Technical Update

Farm Animal

Ostertagia ostertagi (Small Brown Stomach Worm) control in cattle.

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- ***Ostertagia ostertagi* (Small Brown Stomach Worm) is found throughout Australia and is the most production limiting roundworm of temperate southern Australia[1].**
- **Drench programs in Southern Australia should include a macrocyclic lactone (ML) (e.g. EPRINEX® Pour-On[#], ECLIPSE® Pour-On[#]) treatment in December-January[1] to avoid the severe clinical signs associated with type II Ostertagiasis.**

Distribution

Ostertagia ostertagi (Small Brown Stomach Worm) is found throughout Australia but is of particular significance in southern regions (figure 1) where it is the roundworm of greatest economic impact in cattle[1,2].

The successful control of *O. ostertagi* should be the primary focus of all cattle drenching programs in southern Australia.

Worms of lesser significance (although still important) such as *Trichostrongylus axei* and *Cooperia spp.* should be successfully controlled as part of a program targeted at *O. ostertagi*.

Life cycle

- Adult worms are present in the abomasum of cattle where they lay eggs that are passed in the faeces.
- These eggs hatch on the pasture. The hatched larvae undergo two moults to become infective third-stage larvae (L3) which migrate onto herbage and are ingested by grazing cattle.
- Once ingested, these parasitic larvae moult once more before burrowing into gastric glands in the lining of the abomasum. These larvae then emerge and develop into egg-laying adults.
- From the time of ingestion of infective L3 it takes 17-21 days to mature into egg laying adults (pre patent period).
- Hot and dry environmental conditions may trigger a condition known as hypobiosis, in which larval development is arrested in the glands of the abomasum (figure 2) before subsequent maturation when environmental conditions improve.

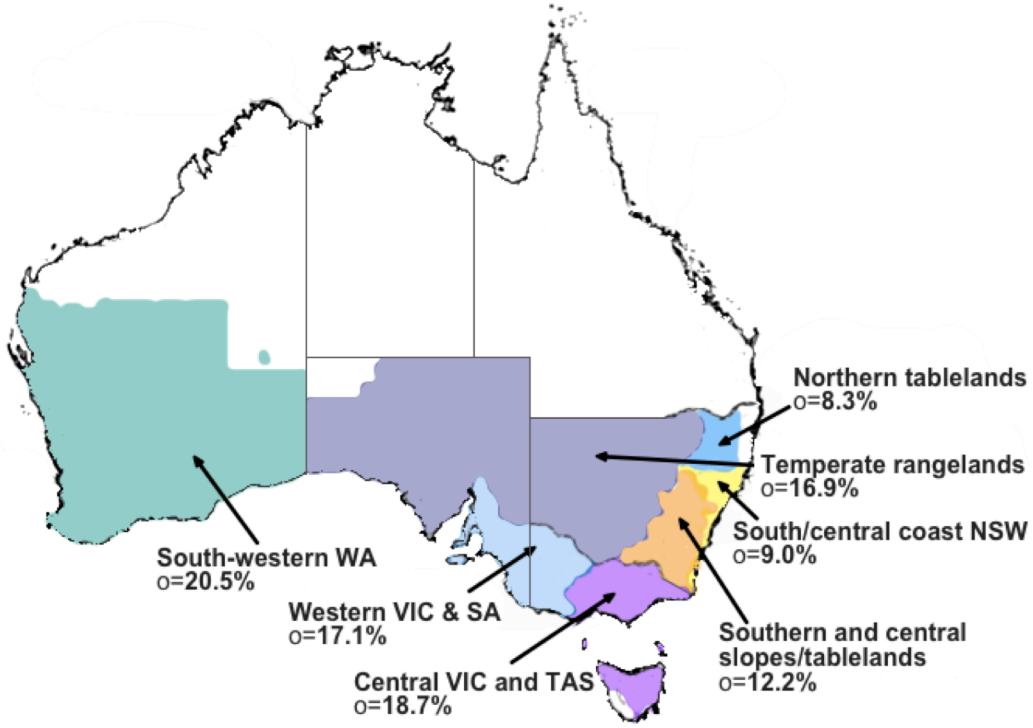

Figure 1. Cattle worm egg count results 2002-2012 (o = larval diff percentage O. ostertagi)[3].

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The disease Ostertagiasis

- Ostertagiasis occurs in two forms, Type I and Type II
  - Type I occurs in calves during their first grazing season as a result of maturation of ingested larvae in the abomasum.
  - Type II disease occurs in animals over 9-12 months of age as a result of resumed development of accumulated larvae which have undergone arrested development, or hypobiosis. It is typically seen in late summer and early autumn. The resulting damage to the abomasum following the eruption of large numbers of larvae, causes severe diarrhoea, oedema, weight loss, emaciation and even death.

Figure 2. Arrested L4 in the glands of the abomasum. (Source: University of Pennsylvania).

Control programs.

- Where *O. ostertagi* is found in significant numbers, its control should form the basis of any drench program.
- Control programs will vary by region and production system but should include the use of a ML such as EPRINEX® Pour-On or ECLIPSE® Pour-On in December-January.
- This December-January treatment aims to control any inhibited/arrested L4 *O. ostertagi* in the glands of the abomasum before they resume development and cause Type II Ostertagiasis.
- It is vital this treatment is a ML such as EPRINEX® Pour-On or ECLIPSE® Pour-On, as trials have shown that MLs can be more effective against inhibited L4 than Benzimidazoles[4] (BZs/white drenches) or Levamisole (clear drenches)[5].

A ML treatment in December-January is vital in southern temperate Australia to:

- **Treat for inhibited L4 *O. ostertagi* and prevent Type II Ostertagiasis.**
- **Safeguard against the negative health and productivity effects of parasitism.**

For further information, please contact your Boehringer Ingelheim Territory Manager or call our Technical Hotline on 1800 808 691 or visit www.merial.com.au

References:

1. Love and Hutchinson (2007) Cattle worm control – the basics. Prime facts ag note NSW DPI.
2. Larsen (2007) Ostertagia in cattle. Victorian state government agriculture.
3. Taylor and Hodge (2014) Descriptive findings from analysis of a large database of cattle worm egg count and larval culture results collected across Australia between 2002 and 2012.
4. Wiiliams et al (1997) Comparative efficacy of ivermectin pour-on, albendazole, oxfendazole and fenbendazole against *Ostertagia ostertagi* inhibited larvae, other gastrointestinal nematodes and lungworm of cattle.
5. Williams (1991) Efficacy of albendazole, levamisole and fenbendazole against gastrointestinal nematodes of cattle, with emphasis on inhibited early fourth stage *Ostertagia ostertagi* larvae.

EPRINEX® Pour-On contains eprinomectin.
ECLIPSE® Pour-On contains abamectin and levamisole
#See product label for full claims and directions for use.

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