

HOW THE NEW TEST FOR DETECTING SHEEP LICE MIGHT BE USED

On the following pages you can see the ‘**Detailed Information Sheet**’ and the ‘**Sample Information Form**’ that are inside the Sheep Lice Detection Test kits.

The ‘**Sample Information Form**’ has the information we need to process samples and to report results back to you. It also asks about the recent treatment history of the mob from which the sample was collected and whether this mob was lousy at the previous shearing (if known). This information is useful in identifying factors that contribute to lice breakdowns such as problems with on-farm biosecurity and product failures. These issues can be addressed in future advisory material.

The ‘**Detailed Information Sheet**’ provides some background information on how the test works, how to collect samples, some precautionary advice on sample collection and asks “*How many bottles will you need?*” This last question introduces the idea that the test can be used in several different ways to allow producers to make better flock management decisions.

The test will be valuable for producers who:

- suspect they may have lice but aren't sure
- don't think they have lice and want to save the cost of an unnecessary treatment
- had a lice problem at last shearing, treated those sheep and now want to know whether they've got rid of lice
- want to check whether a newly introduced mob (or a mob returning from agistment) has lice
- suspect lice pressure from a neighbour, and want to check whether any lice are present in a mob or mobs running next to that neighbour
- want to check whether mobs whose lice control has been managed differently have lice. For example:
 - a mob in which lice might have survived on untreated lambs
 - flocks with split shearings
 - a flock in which two different lice treatments were given the previous year

For individual wool producers the first decision may be to find out if the whole farm flock is affected by lice, or if only one or more mobs that are at greater risk, are affected. Such mobs might not have been treated after their last shearing, might share a common fence line with a neighbour's lousy sheep, might have been on agistment or might have been purchased since last shearing. If the most at risk mob is shown to be free of lice that might provide some producers with sufficient confidence for them to decide not to treat any sheep.

To be this confident it is essential that the most at risk mob is sampled thoroughly. This means sampling the entire mob. Each kit can be used for up to 250 sheep. For larger mobs more samples must be collected and you will need to have sufficient kits available when shearing begins. Furthermore, unless someone takes responsibility for washing each shearer's

combs and cutters it might be more efficient to provide each shearer with a kit and test the mob by using the samples collected by individual shearers.

Do not be tempted to sample only some of the mob. If there are only a few lousy sheep in a mob you could miss them unless all sheep contribute to the sample(s). By way of example, NSW DPI Biometrician Dr. Idris Barchia advised that if only 5 sheep in a mob of 500 are lousy (i.e. 1%), you would have to collect the samples from the shearing of at least 359 sheep to be 99% sure that the test would give a positive (lice present) result. Or, put another way, after collecting sample from 359 of the 500 sheep, there would still be a 1% chance that the 359 did not include any lousy sheep. There would still be some doubt. If you are going to the trouble of collecting samples, you might as well make sure that you can be confident in the results of the test, so sample the whole mob.

In many instances more than one mob may be suspected of being lice infested. At worst, the whole flock might be affected. In these circumstances, it may be more cost effective to treat the whole flock rather than test each mob.

Beyond the individual farm, producers in lice control groups could use the test to measure individual and group progress in controlling lice on their farms and in their district.

HOW NOT TO USE THE TEST

No lice control products applied to long-wool sheep carry label claims to eradicate lice infestations. Some products reduce lice numbers to the extent that lice become difficult to find but producers should realise that although the infestation has been 'controlled' it has not been eliminated. There is no point in conducting lice detection tests on mobs of sheep that have been treated in long wool for a lice infestation. These sheep will need to be re-treated off-shears or in short wool (up to 6 weeks after shearing). If then, no lice are evident during the subsequent 12 months it would be appropriate to do a lice test after the next shearing.

WHAT THE TEST RESULTS WILL TELL YOU

The report you receive back from the laboratory will be a clear statement about the test results for individual samples. For example:

“The result for Sample X collected on (insert date of sample collection), indicated the presence (or absence) of sheep lice protein. This result is consistent with lice being present (or absent) on the sheep shorn to collect this sample.”

Because we have no control over the on-farm collection or handling of samples we will not issue statements such as “*Mob X is free of lice*” if a negative result is obtained. Moreover, as we have no control over what happens to the sheep after sample collection and testing, the results provided are valid only for that date.

Tests will each cost \$130.15 (inclusive of GST). Price includes the cost of the sample collection kit and freight to the laboratory.

Test results will be available within 3 days of sample receipt by the laboratory.

For further information or to request a kit please contact Paul Young or Narelle Sales on 02 46406433 or email paul.young@dpi.nsw.gov.au or narelle.sales@dpi.nsw.gov.au

SHEEP LICE DETECTION TEST KIT – Detailed Information.

How the test works.

- This test works by detecting a unique protein found in sheep lice. When lousy sheep are shorn, the lice are sliced up and their protein is trapped in the wool grease left on the comb and cutter. This kit will enable you to collect the wool grease from the combs and cutters of any suspect mob at shearing and submit to the laboratory for testing.
- This test cannot distinguish between live and dead lice. This means that lousy sheep which have recently been treated will return a positive result.
- The test is very sensitive and would give a false result unless the combs and cutters are **scrupulously clean** before use on the mob of interest
- If more than one mob is being tested, it is essential that all combs and cutters are replaced with cleaned gear for each new mob. Remember to use a new brown bottle, brush and wash dish for each of these mobs.

Performing the test.

- Each brown bottle contains a small amount of detergent. Fill the brown bottle almost to the top with drinking quality water, shake and pour all the liquid into the wash dish provided.
- To collect the sample, the combs and cutters used to shear the mob of interest must be cleaned in the wash dish provided.
- **Only use the brush and dish provided** as contamination will invalidate the test.
- The combs and cutters from **no more than 250 sheep** should go into each wash dish. If you have large mobs you will need to use a number of bottles/dishes per mob.
- The dirty wash liquid should be poured directly back into the brown bottle and the lid screwed on tightly. Label the brown bottle with a description that is meaningful to you (e.g. John Smith 'Fairview'; ewe mob). Seal the brown bottle in the zip-lock bag provided (2 bottles per bag).
- A laminated instruction card is provided for the person collecting the samples.

How many bottles will you need?

- To ensure detection of low levels of lice, **all** combs and cutters from each mob must be washed using the kits.
- If you require individual mob information a fresh kit with clean gear must be used for each mob.
- Often only a few sheep in the mob may actually have lice on them. If the combs and cutters used on these sheep are not included in the wash the result will come back as a negative when the mob in reality contains lousy sheep.

What if your sample or samples are positive?

- The best options for lice control are detailed on the Australian Wool Innovations web page @ <http://www.liceboss.com.au>. You can input your situations details and the programme will recommend the best course of action.
- For further information consult your animal health adviser or local District Veterinarian at your Livestock Health and Pest Authority.



NSW DEPARTMENT OF
PRIMARY INDUSTRIES

LICE TEST

SAMPLE INFORMATION FORM

Number
Date
Officer
Laboratory Use Only

Owner: Company: Postal Address:	Date sample collected: Sample identifier: (from brown bottles label): PIC: <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
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Submitter: **Telephone:**

Preferred reporting method	Fax No: <input type="checkbox"/>	Email address: <input type="checkbox"/>	Post: <input type="checkbox"/> (address as above)
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AUTHORISATION: I am authorised to request analysis of the Lice Test sample(s) and agree to pay the current laboratory charges for the test(s).

Name: **Signature:**

An invoice will be sent to your postal address.

SAMPLE INFORMATION:

Sheep type (eg. merino) **Total number of sheep on farm**

Sheep sampled (eg. wether mob)

How many sheep were shorn to collect this sample?

Was this an entire mob? Yes No

Were all the combs and cutters used to shear these sheep washed using this sample kit?
 Yes No If not, what proportion

Do you suspect these sheep to be lousy? : Yes No Don't know

If Yes, what do you suspect to be the source of the lice infestation? –

Stray sheep Bought in sheep Treatment failure Other

Were these sheep lousy at the last shearing? Yes No Don't know

Were these sheep treated for lice at last shearing? Yes No Don't know

What product was used?

Have these sheep received any other treatment for lice or flystrike? If so, what was used?

If this sample indicates that these sheep are lousy, which product will you use to treat them and how will it be applied?
