in the incidence of Chinese wax scale (also known as Hard wax scale) *Ceroplastes sinensis* on avocado trees in the southwest. This scale can increase in number quite dramatically if not controlled quickly. While the impact of the scale itself is minimal, it can result in heavy outbreaks of sooty mould and increased ant activity within the trees. The sooty mould can result in reduced growth and can also be difficult to remove from Hass fruit due to the rough skin, thus reducing appearance and saleability of the fruit.

Chinese wax scale is a hard wax scale, that looks like a small rounded lump of dirty, white wax with small black spots (figure 1) usually about 6-7 mm across. As an adult, this scale is mainly found on the young twigs and along the main midrib of the leaves, most commonly on the upper surface of the leaf. As an adult, this scale is very difficult to control with softer chemical options best suited to integrated pest management operations.

It is best controlled when the new generation of scale hatch and the immature scale have not fully developed their protective wax coating. At this immature stage, they excrete wax through pores on their backs which results in a 'rosette' appearance (figure 2), easily seen through a 10x hand lens. At this point, the immature scale can be found along any vein on the leaves, again most commonly on the upper surface. As they approach adulthood, they will normally migrate to the main midrib of the leaves or to small twigs.

Essentially all Chinese wax scale are female and reportedly can lay up to 5000 eggs each. Thankfully they do this only once, as the adult dies after laying the eggs, but is replaced by some 5000 new scale. There are several parasites (*Tetrastichus ceroplastes* and *Scutellista caerulea*) and predators (several ladybird species) that will attack this scale, but sheer weight of numbers usually means that some form of chemical control will also be required.

The preferred choice of chemical control is a narrow range petroleum oil (*note: always follow label rates and application recommendations*). It is best to avoid the use of 'hard' insecticide chemical controls as they can often disrupt the natural pest/predator balance and result in outbreaks of other pests. The oil works by suffocating the scale and is most effective against the immature scale still at the 'rosette' stage. To be effective, the oil must completely cover the scale, so careful calibration and checking of spray coverage is essential. Oil sprays are best applied as high volume applications. The optimum time to spray oil is when most of the eggs have hatched but before the immature scale 'rosettes' close up. Egg laying normally occurs during late autumn, this season it has been late with young 'crawlers' still hatching late into May. To check to see if hatching is complete, try squashing several of the adult scale, if they exude a pink liquid then they probably still have eggs to hatch.



Figure 1 Adult Chinese wax scale *Ceroplastes sinensis*



Figure 2 Juvenile Chinese wax scale displaying the 'rosette' of wax

Australian Society of Viticulture and Oenology - Viticulture Seminar

'Finishing the Job'

Optimal Ripening of Cabernet Sauvignon and Shiraz

Friday 21 July 2006

This seminar is being held in the Mildura Arts Centre in Victoria and will be linked to WA by video conference at the Margaret River Education Campus Bussell Highway MARGARET RIVER 6285

ASVO Financial member \$190 ASVO Non member \$290 (Prices include GST, discounts available for students)

Registration and payment by 14 July 2006

Registration and further details contact the ASVO Secretariat

Tel: (08) 8410 9855 Fax: (08) 8410 9688 E-mail: admin@asvo.com.au

Green tea moves ahead

Mark Stanaway, Manjimup

Progress continues to be made in building up our knowledge of the agronomic requirements for establishing green tea as a commercial crop in the Manjimup/Pemberton area.

The plants which were planted at the Manjimup Horticultural Research Institute (MHRI) from 1999 to 2002 are now well established and are providing valuable information on the timing of flushes and preliminary yield data.

Ten varieties are being evaluated and it is hoped to identify a suitable mix which will enable a processing plant to operate efficiently for about five months over summer. It is hoped that this can be achieved by manipulating pruning times with different varieties so that harvesting can take place continuously during the

season. At this stage it appears that at least four flushes should be possible under our climactic conditions.

Until now, the plants at MHRI have been used as a source of propagating material to supply nurseries with material to produce the hundreds of thousands of plants which will be needed when commercial plantings commence. Two nurseries now have sufficient stocks on hand and are using them to establish their own mother garden source blocks. Two small pilot plantings are being established in the district.

Recently a separate pruner and a harvester, which are operated by two people, were purchased from Japan. The plants at MHRI are now being shaped so that harvest data can be

obtained on a larger scale next season. Until now this information has been collected from small plots.

During the recent season, shoot tip samples from the various flushes of each variety have been taken for chemical analysis at the Chemistry Centre. It is hoped to obtain information on the levels of flavanols, nitrogen, amino acids and tannins in our plants and compare them with levels in Japanese grown green tea so that some standards can be established.

In the near future, it is hoped to have a small scale processing plant operating so that expert tasters can provide some information on the quality of locally grown tea.

More information from Alec McCarthy in Bunbury on 9780 6273.



Fig 1. Harvester 1. Two man harvesting unit in operation. The leaves are blown into the large bag which rests on the cutting table behind the operators



Fig 2. Pruner 1. Two man pruning machine shaping the tea plants so that a cutting table can be established.

Orchard hygiene - does it matter for fruit growers?

Tony Portman, Bunbury

Why? - Orchard hygiene is very important for the control of some pests and diseases in the fruit industry

Previously we have seen the effects of Brown Rot of stone fruits when it gets out of control in orchards. We know that the disease can over-winter on mummified fruits and on cankers on shoots, both on the tree and the orchard floor. The cleaning up of mummified fruits and infected twigs is an essential part of reducing the disease pressure in the orchard.

More recently with the outbreak of Apple Scab in the Perth Hills last season, fruit growers in the 3km control zone are entering the most important area of disease control which is the destruction of leaf material and breaking of the disease life cycle. This is necessary because Apple Scab over winters on the

leaves on the orchard floor and when the conditions are right in the spring the spores are released from these leaf infections and infect the new season's leaf growth

Fruit fly usually over-winters in the soil but with larvae feeding on fruit in the tree and on the ground, cleanup, removal and destruction of this fruit will reduce pest levels.

How ?

There are a number of ways of cleaning up the orchard and reducing pest and disease pressures.

Mechanically raking, mowing and destruction of both leaf and shoot matter is ideal. There are a number of raking, mowing and mulching machines (manufactured locally and imported) in differing shapes and forms available on the market to carry this out .

Poultry are an enormous help in pest control. Guinea fowls can reduce weevil levels and chickens can reduce fruit fly levels by eating pupae and young adult flies.

General Farm Bio-Security is important in the spread of pests, diseases and weeds from other properties. Signage to indicate that people can not enter the property without your permission should be considered. The washing down of tractors and equipment between operations and general cleaning of vehicles and equipment will help greatly to reduce the risks.

For further information contact Tony Portman 97 806 185 , mobile 042 777 3168 or email tportman@agric.wa.gov.au

Managing lice in ewe/lamb flocks

Di Evans, Denmark

Lice reports appear to be on the rise this autumn and, with lambing already started, managing the pest at this time can be tricky. The treatment applied to pregnant ewes will determine if lambs should be treated.

Time of shearing and time of lambing

When lice are found in pregnant ewes, the question is whether or not to treat. Selecting the best treatment is determined by the need to minimise stress to the ewe, prevent spread to the lambs and minimise fleece damage and wool loss. The key to effectively treating pregnant ewes depends on when they are shorn in relation to lambing. To eradicate lice, chemical should be applied either off-shears or soon after shearing.

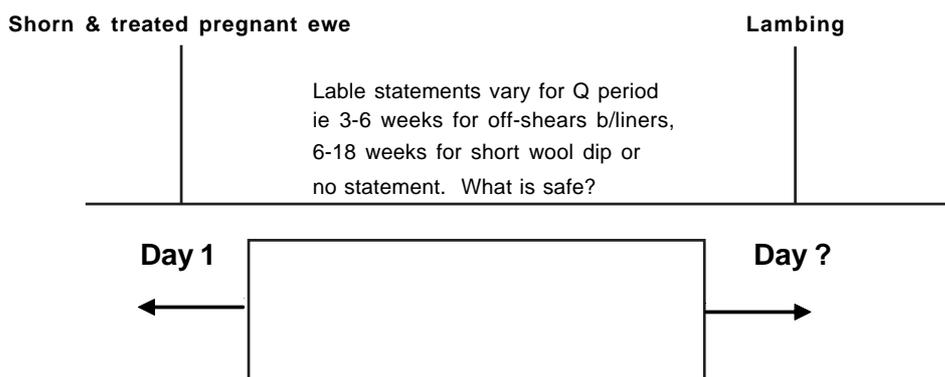
Shearing and treating pregnant ewes

Product labels can be confusing or may only provide limited information. It is important to understand the term 'Quarantine (Q) or Isolation Period' which appears on the label. This is the time period which should elapse between treatment and mixing with non-infested sheep to prevent transfer. The quarantine period is only a guide and not a guarantee. For pregnant ewes, where there is frequent close contact after lambing, it is probably better to extend this period. Unfortunately there is no consistency regarding label statements relating to quarantine (or isolation) period for pregnant ewes. The inference is that if you treat pregnant ewes then you should treat lambs. The ewe/lamb issue may be a weak link in the chain for some properties so it would be worth carefully considering current treatments and their likely effectiveness.

Label statements for quarantine periods and ewe/lamb statements for various products.

Treatment	Quarantine/isolation Period	Ewe/lamb statement
IGR backliner (eg Zapp, Magnum)	4 weeks (except for ewes & lambs)	When shearing and treating pregnant ewes, lambs should be treated up to 3 months old.
	3 weeks	When shearing ewes with lambs at foot, treat unshorn lambs up to 3 months old.
OP backliner (eg Eureka Gold)	6 weeks	Is not suitable for use on lambing ewes or ewes with lambs at foot
IGR short wool dip (eg Fleececare, Strike etc)	6 weeks	No statement
	18 weeks	No statement
Diazinon short wool dip	No statement	No statement
Extinosad short wool dip	No statement	No statement

Representation of quarantine period and current label statements in relation to lambing



Lamb treatments and wool withholding periods (WHP)

If treating unshorn lambs up to three months old with an IGR backliner, don't be caught out with the wool WHP as it varies with different products. ALWAYS CHECK THE LABEL AND, IF UNSURE, CONTACT THE MANUFACTURER. The following table highlights these differences.

Active	Products	Wool WHP	Meat WHP	ESI
Triflumuron	Zapp,	2 months	14 days	66 days
	Triffik, etc	2 months	Nil	60 days
Diflubenzuron	Magnum	6 months	Nil	Nil

If shearing after lambing, will I need to treat now?

If a long wool treatment is applied, ewes will need to be treated again at the next shearing for the best chance of lice eradication. Lamb treatment will depend on their age when the ewes are shorn. The decision to treat ewes in long wool should be based on the predicted level of wool loss and lice spread if left untreated, and the stress of the

treatment on the ewes. Currently (May), most properties will either have lambed or will be within two months of lambing and the choice of product will depend on length of wool and cost. Diazinon is **NOT** registered for long wool treatment of lice and its use poses a potential occupational health and high residue risk. Vanquish is not listed below due to high levels of resistance and residue risk.



Relative cost of long wool louse treatments

Chemical Group	Registered Products	Application Method	Wool WHP	Approx Cost per head 6 months wool®	Approx Cost per head 9 months wool®
Insect growth regulator	Magnum#	Pour on	6 months	\$1.15	Can't be used
	Strike	Hand jet	6 months	35 cents	Can't be used
	Fleececare	Hand jet	6 months	34 cents	Can't be used
Macrocylic lactone	Paramax	Hand jet	6 weeks	\$1.50	\$2.25
Spinosyn	Extinosad	Hand jet	Nil	48 cents	67 cents

* Omission of any products is not intentional and inclusion of products does not necessarily imply endorsement.

When used for prevention of body and crutch strike, lice control may also be achieved.

® Based on a 50 kg sheep, large vol container & prices in 2005 Farm Budget Guide (prices may vary with outlet)

Summary

€ If infested pregnant ewes are shorn and treated with an IGR backliner, lambs should be treated. Remember the label quarantine period may not be long enough to ensure no transfer to lambs.

€ If infested ewes are given a long wool treatment before lambing, lambs may still become infested but lice spread and wool damage should be less than if ewes were not treated.

[Factsheet 10/2004 Sheep louse control for ewes and lambs](#) contains more information on treating ewe/lambs. **More information** from your vet or me on 9848 3645.



Farmers in financial difficulties

Sue Smith, Bunbury

The cost price squeeze and falling commodity prices are causing farmers who were once very profitable to now be struggling to remain viable.

Assistance for farmers in financial difficulties is provided by the Department of Agriculture, Forestry and Fisheries (DAFF).

This assistance is aimed at improving the profitability and sustainability of Australian Agriculture.

In the southwest, assistance is delivered through South West Agcare and Centrelink. They work closely together to provide a friendly and efficient service to farmers experiencing financial stress.

South West Agcare provides free, independent and confidential consultations on a one-to-one basis. Rural Financial Counsellors Sue Smith and John Talbert assist farm families or small rural business with:

- Assessment of current financial position and cash flow budgeting
- Review of contract and loan applications with lending institutions
- Communication with lenders and facilitation of meetings with financial institutions
- Identification of ongoing skill requirements
- Information on and referrals to relevant professional services
- Accessing Australian Government assistance.

Phone John Talbert on 9780 6173 or Sue Smith on 9780 6172.

Centrelink provides assistance through the Farm Help Program. This is available to farmers anywhere in Australia who are experiencing financial difficulties. The aim is to improve a farmer's long term financial prospects. The assistance available includes:

- Farm Help Income Support (providing fortnightly payments for the farm family)
- Professional Advice and Training (as a basis for sound farming decisions)
- Farm Help Pathway Planning (assisting you to map out your future actions)
- Farm Help Re-establishment Grant (for those leaving farming with few assets)

Phone Farm Help Contact Officer Lisa Silk on 9792 8963 to discuss your situation and what assistance is most appropriate.

Grass tetany in beef cattle

Emma Giumelli, Bunbury

What is it?

Grass Tetany is a highly fatal disease associated with low levels of magnesium (Mg) in the blood. Beef cows (and dairy cows) with calves at foot during winter and spring are most at risk, but the condition can affect all classes of cattle. Very thin and overly fat animals are most susceptible. Research has shown that some breeds are more susceptible than others. Breeds selected for high growth rates and increased muscling have an increased demand on the metabolic activity of the cow. Some genetic lines of cattle, as well as individuals within a line, can not cope with these increased biochemical demands and this increases the incidence of metabolic disorders such as Grass Tetany.

Why does it occur?

The beef animal holds Mg in the bones and muscles and can not readily mobilise these stores. Therefore they need to meet their daily requirements from feed intake. Mg is lost in urine, faeces and milk. Even when feed levels of Mg are low, milk supply will remain the same so a cow in peak lactation (6-8 weeks following calving) needs a constant source of Mg. The amount of Mg available to an animal is affected by a large number of factors. Mg absorption is reduced by a high potassium and nitrogen intake. This is common when cows graze vigorously growing grass dominant pastures from soils that have been heavily topdressed with potassium or nitrogenous fertilisers.

Low Mg absorption can also occur when rumen potassium levels are raised by fasting or sudden changes in intake from dry feed to lush pasture or where phosphorus and salt intake are low.

What are the symptoms?

Animals suffering from grass tetany can be found dead, with some paddling marks which indicate convulsion prior to death. Earlier signs to look out for include a degree of excitability with muscle twitching, an exaggerated awareness and a stiff gait. Animals may appear aggressive and you may also see a progression through galloping, bellowing and staggering. In less sensitive cases, the only symptoms may be a slightly changed character and difficulty in handling.

Accurate diagnosis is important because similar symptoms occur with a number of significant diseases. These include:

- Staggers caused by Phalaris, Perennial Ryegrass, Paspalum and Annual Ryegrass toxicity
- Nitrate/nitrite poisoning (also seen on young, rapidly growing grasses and cereals)
- Lead poisoning – usually from discarded batteries
- Exotic diseases such as BSE and Aujeszky's disease and
- Locally occurring viruses and bacteria.

How to treat it?

To effectively treat grass tetany it is important to restore blood Mg levels. Veterinary administration of an intravenous calcium and magnesium solution produces best results. In acute cases where time is critical, you can inject a calcium and magnesium solution under the skin. Oral treatments should also be given to prevent relapses. Other sources of Mg include Causmag® (dusted onto feed), Mg incorporated into licks, Epsom salts or soluble magnesium chloride.

Prevention

- Place susceptible cattle on paddocks with the highest legume content.
- Avoid yarding and transport in late pregnancy and early lactation.
- Avoid over fertilising with nitrogen and potassium.
- Provide magnesium supplements when grass tetany has the potential to become a big problem.
- Keep good records of mobs and paddocks affected to inform future management.
- Put high risk cattle on low risk paddocks.
- Provide hay to high risk mobs.

More information from me on 9780 6181 or Tom Hollingsworth on 9780 6280.

Swill and pigs: an illegal combination

Roy Butler, Merredin

The association between swill – food waste – and pigs has historically been a strong one. Regardless of what happened in the distant past, however, swill is not now a permissible food for pigs. **It is illegal to feed swill to pigs, or to supply it to be fed to pigs.**

Swill feeding of pigs carries a huge risk - the risk of introducing devastating exotic disease into Australian livestock. Food that is safe for humans is not necessarily safe to feed to pigs or ruminants. Many viruses are highly resistant to chilling, freezing and curing. Even boiling may not destroy all disease organisms.

What is swill?

Swill includes meat, meat scraps, meat trimmings, animal offal, blood, bones

or any material that contains meat or any other waste or refuse not known to be free of meat or from contact with meat. Animal carcasses, including sheep, kangaroos and rabbits, qualify as swill.

Bakery, fruit and vegetable waste may be classed as swill if they contain or have had contact with meat. If there is any doubt, they are regarded as swill.

Used cooking oil is regarded as swill unless it has been through an approved process.

Swill cannot be collected or disposed of except –

- for sterilisation by an approved rendering process, or
- for incineration, or

- in accordance with provisions of the Local Government Act (1960).

Milk and meat meal, produced by approved renderers, may be fed to pigs.

Note: It is also illegal to feed swill, including meat meal, to ruminants. This is aimed at preventing the spread of bovine spongiform encephalopathy (BSE or mad cow disease).

More information about swill feeding, including an informative brochure, from your local District Veterinary Officer or Biosecurity Officer.



Condition scoring sheep

Mandy Curnow, Albany

Condition scoring sheep is an easy and accurate method of estimating the condition or 'nutritional well-being' your sheep flock. It is particularly useful for monitoring pregnant and lactating ewes.

Condition scoring is often more useful than live weight in that it:

- Doesn't rely on a weigh crate being set up - can be done anywhere sheep are yarded
- Can be done without having to correct for wool growth or the influence of wet wool on live weight
- Needs no correction for weight of the foetus in pregnant ewes or the weight of fluid during lactation
- Can be used on a mob of sheep with different frame sizes.

Randomly draft 25 sheep into a race or choose a random group from the middle of the mob. This is a large enough number to get a good average for the mob. Many people choose a couple of animals from each race full when drenching or doing some other animal husbandry task. Be sure to record the scores so that you can calculate the average.

Condition scoring requires you to assess the amount of tissue and fat covering the backbone and the short ribs of each sheep. Each assessment should only take a matter of seconds. Condition scoring enough sheep to get an assessment of the mob will only take 20 minutes or so and can be done while sheep are in for other husbandry activities.

There is a good description of each score and a handy condition score notebook that can be printed out from the web at www.agric.wa.gov.au, (put "condition score sheep" in the search box to find it easily).

Ewes should be in Condition Score 3 by lambing

Ewes, particularly twin bearing ewes, in good condition at the time of lambing have higher lamb birth weights and higher lamb survival.

At this time of year, ewes are generally in their lowest condition. As soon as a reasonable amount of green pasture is available (800 kg FOO/ha), ewes in late pregnancy will start to improve in condition. As their energy demand increases closer to lambing, they will need between 12 and 15 MJ of energy per day to maintain their weight, requiring about 1500 kg FOO/day. Once lambing starts, their energy demand almost doubles.

Ewes lambing in condition score less than 2.5 will have greater lamb losses and lighter lambs which can result in lighter weaning weights. It is important to condition score your ewes now and work out a feeding or management plan for the ewes leading up to lambing so that they either maintain or are able to gain condition. Ewes that are condition score 1.5 or lower are at risk and should be removed from the mob.

Don't forget that predation from foxes and lack of suitable shelter are big contributors to low lambing percentages. Prepare your paddocks now.

Some options

- *Mob average condition score less than 2.5: start hand feeding and get onto as good pasture as possible. Draft off poor condition ewes and manage separately.*
- *Mob average condition score 2.5 – 3.0: aim to at least maintain condition and prepare lambing paddocks with as much FOO as possible.*
- *Mob average condition score 3.0+: maintain condition until lambing*

If you have scanned for twins, look at the option of running a twin mob, choosing the best paddock for them and re allocating extra feed from the singles mobs to the twin mobs (twins do better if ewes are at condition score 3.5 at lambing).

How much to feed?

Check out the Supplementary Feeding pages for energy requirements of ewes, use the Feed Cost calculator to work out the cheapest feed option and use the Supplementary Feed calculator to determine feed rations at www.agric.wa.gov.au/sheep .

If you aren't sure about condition scoring, check out the 'how to' pages on the web – see the link from the supplementary feeding pages at www.agric.wa.gov.au/sheep

More information from me on 9892 8422.

Mulesing workshops – get in now for lower price

With new restrictions on mulesing operators coming into place in the near future, it is a good time to get on with becoming accredited, especially contractors. For 2006 only, the Department is supporting operators to become accredited by providing a \$200 subsidy. The Department has been heavily involved in establishing a mulesing training and accreditation program but, rather than providing staff to support the program, helping to reduce costs will increase opportunities for more operators to become accredited.

The training/accreditation program is an extremely valuable experience, with nearly all past participants expressing appreciation at having gained useful, practical knowledge and improved skills, especially in relation to shear sharpening.

In 2004, a total of 13 operators attempted and achieved accreditation. This was an excellent result. It may be more difficult for new operators to achieve accreditation as training and accreditation is combined in the one day. Two years ago, participants were given the opportunity to practice their skills

for several weeks before being assessed. This year, pre-workshop reading of the comprehensive training manual will greatly assist preparation. Workshops will be organised on a regional basis, with locations at this stage being;

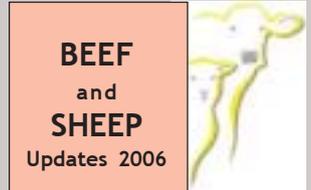
Mid-June Borden/Ravensthorpe
Mid-July Mingenew and Kellerberrin

Mid-Aug Boyup Brook
Only 100 places will be subsidised, so don't delay.

More information from the Kondinin Group on 1800 200 798



BOYUP BROOK SHEEP & BEEF UPDATES Friday 28th July



Boyup Brook Town Hall

Providing producers and industry with 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 sessions.

Look for your flier in the mail and at local outlets.
Cost: \$15/business early bird registration or \$25/business on the day.

To register your attendance contact Evan Armstrong on 9765 1478 or

Emma Giumelli 9780 6181



AgMemo mailing list

Your South West Regional AgMemo is now direct mailed, rather than being delivered via Australia Post's 'Householder' service. Developing and maintaining a comprehensive mailing list is not easy and we need your assistance to keep it accurate.

Please let us know if:

- The address on the label is not accurate
- You do not wish to receive future copies of the AgMemo
- You received more than one copy of the AgMemo
- You know someone who did not receive a copy and would like to

You can make required changes on this page and fax it to the Bunbury office of the Department of Agriculture and Food on 9780 6136 or phone 9780 6100.



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