

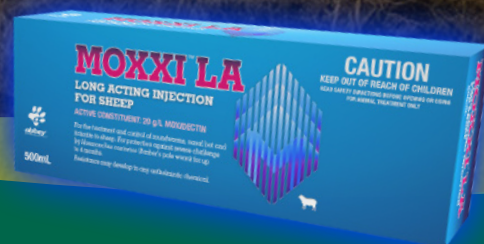


abbey[™]
Animal Health Pty Ltd



Parashield Program[™]

DUAL SHEEP PARASITE PROTECTION



Combining two sheep wormers to deliver powerful and effective treatment and control you can trust.

The Parashield Program™ is double trouble for sheep worms.

Worms are ever present, and despite the best efforts of sheep farmers, it's important to be vigilant and take preventative action.

We listened to farmers who said they would like a new process to give their sheep better and longer-lasting protection. We acted. The result is the new Parashield Program™ dual drench treatment approach, delivering immediate knock-down and long-term effectiveness in one process. It ensures the flock is protected and worms are controlled – faster and for longer, saving farmers time and money.



3PEAT™ for oral drenching with four valuable supplements too.

3PEAT™ is a triple actives combination fast-acting oral drench for sheep, containing three actives, Levamisole, Abamectin and Albendazole. It's known to be effective in treating and controlling internal worms.

3PEAT™ has the added benefit of also having four valuable supplements (Cobalt, Iodine, Selenium, and Zinc) to help optimise sheep health, reproduction and production. It's the only triple actives oral sheep drench with four supplements in the formulation.

Key benefits of 3PEAT™ include:



Potent triple-actives formulation for immediate control.



Low volume and stable formulation with no mixing.



Includes four supplements that address common deficiencies in Australian pasture areas.



Available in 1L & 5L backpacks, as well as 20L drums.



MOXXI™ LA is the injection for long-lasting protection.

MOXXI™ LA's proven long-acting injection for sheep is ideal for treating and controlling roundworms, nasal bot and itchmite. It's safe to use concurrently with other treatments, including 3PEAT™ oral sheep drench.

It helps prevent reinfection of sheep with Brown stomach worm (*Teladorsagia circumcincta*) for no less than 91 days and up to 49 days for *Trichostrongylus* spp. (Black scour worm) *Trichostrongylus colubriformis*. It also provides up to four months protection against the severe challenges of Barber's pole worm (*Haemonchus contortus*).



MOXXI™ LA's key benefits include:



Broad spectrum control against internal and external parasites.



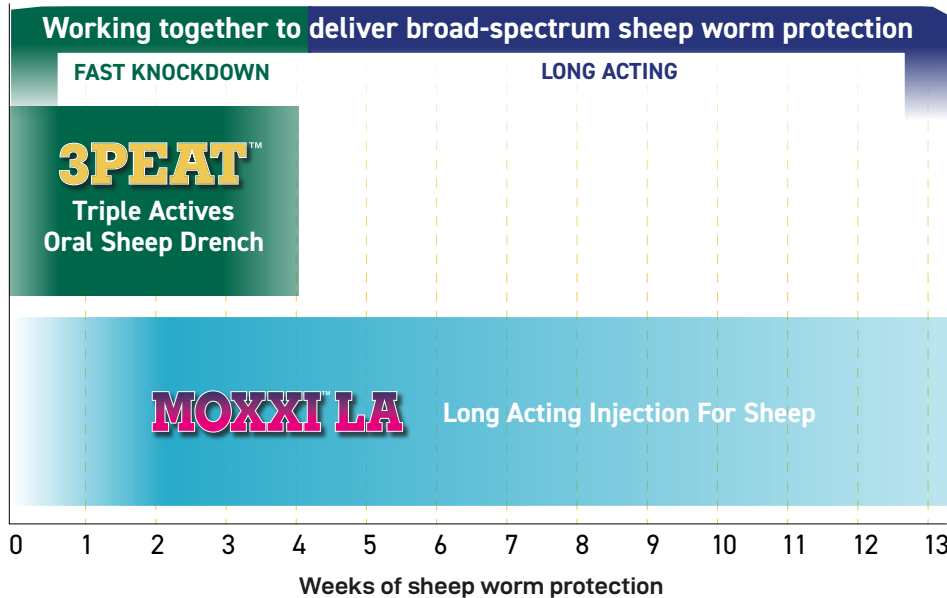
Persistent protection against dangerous worm species.



Less drenching required, with long lasting effectiveness.

Why the Parashield Program™?

Our dual-approach strategy helps keep your mob protected faster, for longer and stronger!



MORE THAN 97.8%
effectiveness against
sheep worms¹

The Parashield Program™ dual sheep wormer approach to improving the effectiveness of internal worm treatment and control is the first strategy of its type from a veterinary chemical company.

The oral drenching strength of 3PEAT™ combined with the injectable staying-power of MOXXI™ LA, ensures your sheep are treated and protected immediately on application and for up to 13 weeks.

The benefits of the Parashield Program™ really add up!

- The three anthelmintics in 3PEAT™, namely Levamisole, Albendazole and Abamectin, and the anthelmintic Moxidectin in MOXXI™ LA are extensively researched, well tolerated and effective for the treatment and control of external parasites and gastro-intestinal worms in sheep.
- Levamisole hydrochloride is a member of the imidazothiazole class of anthelmintics, while albendazole is a member of the benzimidazole class of anthelmintics. In contrast, Abamectin and Moxidectin are members of the macrocyclic lactone (ML) class of anthelmintics.
- The combination of Levamisole (40g/L), Albendazole (25g/L) and Abamectin (1g/L) in 3PEAT™, when administered orally at the recommended dose rate (1mL/5kg) in sheep across NSW, Victoria and South Australia, is $\geq 99.7\%$ effective in the treatment and control of susceptible worms directly following administration and up to 97.8% effective over the first 14 days post administration.²
- MOXXI™ LA (Long acting; 20g/L of Moxidectin) is an injectable anthelmintic and when used at the recommended dose rate (1mg/kg or 1mL/20kg) in sheep is safe and effective for the treatment and control of endo- and ecto parasites for at least 13 weeks.³
- The high safety margins, ease of use and known combinability of the anthelmintics used in 3PEAT™ and MOXXI™ LA, a more broad-spectrum, immediately effective and longer-lasting approach to sheep parasite treatment and control is achieved using the simultaneous application of both these anthelmintic products. Alongside strategic pasture management, knowledge of seasonal factors, regular faecal egg count reduction testing and rotation of anthelmintic classes, this approach may offer sheep farmers greater flexibility and control of parasites in sheep while minimising the significant problem of future anthelmintic resistance.

WHEN TO USE THE PARASHIELD PROGRAM™ ON YOUR FARM?

To obtain the maximum benefit, we recommend you implement the Parashield Program™ at:

- Pre-Lambing
- Weaning stage

MANAGING RESISTANCE TO VETERINARY CHEMICALS

Resistance may develop to any chemical. Ask your local veterinary practitioner or animal health adviser for current recommended parasite management and control strategies for your area to reduce development of anthelmintic resistance. It is advisable to conduct an anthelmintic resistance test at least annually or before any parasite treatment is used. Rotating anthelmintic classes and ensuring that the entire anthelmintic dose, based on the estimated weight (kg) of the heaviest animal, is delivered to the animal may also assist in preventing anthelmintic resistance.

1. Based on sheep faecal egg/larvae count field trials – Research data on file.

2. 3PEAT™ field trials conducted by Abbey Animal Health – Research data on file.

3. Abbey Animal Health MOXXI™ Long Acting injection for sheep (20g/L); Protection period of 91 days for *O. circumscripta*, 4 months for *H. contortus* and 49 days for *T. colubriformis*.

3PEAT™ & MOXXI™ LA - Combined efficacy spectrum

For the effective treatment and control of mature and immature stages of susceptible strains of the following internal and external parasites:

- **Barber's pole worm:** *Haemonchus contortus* (including inhibited L4 stages)
- **Small brown stomach worm:** *Teladorsagia (Ostertagia) circumcincta* (including inhibited L4 stages), *Teladorsagia (Ostertagia) spp.*, *Ostertagia lyrata*, *Ostertagia trifucata*
- **Stomach hair worm:** *Trichostrongylus axei*
- **Black scour worm:** *Trichostrongylus colubriformis*, *Trichostrongylus vitrinus*, *Trichostrongylus rugatus*, *Trichostrongylus spp.*
- **Thin necked intestinal worm:** *Nematodirus flicollis*, *Nematodirus spathiger*, *Nematodirus abnormalis*, *Nematodirus helvetianus*, *Nematodirus spp.*
- **Small intestinal hairworm:** *Cooperia oncophora*, *Cooperia curticei*, *Cooperia spp.*
- **Intestinal threadworm:** *Strongyloides papillosus*
- **Large-mouthed bowel worm:** *Chabertia ovina*
- **Large bowel worm:** *Oesophagostomum venulosum*
- **Nodule worm:** *Oesophagostomum columbianum*
- **Large lungworm:** *Dictyocaulus filaria*
- **Whipworm:** *Trichuris ovis*
- **Itchmite:** *Psorergates ovis*
- **Nasal Bot:** *Oestrus ovis*

3PEAT™ also contains the added benefit of four minerals, Cobalt (0.21g/L), Iodine (0.76g/L), Selenium (0.5g/L) and Zinc (0.6g/L), which are essential for the synthesis of vitamins and key enzymes involved in multiple metabolic and immunological processes. Because there are known deficiencies of these elements in the ancient soils of many parts of Australia, these supplements ensure optimal general and reproductive health of sheep as well as optimal wool production and quality.

Actives in 3PEAT™ & MOXXI™ LA - Modes of action

ACTIVE CONSTITUENTS IN 3PEAT™

34g/L Levamisole (equivalent to 40g/L Levamisole hydrochloride), 25g/L Albendazole, 1g/L Abamectin, 0.21g/L Cobalt (as Cobalt Sulphate Heptahydrate), 0.76g/L Iodine (as EDDI stabilised), 0.5g/L Selenium (as Sodium Selenate) and 0.6g/L Zinc (as Zinc Sulphate Monohydrate)

WITHHOLDING PERIODS

Meat	14 days
Milk	DO NOT USE in ewes which are producing or may in the future produce milk that may be used or processed for human consumption
ESI	28 days

ACTIVE CONSTITUENT IN MOXXI™ LA

20 g/L Moxidectin

WITHHOLDING PERIODS

Meat	91 days
Milk	DO NOT USE
ESI	133 days

Levamisole causes paralysis of worms by binding to nicotinic acetylcholine receptors resulting in continued stimulation of the parasitic worm muscles.

Albendazole causes degenerative alterations in the intestinal cells of the worm by binding to the colchicine-sensitive site of β -tubulin, thus inhibiting its polymerization or assembly into microtubules. This leads to impaired uptake of glucose by the larval and adult stages of susceptible parasites and depletes their glycogen stores. Albendazole also prevents the formation of spindle fibres needed for cell division, which in turn blocks egg production and development. Existing eggs are therefore prevented from hatching. Cell motility, maintenance of cell shape, and intracellular transport are also disrupted. At higher concentrations, Albendazole also inhibits metabolic enzymes such as malate dehydrogenase and fumarate reductase, leading to diminished ATP production, resulting in immobilization and death of the parasite.

Both **Abamectin** (or Avermectin) and **Moxidectin** bind to the glutamate-gated chloride channels found in invertebrate nerve and muscle cells causing disruption of neurotransmission that results in paralysis and death of the parasite. Given that Abamectin has a low affinity for other mammalian ligand-gated channels, which are exclusively found in the brain and spinal cord, and this anthelmintic does not usually cross the blood-brain barrier, Abamectin and all MLs consequently are very safe when used in mammals.

abbeylabs.com.au

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