Central Victoria and Tasmania

Geography

- Moist, temperate climate
- Uniform rainfall with long, warm summers and cool to cold winters
- Annual rainfall between 550 and 1,400mm
- Most areas have rainfall between 500 and 700mm

Production system

- Breeding and finishing region with calves born in autumn and spring
- Most cattle sold at 16–24 months to the domestic supermarket trade or to feedlots
- Most properties graze both sheep and cattle; in the flatter, western areas of Victoria more cropping occurs
- Cattle are mainly British breeds and their crosses

Summary

- *The small brown stomach worm* (Ostertagia) *is the most harmful cattle parasite in this region.*
- *To control* Ostertagia, *drench spring calving herds at weaning and again in July. Rotate to 'worm-safe' pasture after the July drench.*
- *Routine drenching of mature beef cattle is not required.*
- *Drench cattle grazing 'flukey' pastures in May/June and September with a third drench in December on high-risk properties.*
- *Lice are commonly treated but in most cases this may not be indicated. Infestations usually resolve with warmer temperatures and improved feed in spring.*

Significant parasites

- Small brown stomach worm *(Ostertagia ostertagi)*
- Liver fluke *(Fasciola hepatica)*

Other parasites

- Small intestinal worm *(Cooperia oncophora)* in early weaned calves
- Biting lice *(Bovicola bovis)* and sucking lice *(Linognathus vituli, Haematopinus eurysternus, Solenopotes capillatus)*

Grazing management

- Grazing yearlings on 'worm-safe' pasture during spring improves weight gains
- Worm-safe pastures can be prepared by grazing paddocks with sheep or cattle older than 18 months from the previous summer
- Drench yearlings in December if they do not graze worm-safe pasture during spring

Economics

- Annual cost of strategic *Ostertagia* control in a 100-cow, spring-calving herd is $1,240
- Yearlings or sale stock must gain an extra 8.2kg in weight to breakeven on drench costs
- The combination of a late July drench for weaners with a move to worm-safe pasture can increase weight gain by 30–60kg per head
- Drenching and paddock rotations to control *Ostertagia* are highly likely to produce positive returns

Calendar for worm and fluke control

Autumn calving herds

Age group	Dec–Feb	Mar–May	Jul	Sep
Weaners	✓ Weaning	✓	✓	(✓) May be required if previous drench was not an ML
Yearlings/1st calvers	✓	✓	(✓)	
2nd calvers	(✓)	(✓) Pre-calving		
Adult cows	Adult cattle have strong resistance to *Ostertagia* – individual cows showing signs of internal parasitism (diarrhoea, weight loss and ill thrift) should be treated			
Bulls	✓			
Liver fluke control				
All weaned cattle	(Fi)	Fi		F

✓ Strategic worm 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 change to 'low-risk' pastures, especially for young stock.
Fi Both adult and immature fluke present – select a drench that kills all fluke stages
(Fi) Adult and immature fluke present. This drench may not be needed on properties with a low fluke risk.
F Only adult fluke present. Use a drench other than triclabendazole to help slow the development of resistance.
ML Macrocyclic lactone

Calendar for worm and fluke control

Spring calving herds

Age group	Mar–May	Jul	Sep	Dec
Weaners	✓ Weaning	✓	(✓) May be required if previous drench was not an ML	(✓) May be required if worm-safe pastures were not used
Yearlings/1st calvers	✓	(✓) Pre-calving		(✓)
2nd calvers		(✓) Pre-calving		
Adult cows	Adult cattle have strong resistance to *Ostertagia*. Individual cows showing signs of internal parasitism (diarrhoea, weight loss and ill thrift) should be treated			
Bulls				✓ Pre-joining
Liver fluke control				
All weaned cattle	Fi		F	(Fi)

See over page for ✓, (✓), (Fi), F key

SMALL BROWN STOMACH WORM *(Ostertagia ostertagi)*

The most important parasite in this 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 gains) in weaners and yearlings occur on many properties each year, particularly in the wetter, eastern areas.

Excessive worm burdens may be picked up from pastures contaminated by weaners in autumn and winter and usually occur in late winter and early spring after weaning.

Adult cattle develop a strong resistance to *Ostertagia*. Treatment of individual cows is occasionally required when symptoms (scouring) appear.

Seasonal trends

Numbers of infective larvae on pasture follow a reliable seasonal pattern (see figure 2 of the 'Small brown stomach worm' factsheet).

Larval numbers on pasture are very low over summer due to the hot, dry conditions. A small number of worm eggs and larvae survive in the dung pats between November and March to be released by the 'melting' effect of autumn rains.

During spring, an increasing percentage of the *Ostertagia* larvae picked up by grazing cattle become 'inhibited' in their growth in the lining of the stomach. These inhibited larvae resume their development in autumn and by mid-winter few remain. Inhibited larvae develop into adult, egg-laying worms which generate the autumn rise in pasture larval numbers.

After the autumn rise, cold winter temperatures limit further increases in larval numbers on pasture until the warmer temperatures in late winter and early spring give rise to a rapid increase in larval numbers. This continues throughout the spring until larval numbers begin to decline with the onset of hot, dry conditions in late spring.

Control

In order to maximise weight gains in weaners and yearlings, producers must reduce the exposure of young cattle to high levels of infective larvae on pasture during late winter and early spring. Autumn born yearlings and weaners should be drenched in March–May. In late July, a second drench should be combined with a move to a 'worm-safe' pasture. Worm-safe pasture is best prepared by grazing with sheep or cattle older than 18 months from the previous summer.

ML drenches are used by many producers for *Ostertagia* control, but oral 'white' (BZ) drenches at one-third the cost provide the same effective control.

LIVER FLUKE *(Fasciola hepatica)*

Liver fluke is present across most of the region but its lifecycle's requirement for wet, marshy areas means its impact varies between properties and even between paddocks.

Clinical disease is most common in weaned cattle less than three years of age in the late autumn and winter. During dry summers stock pick up fluke as they graze 'flukey' areas such as swamps, springs and creeks in search of green feed. The risk increases until autumn rains generate fresh green feed and stock cease grazing in 'flukey' areas. Symptoms include reduced weight gain, weight loss, bottlejaw, possibly scouring and sometimes death.

Control

Before undertaking treatment, the presence of liver fluke on the property should be determined in consultation with a veterinarian.

Denying stock access to fluke habitats by fencing can prevent liver fluke infection. Fluke habitat can also be reduced with drainage, re-vegetation and fencing of creeks and soaks.

Where cattle graze fluke habitats, two drench treatments are usually required. The first is given in May to eliminate fluke that have been picked up during the summer and autumn. The second treatment in September is designed to remove adult fluke that can contaminate the pasture in spring. On high-risk properties an additional treatment in December may be required to remove high fluke burdens acquired during the spring.

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.

Control

Lice problems are usually resolved by increasing feed availability and the rise in spring temperatures. Where cattle are suffering or the 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. This is costly and can increase the risk of the development of resistant parasites. Specific lice control products can be more effective than MLs and integrated pest management (IPM) principles indicate it is preferable to use a narrow spectrum or specific treatment for each pest.