Summary

- The small brown stomach worm (Ostertagia) is the most harmful parasite of cattle in this region.
- A single drench in mid-summer for weaners, yearling heifers and bulls will provide sufficient roundworm control on most properties. Breeding cows should not be treated in mid-summer to provide a refuge for unselected parasites.
- Where there has been a history of worm problems, an additional drench in May is recommended for weaners and yearlings.
- Adult cattle develop a strong resistance to Ostertagia and treatment of individual cows is only required if symptoms (scouring) appear.

Significant parasites

- Small brown stomach worm (Ostertagia ostertagi)

Geography

- Mediterranean climate with a long, warm/hot, dry summer and cool, wet winter.
- Summer temperatures are hot in the north and warm in the south.
- Rainfall increases in a south-westerly direction and ranges from 500 to 1,200mm per annum.

Production system

- Breeding and finishing area. Most calves are born in the autumn and weaned in early summer.
- Most cattle are sold at 16–24 months to domestic markets.
- Dominant cattle types are British breeds.
- Majority of pastures are based on annual species.

Grazing management

- There is considerable potential for rotational grazing between sheep and cattle and the use of stubble to provide ‘worm-safe’ pastures in this region.
- A worm-safe paddock should be prepared for weaning by grazing for six months with sheep or cattle older than 18 months or by the use of crop stubble.
- Resting pasture during autumn, winter or early spring will have little impact on pasture parasite numbers.

Economics

- The annual cost of strategic Ostertagia control for a 100-cow, autumn-calving herd is $400.
- Yearlings or sale stock must gain an extra 2.6kg in weight to breakeven on drench costs.
- The drenching program below provides a seven to nine fold decrease in Ostertagia burdens, however the effect on productivity in young, beef cattle is not known.

Calendar for worm control

<table>
<thead>
<tr>
<th>Class of cattle</th>
<th>Time of Year</th>
<th>December–January*</th>
<th>May</th>
</tr>
</thead>
<tbody>
<tr>
<td>Autumn born weaners/yearlings</td>
<td>✓ Weaning</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Spring born weaners/yearlings</td>
<td>Drench at weaning (Mar–Apr)</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Heifers/unsold yearlings</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Adult cows</td>
<td>Worm disease is rarely a problem in mature cows and no routine treatment is recommended. Individual cows showing signs of internal parasitism (diarrhoea, weight loss and ill thrift) should be treated.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All cattle</td>
<td>If lice are an on-going problem, a single treatment in early winter will usually provide control.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bulls</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
</tbody>
</table>

Adapted from Worm control in beef cattle in the South West, Brown Besier, Department of Agriculture - WA

✓ Strategic anthelminthic treatment given each year
✓ Not a routine treatment. Indicators for treatment include scouring, sudden loss of condition and a condition score of 2 or less, especially if feed availability is less than 1,000kg DM/ha. Treatment will be more effective if combined with a move to ‘low risk’ pastures, especially for young stock.
* During summer, inhibited Ostertagia larvae will be present and a drench with high efficacy against these larvae should be used.
SMALL BROWN STOMACH WORM (Ostertagia ostertagi)

The most important parasite in the region is the small brown stomach worm. It is present in all herds and dramatically reduces growth rates.

Actual losses from heavy Ostertagia burdens (scouring, weight loss and death) are rare, but production losses (reduced weight gain) in weaners and yearlings occurs on many properties each year, particularly in the wetter, western areas on cattle-only properties.

Excessive worm burdens are picked up from the pasture during May, June and July resulting in a ‘check’ in growth rates in the first winter after weaning.

Disease is more likely in seasons when the autumn break is followed by a prolonged, wet autumn and winter.

Adult cattle develop strong resistance to Ostertagia and treatment of individual cows is only required when symptoms (scouring) appear.

Seasonal trends

The number of infective larvae on the pasture follows a reliable seasonal pattern (see ‘Small brown stomach worm’ factsheet).

Few larvae survive the hot, dry conditions on pasture during summer. Following autumn rainfall, eggs in freshly deposited dung pats give rise to a rapid increase in worm larvae on pasture. Larvae numbers on pasture peak between May and July. From August onwards larval numbers decline and are negligible by November.

During spring an increasing proportion of Ostertagia larvae picked up from pasture become ‘inhibited’ in their development in the stomach wall lining. The numbers of inhibited larvae peak during mid-summer. Inhibited larvae resume their development in autumn and by mid-winter few remain. Disease caused by inhibited larvae resuming development en masse is rare, but can occur in autumn calving heifers or adult cattle around the time of calving.

Control

Because the major source of pasture larval contamination in autumn is derived from inhibited larvae resuming development to adult worms within cattle, programs in this region are designed to reduce this source of contamination with the use of a single, early summer drench for weaners. An anthelmintic with a high efficacy against inhibited larvae should be used for all drenches during the summer.

For autumn born calves the summer treatment will coincide with weaning. At this drench, cattle should be moved to a worm-safe paddock, ie stubble or a paddock that has been grazed for the previous six months with sheep or cattle older than 18 months.

On properties where internal parasites are an on-going problem, a further treatment in May could be required. Consideration should be given to combining this drench with a move to worm-safe pasture. This will require a paddock for weaners which has been previously grazed by sheep. Alternatively use another form of worm-safe pasture, such as freshly sown pasture or fodder crops. The ideal program is to provide worm-safe paddocks at both the weaning and May drenches. This can be achieved by a six-month rotation with sheep.

Spring born calves should be drenched at weaning and again in early May. The May treatment should be given irrespective of the time of weaning. At the May drench, spring born calves should be moved to a worm-safe pasture, preferably one that has been grazed by sheep since the previous summer.

By the end of the first spring after weaning, autumn and spring born calves will have accumulated high levels of inhibited larvae. To prevent the inhibited larvae resuming development to adult worms in the following autumn and producing disease, yearlings should be drenched in the December after weaning.

LICE

Although lice are common in the region, trials indicate that light infestations of lice do not reduce weight gains but heavy infestations can. Losses may also result from poor appearance at sale and damage to fencing and hides from rubbing.

Seasonal trends

Lice numbers increase from late autumn through to early spring and then decline with increasing temperatures in spring and summer. Heavy infestations are usually seen in cattle in poor body condition. In most cases the lice are a consequence, and not the cause, of poor nutritional conditions.

Some producers report that their animals do better following lice treatment. This perceived response is probably due to improved coat condition together, with the improved seasonal conditions that often follow the autumn–winter break.

Control

Increasing feed availability and a rise in spring temperatures usually resolve lice problems. Where cattle are suffering or rubbing is resulting in hair loss or skin damage treatment may be required.

Upon diagnosing an outbreak of lice, producers should look for and attempt to remedy the underlying cause of the stress.

Lice are seldom a problem in herds using ML drenches as part of their Ostertagia control program. Where lice are an on-going problem, a single treatment in late autumn will usually provide effective control.

Many producers are tempted to use an ML drench to control lice because of the extra internal parasite control provided by this class of chemical. However, lice control products can be more effective than the ML drenches in controlling lice. The ‘just in case’ use of chemicals should be avoided as it increases the risk of parasite drench resistance and carries an unnecessary cost. Integrated pest management strategies indicate it is preferable to use a narrow spectrum or specific treatment for each pest.

Acknowledgements
Brown Besier, Senior Parasitologist, Department of Agriculture - Western Australia.

Severe Ostertagia infestation (small brown stomach worm) in the fourth stomach (abomasum)
Dr M.G. Smeal, Southern Beef Advisory