

# TECHNICAL BRIEF

## MARATHON LA INJECTION

For the control and treatment of internal parasites,  
nasal bot and itchmite in sheep.

**Active Constituent:** 20g/L Moxidectin

### Introduction

MARATHON is a long-acting injectable treatment containing 2% moxidectin. Based on a well proven formula it is suitable for the treatment and control of internal parasites, nasal bot and itchmite in sheep.

### Spectrum of activity

MARATHON is effective against sensitive strains of the following parasites. **Gastrointestinal Parasites** Adult and immature (L4) *Haemonchus contortus*, *Ostertagia* spp. (small brown stomach worm), *Ostertagia circumcincta*, *Ostertagia trifurcata*, *Trichostrongylus axei*, *Trichostrongylus* spp. (black scour worm), *Trichostrongylus colubriformis*, *Nematodirus* spp. (thin necked intestinal worm), *Nematodirus filicollis*, *Nematodirus spathiger*, *Cooperia* spp. (small intestinal worm), *Cooperia oncophora*, *Strongyloides papillosus*, *Oesophagostomum venulosum*, *Chabertia ovina*, *Trichuris ovis* (adults only), and inhibited (hypobiotic) larvae of *Haemonchus*, *Ostertagia* and *Trichostrongylus*.

**Lungworm** (adult and immature) *Dictyocaulus filaria*

**Nasal bot** *Oestrus ovis*

**Itchmite** *Psorergates ovis*

### Persistent Activity\*

112 days	<i>Ostertagia circumcincta</i>
91 days	<i>Haemonchus contortus</i>
42 days	<i>Trichostrongylus colubriformis</i>

Moxidectin has been shown to be effective against gastrointestinal nematodes which are resistant to other anthelmintics (e.g. benzimidazole and levamisole/morantel anthelmintic action families). It has also shown efficacy against a number of ivermectin resistant strains of *Haemonchus contortus* and *Ostertagia* spp. Moxidectin shares a similar mechanism of action to the avermectins. It should not be used where avermectin resistance is present, except where specially recommended by an adviser.

### Dose rate

1ml/20kg bodyweight (1mg moxidectin/kg bw).  
DO NOT USE IN LAMBS UNDER 20KGS.

### Withholding Periods

MEAT - 91 days  
MILK - 180 days

### Storage

Store below 25°C. Protect from light.



## What are the applications for MARATHON?

MARATHON is suitable for use in situations where routine yarding of animals to enable the administration of short-acting treatments is undesirable or difficult.

MARATHON is also suggested for use in the treatment of selected groups of ewes prior to lambing, including:

- Multiple bearing ewes (twins and triplets).
- First lambing ewes
- Ewes with a low body condition score or low body weight.

Benefits of treatment of these groups may include (depending on ewe condition and level of parasite challenge):

- Better ewe weights at weaning
- Better lamb weights and/or more lambs surviving at weaning
- Increased wool production
- Less dags and associated fly strike.

## Managing the risk of resistance

Treatment of ewes pre-lamb with long-acting products can confer benefits but used inappropriately or non-selectively it may also hasten the speed at which parasite resistance develops. To help mitigate this risk the following management practices should be used in conjunction with the administration of MARATHON LA Injection:

### Before Treatment

- **SEEK** expert advice from your veterinarian to create an integrated animal health/grazing plan
- **KNOW** the status of drenches on the property
- **ENSURE** nutrition or other animal health issues are not compromising animal performance and the ability to withstand a parasite challenge.
- **SELECT** and treat animals based on need not on routine - During late pregnancy and in early lactation most ewes experience a temporary drop in immunity to parasites. However, it is ewes with multiple lambs, thin ewes and ewes having their first lamb that will be more likely to experience loss in condition as well as contribute most heavily to new worm infection on the pasture. Target these animals for treatment, rather than healthy single ewes.

### Treatment

- **LEAVE** some animals untreated (refugia) to act as reservoirs for susceptible worms
- **MAKE** sure animals are treated with the full label dose of the product – weigh mobs and check gun accuracy frequently

### After Treatment

- **INTEGRATE** grazing (mixing cattle, deer and sheep and cropping) to minimise frequency of and exposure to resistant parasites. Run untreated single ewes with treated multiple ewes/ run untreated ewes over the same pasture as treated lambs

- **DRENCH** lambs after weaning with an effective multiple combination treatment.
- **EXIT** drench with an effective combination treatment.
- **HOLD** new arrivals on the farm and treat with an effective multiple combination treatment. Check efficacy before releasing into the main mob.
- **CONTINUE** to monitor the effectiveness of all anthelmintics used on the property

## Recent Studies Comparing Capsule Treatments with LA Moxidectin Injection

Two recent studies have demonstrated the comparative performance of long acting moxidectin injection with controlled release capsules.

In the first study (Bingham, 2017) conducted on a central North Island hill country property ewes with low body condition score were treated 4 weeks before lambing with either a controlled release capsule (CRC) containing abamectin, albendazole, Se and Co (n=200) or a long-acting injection of moxidectin (n=200). A negative control group (n=199) received no anthelmintic treatment.

All ewes were body condition scored (1-5 scale) and weighed at pre-lambing, docking (65 days after treatment) and at weaning (127 days after treatment). At weaning the mean body weight of ewes treated with moxidectin was 3.2 (95% CI=2.3-4.3) kg heavier than controls, and of ewes treated with CRC was 3.6 (95% CI=2.5-4.5) kg heavier than control ewes (p<0.001). There were no significant differences between the two pre-lambing treatments used.

In the second reported study (Miller 2015) a series of five experiments were conducted on three Wairarapa farms. Groups of ewes carrying twin lambs were treated with different anthelmintic allocations. Included were groups treated pre-lamb with;

- Abamectin/albendazole mineralised capsules, or
- Albendazole mineralised capsules, or
- Long-acting moxidectin injection

The overall mean ewe liveweight response at weaning compared with untreated controls was +3.0 (95%CI=1.84-4.14) kg for the Abamectin/albendazole mineralised capsule, +2.8 (95%CI=1.35-1.46) kg for the Albendazole mineralised capsules, and +3.2 (95%CI=2.37-4.09) kg for the moxidectin injection. There were no significant differences between the three pre-lambing treatments used.

C Bingham, A Hodge & B Mariadass; Comparison of two long acting pre-lambing anthelmintic treatments on the productivity of ewes in low body condition, N Z Vet J. 2017 May;65(3):152-155

CM Miller, S Ganesh, CB Garland & DM Leathwick; Production benefits from pre- and post-lambing anthelmintic treatment of ewes on commercial farms in the southern North Island of New Zealand, N Z Vet J. 2015 Jul;63(4):211-9.

D Robertson; Pre-lamb drench treatments – the long, the short and the naught of it, NZVA Sheep & Beef Conference Newsletter. No. 39, 2011, 18-29