**Horehound Biological Control Group**

The Horehound Biocontrol Group is seeking input about the magnitude of horehound problem, especially in lucerne.

With lucerne growing more widespread and already occupying over 150,000 ha, we notice horehound (*Marrubium vulgare*) is rearing its head as one of the worst weeds in lucerne stands, especially on extensive properties with ridges and areas with difficult access. Many of us experience an uphill battle trying to control this weed with chemicals or mechanical methods. At best, the problem is kept at bay as we pour more resources into it. Mostly though, the weed seems to increase its hold and our tools appear to be ineffective.

But not all is lost! Horehound used to be a weed in Australia, and is now mostly under good control there thanks to two horehound-feeding insects that were introduced to Australia starting in 1994, and seem to be doing a good job. Both insects are moths – one is a plume moth that feeds on foliage and the other is a clearwing moth that feeds on the roots.

The Horehound Biocontrol Group wants to bring these moths from Australia to establish a biological control on horehound. Much of the work done in Australia in preparation for releases there can be adopted for the New Zealand conditions. We can expect a straight-forward programme, with a first agent ready for release by summer 2018-19. We anticipate the cost to be around $NZ400,000 spread over two years. The Group has been successful at securing funding from the Sustainable Farming Fund, with co-funding from other organisations and from individual farmers. The project kicked in on July 2017.

**How you can help?**

We are trying to establish a clear idea of how widespread the horehound problem is and what are the economic impacts of horehound infestation: how fast it is growing, the current cost of controlling it, the effectiveness of current control methods, and the chemical effects on production-loss and pasture replacement. This information is crucial to strengthening the case to the Environmental Protection Authority to consider the benefits in allowing the release of the biocontrol agents.

If horehound is a weed you encounter on your property, we ask that you fill in the questionnaire below. We are interested in your take on horehound even if horehound is only a small problem on your farm.

Please return your completed questionnaire to:

Gavin (Snow) Loxton

[sawdon@lupins.nz](mailto:sawdon@lupins.nz)

Sawdon Station

PO Box 9

Lake Tekapo 7945

Thank you in advance for taking part in this survey!

Horehound Biocontrol Group

## How important is horehound?

Name & region: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Farm information**. Will help us put properties of different size and capacity on a comparable scale.

|  |  |  |
| --- | --- | --- |
| Farm area (ha) | Farm capacity (Stocking Units per ha) | Area in lucerne (ha) |
|  |  |  |

Information about the progression of horehound problem, control costs, control effectiveness. We assume control is mainly in lucerne, not so much in pasture. Please tell us if are wrong!

|  |  |
| --- | --- |
| **Size of infestation** |  |
| Year horehound was first detected on your property | Year: |
| Size of horehound infestation in that first year | Ha infested: % cover: |
| What year did you first notice horehound on your property? | Year: |
| What size was the horehound infestation then? | ha infested: % cover: |
| Size of horehound infestation now | Ha infested: % cover: |
|  |  |
| **Control measures** |  |
| At what threshold % cover by horehound do you apply control? |  |
| How much do you spend on **chemical** **control** of horehound? Include product cost, labour, machinery, helicopter time etc. | Per ha: Per annum: |
| Effectiveness: **Chemical control** successfully removes X% of my horehound problem | \_\_\_\_% |
| Which chemicals do you use? |  |
| How much do you spend on **other control** methods? E.g., grubbing, burning, ploughing, other? | Per ha: Per annum: |
| Effectiveness: **Other control** successfully removes X% of my horehound problem | \_\_\_\_% |
| If an infested area is left untreated, how long does it take for horehound cover to double itself? | \_\_\_\_ years |
|  |  |
| **Effect on lucerne** |  |
| Chemical control kills X% of my lucerne in a treated area | \_\_\_\_% |
| If it wasn’t for horehound, I would be replacing lucerne every X years | Every \_\_\_\_\_ years |
| But, in horehound-infested areas I have to replace lucerne every X years | Every \_\_\_\_\_ years |
| How much does it cost to replace Lucerne? | $\_\_\_\_ per ha |
| Lucerne annual yield in horehound-infested areas is reduced by | \_\_\_\_% Tonne per ha\_\_\_\_\_ |
| Horehound makes X% of Vegetable Matter in my wool | \_\_\_\_% |
| Overall, Vegetable Matter accounts for annual loss of | $\_\_\_\_ per annum |
|  |  |
| **Final remarks** |  |
| Horehound problem on my farm is | Decreasing / stable / increasing |
| Other comments | |