

# Sheep Biting Lice



- *Bovicola ovis* is the biting or chewing lice of sheep.
- Lice are usually **host specific**, but they may spread between sheep and goats.
- The highest occurrence of biting lice is seen in sheep in poor body condition and in unhygienic situations.
- Lice numbers drop with higher environmental temperatures.



Photo: courtesy Deb Maxwell

- Lice **feed on epithelial and cutaneous debris, oil, and wool.**
- The entire life cycle is on the sheep, with gradual build-up over months.
- Female lice deposit < 1 egg/day. Embryonation is completed in 7–10 days, producing nymphs, which molt 3 times before reaching sexual maturity.
- The entire **life cycle** from egg to adult takes about **35 days.**
- Lice **are spread by direct contact.**
- Lice can only survive 7 days in the environment, but they may survive up to 10 days on shearer's shoes or up to 2–3 weeks on wool pieces in a warm, dark environment.
- Some lice spread can occur **indirectly through contact with contaminated equipment or grooming tools.**
- Female lice live for 1 month.

- Some animals infested with biting lice may be asymptomatic.
- Heavy infestations will cause irritation and itchiness. Other causes of itchiness include sucking lice, mange, and Scrapies. Sheep will rub on fences or chew their wool, causing fleece damage. This may be seen as wool pluck. Other causes of wool pluck include a stress response from fever caused by other diseases, poor nutrition, or cold stress. Hair/wool loss may occur from hypersensitivity caused by the lice. The wool may become more yellow in color.
- Heavy infestations may reduce weight gain.
- The biting lice can be found in the ventral neck, withers, mid-side, shoulders, back, rump, and tail head.
- Lice are highly mobile.



Photo: courtesy NADIS

# How Are Biting Lice In Sheep Diagnosed?

- Lice are only **2–3 mm long and brown** in color and can be seen with the naked eye.
- Examine a minimum of 10 sheep per group.
- Part the fleece in 10–20 areas per sheep, to a depth of 10 cm, to find the lice at the base of the wool fibers on the skin.
- Biting lice have a **round head** (sucking lice have a pointy head).
- Counts of **>5 lice/fleece parting** indicate a **heavy infestation**.
- Eggs are hard to see.



*Pesticides must not be prescribed or used extra-label in sheep, according to the Pest Management Regulatory Agency\*, even when licensed in other livestock.*

- The most effective time to treat sheep is in the spring, within 2 weeks **after shearing**, when the wool is short and shearing cuts have healed.
- Shearing removes 30–50% of lice and increases effectiveness of the product through better absorption of topically applied insecticides.
- Be aware that lice can be mechanically spread by equipment and people.
- Frequent or unnecessary treatment will increase the risk of pesticide resistance; therefore, only treat heavy infestations.
- Only treat sheep for biting lice once an accurate diagnosis has been made.
- **Follow insecticide label directions**, including repeat treatments, meat withdrawal periods, and use of personal protective equipment (PPE).
- Treat the entire group and remove contaminated bedding.
- **Treat the entire group.**



\*<https://www.canada.ca/en/health-canada/corporate/about-health-canada/branches-agencies/pest-management-regulatory-agency.html>

Trade Name	Insecticide	Route	Dose	Frequency	Comments**
<b>Boss Pour-On</b>	permethrin	Pour-on	1.5 ml per 50 kg b.w	Repeat in 2 weeks	<ul style="list-style-type: none"> <li>Part wool until skin visible and pour along back close to skin</li> <li>Do not treat more than 2x/year</li> <li>Meat Withdrawal = 2 days</li> </ul>
<b>CyLence Pour-On Insecticide</b>	cyfluthrin	Pour-on	2 ml per 10 kg b.w.	Once	<ul style="list-style-type: none"> <li>Part the wool and pour along the back, close to the skin</li> <li>Do not treat more than 1x/year</li> <li>Meat Withdrawal = 1 day</li> </ul>
<b>Dusting Powder</b>	carbaryl	Topical Dust	Dust liberally	Repeat in 14–18 days	<ul style="list-style-type: none"> <li>Rub thoroughly into the skin</li> </ul>
<b>Sevin</b>	carbaryl	Spray	10 g per liter water	Apply 4.5 L per animal	<ul style="list-style-type: none"> <li>Repeat as necessary but no more than twice weekly</li> <li>Meat and milk withdrawal = 7 days</li> </ul>

## How Can Sheep Biting Lice Be Controlled?

- When treating sheep for lice, **treat the entire group**.
- **Isolate new arrivals** and check for lice or treat and leave 2 weeks and retreat as per label, prior to mixing with flock.
- Clean pens where lousy sheep were housed, and leave for 3 weeks prior to adding new sheep to prevent re-infestation from indirect spread.
- **Clean shearing equipment and put on clean clothes and footwear to prevent mechanical spread of lice.**
- **Investigate underlying debilitating conditions/diseases** because these can be associated with more severe lice infestations.
- **To reduce drug resistance in lice**, do not treat sheep routinely without evidence of infestation, and alternate different classes of pesticides. Routine treatment on feedlot entry is most likely not an issue in feeder lambs that are going direct to slaughter in 3–5 months.
- Systemic endectocides, such as pour-on/topical macrocyclic lactone cattle products e.g., ivermectin, eprinomectin, are not effective to treat lice in sheep.



Photos from the Feedlot Lamb Pathology Atlas, <https://ablamb.ca/images/documents/resources/health/Feedlot-Lamb-Pathology-Atlas-Final-for-Print.pdf> and courtesy of Drs. Paula Menzies and Joyce Van Donkersgoed.

