

# Genesis™ **Xtra Drench**

## **Oral Broad Spectrum Antiparasitic for Sheep with Barber's Pole Long Action**

### **Barber's Pole Worm in Sheep**

Barber's Pole Worm (*Haemonchus contortus*) is a roundworm that inhabits the abomasum (4<sup>th</sup> stomach) of sheep, feeding on blood from the wall of the gut. It is relatively large, with females 20-30mm long and males 10-20mm long. It is most common in Summer rainfall areas (Queensland and northern New South Wales), but it is found in all states and outbreaks may occur almost anywhere when the weather is suitable (warm and wet).

The control of Barber's Pole Worm is particularly challenging because of its reproductive output. A single female can produce 5 000 – 10 000 eggs per day. The larvae that hatch from the eggs can develop into the infective stage in five days and can start producing eggs as soon as 18 days after they are ingested by the sheep. This means that pasture contamination and infections within the animals can build up very quickly when conditions are suitable. The onset of production losses and clinical disease can be rapid, with impacts evident even before the worms are releasing eggs in the faeces. Strategies for controlling Barber's Pole Worm must therefore be more responsive to seasonal conditions than control programmes designed for the control of other worm species.

Control is further complicated by the escalating problem of drench resistance. Studies have shown that the genetic makeup of *Haemonchus* species makes them particularly able to adapt to overcome the effects of chemical treatments. Many Australian properties have worm populations that are resistant to one or more drench classes. Use of ineffective products will fail to control the worm population and may not prevent the onset of clinical disease.

Significant levels of resistance develop as a result of exposure of a worm population to a particular drench class. Most worms surviving to produce eggs within treated animals are resistant, leading to an ever-increasing level of resistance within the worm population if the same product is used on subsequent occasions. This selection for resistance is particularly encouraged where there are few worms surviving outside of treated animals (e.g. when all animals on a property are treated at the same time and environmental conditions such as a hot, dry Summer allow few worms to survive on the pasture).

There are a number of different strategies that can be used to minimise the development of resistance. If single-active products are being used, a number of different drench classes should be used in slow rotation (e.g. annual) so that the worms are not exposed to the same chemical for long periods. It is important that rotations include different drench classes (e.g. clear, white, mectin) rather than different products from the same drench class.

The use of single-active products that are active for long periods should be avoided, especially where resistance is already emerging. The long life of these products means that they are equivalent to using the same short-acting product several times in a row, but the selection pressure is even greater because for long periods (potentially an entire season), no worms can pass through the animals without being exposed to the chemical.

**Information line 1800 001 973**

**Available Exclusively From**

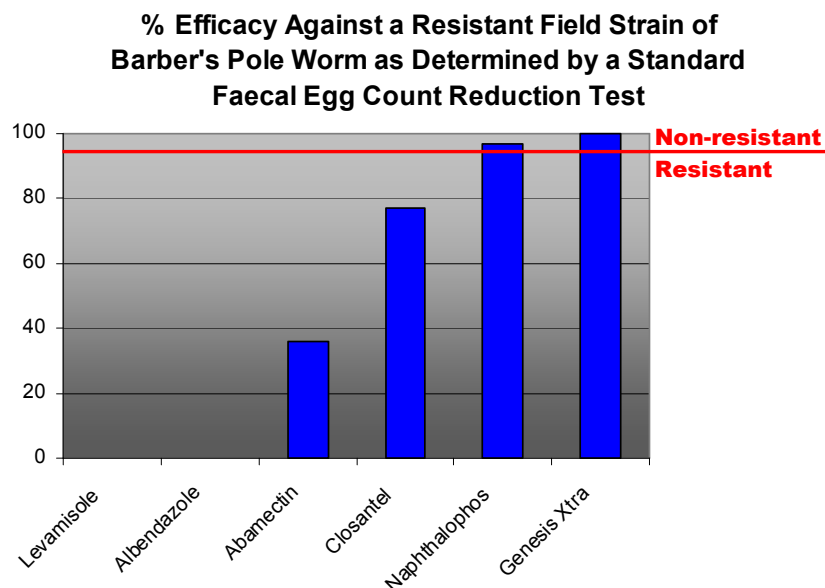


# Genesis™ *Xtra Drench*

A better option is to use combination products. These products combine a number of active ingredients from different drench classes. They can slow the onset of resistance because it is far less likely that worms will have resistance to two or more different actives than just a single active.

It is important to manage resistance problems proactively. It is good practice to conduct regular resistance testing to establish which drench classes are still effective before products are chosen for use. At the very least, tests should be conducted whenever product failure is suspected to establish whether the cause was resistance or another management issue.

It is generally accepted that resistance is present when a product fails to achieve a 95% reduction in worm egg output. The graph below shows data from a field study in the New England area. On that property, the worm population was resistant to clear, white, mectin and closantel drenches, but not to naphthalophos or Genesis Xtra Drench, a combination product containing both abamectin and closantel.



Once resistance is established on a property, the options for treatment are limited. When multiple resistances are present, the range of effective products can be severely restricted and the monitoring of drench efficacy to aid product choice is essential.

One treatment option where resistance is present is to use products containing a single active that is still effective (e.g. naphthalophos in the example above). It is important, however, to use the remaining effective products wisely (avoid underdosing, excessive treatments and prolonged use) so that they are not lost from the control arsenal. It is also a good idea to maintain at least one drench group as an emergency measure, to be used only as a last resort treatment when other management tools and treatments have failed.

Another approach to fighting resistant worms is to use combination products incorporating different components that work in unison to overcome resistance to the individual actives. For instance, in the example given above, although the worms were resistant to both abamectin and closantel, they were susceptible to Genesis Xtra Drench, a combination of the two actives.