STARTECT® TALK

EXIT DRENCHING & PARASITE MANAGEMENT

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STARTECT KEY FACTS

Resistance

- Importance not accepted by many farmers
- Not well understood by farmers
- Hidden threat when purchasing properties
- Once established almost impossible to eliminate
- Increases farm costs
- Affects animal growth potential
- Reduces farm profitability
- No farm planning for managing resistance

STATUS & PERCEPTIONS OF DRENCH RESISTANCE

Drench resistance (<95% reduction in efficacy) goes undiagnosed on sheep and cattle properties for a number of reasons, including:

1. Resistance perceived to be unimportant
2. Farmers' view, "it's my neighbour's problem"
3. Low / no investment in monitoring for drench efficacy
4. Sub-clinical infections are not obvious

Resistance is widespread and probably underestimated on farming properties across New Zealand (Waghorn et al 2006). The NZ national drench resistance survey showed that 64 percent of properties were diagnosed with a drench resistance. Refer to Table 1.

Table 1 NZ national drench resistance survey conducted in 2004-2005

ANTHELMINTICS (families tested)	SHEEP FARMS (% failing test)
IVERMECTIN	25
ALBENDAZOLE	41
LEVAMISOLE	24
COMBINATIONS (BZ) (LEV)	6
1 OR MORE ACTIVES	64

Anthelmintic resistance can cost farmers in many ways including:

1. Increased costs for drenching, labour and direct drench purchases
2. Effects on animal condition, performance and productivity
3. Lower farm revenues and profitability

Research from NZ studies have estimated the cost of resistance at 14-28% in lost revenues:

1. Reduced carcass value approximately 14% (Sutherland et al 2010)
2. Reduced productivity and delayed lamb finishing approximately 22-28% (Miller et al 2011)

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EXIT DRENCHING STRATEGY

Any worms that survive a standard treatment dose in sheep after a routine drench programme has been completed will be the basis of a resistant parasite population.

The purpose of introducing an exit drench strategy into a planned worm management programme is to minimise the possibility that these drench-resistant worms survive and reproduce following routine drenching seasons (Spring and late Summer/Autumn).

An exit drench treatment is administered at the end of a drenching season. Traditionally, it is the last drench before the Summer or Winter months. In reality, an exit drench can be given after any drench that is suspected to have left residual worms, whether resistant or not.

Knowing what product to use as an exit drench is a key to success. An exit drench must meet specific criteria:

1. Highly effective against a broad spectrum of worms
2. Contains a different drench family to that used previously in the drenching season
3. Effective in controlling drench-resistant worms
4. Delivered at an appropriate time

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Why Exit Drench?

- Minimises the risk of drench-resistant worms establishing after routine drenching programmes
- Success dependent on:
  - Product selection & effectiveness
  - Application timing

Exit Drenching with STARTECT

- >99% effective control
- Controls resistant worms
- Combination drench
- Novel active with no detected resistance

Exit Drenching with STARTECT®

A product such as STARTECT meets the requirements of an effective exit drench, and more:

1. STARTECT contains a new active, derquantel, not previously seen by sheep worms
2. Derquantel is from an entirely new drench family, the spiroindoles (SIs)
3. STARTECT is an oral combination containing derquantel with a potent macrocyclic lactone (ML), abamectin
4. STARTECT provides very effective control against a broad spectrum of sheep worms (Little et al 2010)
5. There is no diagnosed drench resistance to this novel combination drench
6. STARTECT has been clearly shown to control worms resistant to the older drench families, and combinations of them
7. Modelling has predicted that if STARTECT is integrated in a planned drench programme, as it is a combination product, each component will help protect and preserve the sustainability of the other (Leathwick and Hosking 2009; Leathwick 2011)
8. Studies also predict that adoption earlier, while there is no resistance to derquantel and resistance to abamectin is low, will prolong the effective life span of this new combination drench

EXIT PROGRAMME OPTIONS

Spring

Three key worm species (*Teladorsagia*, *Trichostrongylus* and *Nematodirus*) are dominant during Spring months when lambs (and ewes) are most at risk. Individually and collectively they can cause significant losses in condition and productivity. Use of STARTECT as an exit drench in lambs following the period when Spring drenches are given will help ensure no worms are left from the previous drench to contaminate pastures across the Summer. This strategy will help management such that eggs of resistant worms deposited during Spring months of a drenching programme will be minimised. This will help reduce infective larvae on pasture later in the season. Management during Spring is a key aspect to an effective preventive parasite management programme (Vlassoff et al 2001).

Another key timing for an exit strategy is treatment following use of capsules or other long acting products in ewes. Exit drenching is recommended given the possible prevalence of residual worms post administration, and towards the end of drug activity and payout.

Autumn

In many NZ regions (North Island and northern South Island locations) warm moist conditions which are ideal for *Haemonchus contortus* (Barber's Pole) survival and development follow the dry Summer months. Worm fecundity and their ability to rapidly cause clinical disease (anaemia) make this parasite a significant target for control. The very high reproductive rate of *Haemonchus* produces a large number of generations per season increasing the potential for selection.

Longer acting products are used for more effective and prolonged management and control. Use of drenches from the same family has been implicated in development of resistance to drenches. Long term effective management of both worms and drenches are critical to drench efficacy.

At the end of the Barber's Pole season, STARTECT is an excellent option to remove any resistant worms. This often coincides with the last drench animals receive going into the Winter months.

Further south, the other production-limiting worms are important, e.g. *Teladorsagia (Ostertagia* spp) and *Trichostrongylus* spp, which are in the North Island too. Routine parasite management programmes should also be followed by an exit drench for the same reasons as for *Haemonchus*.

Refer to Table 2 that shows a preventative drenching programme illustrating STARTECT exit drenching options to help minimise drench resistance.

Table 2 **Example of a drench programme using STARTECT as an exit drench**

Spring	1 WEANING DRENCH
	2 STARTECT EXIT DRENCH
Summer	3 DRENCH AS REQUIRED
Autumn	4 DRENCH AS REQUIRED
	5 DRENCH AS REQUIRED
	6 STARTECT EXIT DRENCH
Winter	

This is an example of a drenching programme only. This does not replace the advice of your Veterinarian or Animal Health Advisor.

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When to Exit Drench?

- At the end of your two main routine drench seasons i.e. late Spring and late Autumn

CONCLUSION

Exit drenching should be included in a planned worm management programme to ensure control of worms throughout the year. This will help ensure animal performance and productivity are optimised and farming revenues are maximised.

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Conclusion

- Exit drenching slows resistance development
- STARTECT is >99% effective
- Control worms during Spring and Autumn for optimal parasite management
- Better worm control will result in better animal production

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