

OUTFOX LICE FOR LONGER* IN SHEEP.



fennecpouon.com.au



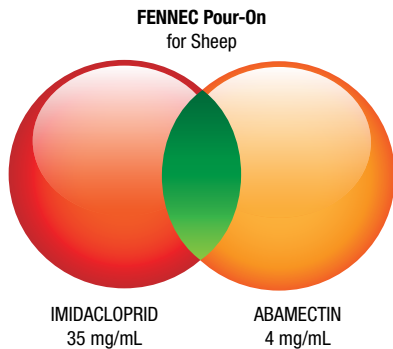
 **Boehringer
Ingelheim**

Introducing an Australian first

Fennec Pour-On for Sheep, Australia's first dual active combination pour-on lousicide for sheep.

The power of combination lice control

Fennec Pour-On for Sheep combines the power of imidacloprid and abamectin for maximum effect against the sheep louse *Bovicola ovis*. Proven in field conditions to provide outstanding control of lice.



Indications for use:

- For the treatment and control of susceptible *Bovicola ovis* when applied up to 7 days off-shears.
- Protects against re-infestation for 5 weeks after treatment when applied within 24 hours of shearing.

5 weeks protection from re-infestation

Fennec Pour-On for Sheep is indicated for application within 24 hours after shearing. Applying Fennec within this time frame will provide a 5 week protection period from re-infestation with lice.



Technical specifications:

Active ingredients: IMIDACLOPRID 35 mg/mL,
ABAMECTIN 4 mg/mL
Carrier: N-methyl-2-pyrrolidone 300 mg/mL

Dual mechanism of action

IMIDACLOPRID¹ belongs to the neonicotinoid class of insecticides. It affects the nicotinic acetylcholine receptor in the nervous system of the louse. This interferes with the signaling of the nerve at the nerve junctions, resulting in paralysis of the insect.

ABAMECTIN is a macrocyclic lactone, and has activity against both internal and external parasites of sheep, including lice and worms. It acts on the glutamate-gated chloride channels along the parasite's nerve fibres. This upsets the charge on the nerve membrane, disrupting the normal electrical conduction along the nerve, resulting in paralysis².

Reference:
1. Clements J, Schoville S, Peterson N, Lan Q, Groves RL. 2016. Characterizing Molecular Mechanisms of Imidacloprid Resistance in Select Populations of *Leptinotarsa decemlineata* in the Central Sands Region of Wisconsin. *PLoS One*, 2016; 11(1): e0147844.





Resistance mechanisms

Potential insect resistance mechanisms for the combined use of imidacloprid and abamectin have been investigated in the laboratory setting. Studies have shown that insects must develop different resistance mechanisms to each of these actives, to be able to become resistant to both of them³. This is important, as sometimes insects will develop a resistance mechanism which is effective for multiple chemicals, thus speeding up the onset of resistance. This situation has not been demonstrated in laboratory work, and so the effects of imidacloprid and abamectin appear to be additive and do not have a common resistance pathway.

Solvent base facilitates absorption

The solvent, N-methyl-2-pyrrolidone, has a role in facilitating absorption of the imidacloprid and abamectin into the skin of the sheep. Trials have demonstrated that

the formulation flows easily through the Fenec manual pour-on applicator and was not associated with adverse effects on the skin of sheep. Fenec Pour-On for Sheep contains a blue dye to enable easy visibility of sheep that have been treated. This dye is scourable from wool.

Trial results

Field trials⁴ on Merino sheep of mixed sex and age were conducted in different climatic regions throughout Australia. These trials looked at the effectiveness of Fenec Pour-On for Sheep, on naturally occurring populations of lice.

Fenec Pour-On for Sheep with the combination of the two highly effective actives imidacloprid and abamectin, showed excellent treatment of lice infestations under field conditions.

2. Bloomquist, JR. 1998. Toxicology, mode of action and target site-mediated resistance to insecticides acting on chloride channels. *Comparative Biochemistry and Physiology Part C: Pharmacology, Toxicology and Endocrinology*. Vol. 106: 2, pp 301-314.

3. Data on file. Efficacy and safety of Fenec Pour-On.

4. Data on file. Analysis of resistance mechanisms of an abamectin/imidacloprid combination.





Rainfastness

Fennec Pour-on for Sheep has been demonstrated to be highly rainfast³ and efficacious when used on sheep that were exposed to high rainfall conditions of 25 mm over 30 minutes:

- 2 hours pre-treatment
- 24 hours after treatment
- 2 hours pre-treatment AND 24 hours after treatment

This was investigated in sheep that had been treated at 24 hours after shearing, and another group that had been treated 7 days after shearing. Fennec Pour-On was effective in all of these scenarios.

The power of two actives

Imidacloprid and abamectin are highly effective actives against sheep lice. There is no documented lice resistance to either of these actives. However, history shows that sheep lice are highly capable of developing resistance to single active lousicides. Examples include the development of lice resistance to synthetic pyrethroids and insect growth regulators, which resulted in both of these chemical groups becoming ineffective.

Combining two effective lousicidal agents together not only ensures a high level of control on lice, but can also delay the development of lice resistance to any one active. If insect resistance was to develop against one active, then the other active will still be effective. Each active protects the other, so improves sustainability of the product to continue working in to the future.

When to use Fennec Pour-On

Fennec Pour-On for Sheep is a highly effective combination lousicide and provides a new powerful tool to be implemented as a first line defence against lice. Utilising Fennec Pour-On for Sheep now, not only offers two actives against lice, but also provides a means of reducing the onset of resistance against either of these two actives.

There is additional flexibility of the combination product as it reduces the need for rotating between single actives.

There is flexibility for Fennec Pour-On for Sheep to be applied up to 7 days after shearing, however, if applied within 24 hours of shearing, Fennec Pour-On for Sheep will provide protection from re-infestation for 5 weeks.

Lice management

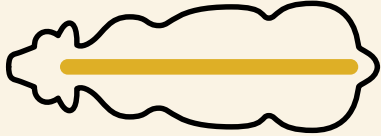
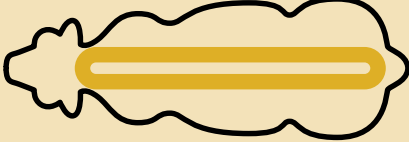
Treated sheep should not be mixed with untreated sheep until 6 weeks after treatment with Fennec Pour-On for Sheep. To reduce the risk of lice infestation, and to maximise the chance of success of lice treatment, it is important to concurrently implement the following management practices:

- Undertaking complete musters and treating every sheep accurately, according to the label.
- Ensuring all sheep are treated at the same time.
- Avoiding split shearing.
- Maintain stock-proof fences to prevent strays and straying.
- Implement quarantine practices for lice which includes treatment of any new introductions.

Dosage

The product is for application as a pour-on only. Do not give orally or by injection.

The dose rate is 10 mL per 10 kg bodyweight. Sheep should be weighed before treatment. Apply the entire dose to sheep under 30 kg as a single broadband stripe from poll of the head to the base of the tail. For sheep over 30 kg, apply half the dose as a broadband stripe either side of the midline from the mid neck to the base of the tail. The stripes should be no further than 10 cm apart. See table below.

Bodyweight (kg)	Dose Volume (mL)	Method	Apply in the pattern below
10 to 12.5	12.5	Single stripe	
12.6 to 15	15		
15.1 to 20	20		
20.1 to 25	25		
25.1 to 30	30		
30.1 to 40	40	Double stripe	
40.1 to 50	50		
50.1 to 60	60		
60.1 to 70	70		
70.1 to 80	80		
80.1 to 90	90		

Sheep heavier than 90 kg bodyweight should be dosed at the dose rate of 10 mL per 10 kg.

A representative sample of animals should be weighed before treatment. Dose the mob according to the heaviest animal by live weight in each group (ewes, wethers, rams, lambs). Where there is a large variation in size within the group, dose rate should be based on the label directions for each weight range. Do not underdose. Drafting into two or more lines may be appropriate, to avoid excessive overdosing.

Ewes and lambs

Avoid treating ewes less than 6 weeks prior to planned start of lambing, while ewes are lambing or have young lambs at foot. While not best practice to handle ewes immediately pre-lambing and during lambing, there is also potential for live lice from the treated ewes to infest the lambs, **or lice from lambs infesting ewes**. It is important to treat all animals within a group when treating for lice.





Method of administration

Fennec Pour-On for Sheep can be applied with the manual Fennec applicator which is a 6 holed T-bar applicator. It is recommended to use the Fennec labelled applicator if using a manual applicator, as the seals are compatible with the product. The applicator should be cleaned with vegetable oil so as to assist with maintaining the integrity of the seals.

Always calibrate the applicator prior to use by squirting a measured dose into a measuring jug to ensure it is delivering the correct dose.

Contraindications and restraints

- DO NOT USE on unshorn sheep, or shorn sheep more than 7 days after shearing.
- DO NOT USE on ewes with unshorn lambs at foot.
- DO NOT USE on ewes which are producing, or may in the future produce milk that may be used or processed for human consumption.
- This product should not be used on lambs under 6 weeks of age or less than 10 kg body weight.
- This product should not be used on severely sick, debilitated or dying animals.
- This product should not be used on sheep which have not been cleanly shorn for any reason e.g. Mycotic Dermatitis.

Meat
Withhold Period



Wool
Withhold Period



Export Slaughter
Interval (ESI)





Safety directions and protective wear

- Harmful if swallowed.
- Will irritate eyes and skin.
- Avoid handling treated sheep until they are dry.
- Wash hands after use.
- After each day's use, wash gloves, face shield and contaminated clothing.

The following protective equipment must be worn when using this product:

- Cotton overalls buttoned to the neck and wrist (or equivalent clothing).
- Elbow length chemical resistant gloves.
- Face shield to protect eyes and face from splashes.

Have protective wear in place prior to opening the container, and for the duration of application.

First aid

If poisoning occurs, contact a doctor or Poisons Information Centre on 13 11 26 for further advice. If swallowed, DO NOT induce vomiting.

If skin contamination occurs, remove clothing and wash affected area thoroughly with soap and water.

If eye contact occurs, wash out immediately with water.

Care of product and equipment

- Store below 30°C (Room Temperature).
- Protect from light.

Do not leave the container, hose or applicator in the sun for prolonged periods of time. The product can damage certain plastics, paints and some surface finishes, so avoid contact with these.





FENNEC[®]

POUR-ON FOR SHEEP

For more information, call 1800 808 691

fennecpouon.com.au

*Compared to other knockdown control products when applied 24 hours off shears.
Boehringer Ingelheim Animal Health Australia Pty. Ltd., Level 1, 78 Waterloo Road, North Ryde NSW 2113 Australia.
ABN 53 071 187 285. Fenec[®] is a registered trademark of the Boehringer Ingelheim Group. GENS-181007-A4



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