



Drought affects thistle agents

The drought that south eastern Australia has now been experiencing over the past two years has had a dramatic impact on the populations of thistle biological control agents. Anthony Swirepik from CSIRO Entomology reports that two agents which are widely established on Scotch and Illyrian thistles in NSW, the stem and seed weevils have had their populations reduced by 90%.

In the pre drought year of 2001 the stem weevil averaged densities of 65 adults per metre in thistle infestations. In the two years since populations have declined to an average of just six adults per metre. Stem weevil populations have declined due to two main factors:

1. The drought has restricted plant size and the weevil relies upon the plant to breed, this would have created intense competition between larvae which develop inside the stems and would have resulted in fewer larvae completing their development.
2. Last summer's extremely dry season meant that feed was scarce for grazing stock forcing them to eat the thistles and the insects that were within.

The effects of the drought on the biocontrol agents should be seen as something that is a part of the natural cycle of seasons and agent populations will recover over the next couple of years.

This summer we would expect flowering thistle populations to be obvious to farmers but not be as dense as they can be in the worst "thistle" years. It is more likely that next year will be a bad "thistle" year as Scotch and Illyrian thistle populations are biennial or short lived perennial in structure, i.e. once a plant germinates it may take two or even three years of growing as a rosette before it becomes large enough to flower. This is in marked contrast to a weed like Paterson's curse which germinates in the autumn and quickly grows during the winter to flower in the following spring.

The long lived rosette phase of the thistle's life cycle offers a window of opportunity for management options such as spraying and pasture improvement. Attacking the rosette during the growth phase is also the current focus of the biocontrol project; we have two agents a rosette moth and weevil that together attack the rosette year round. At this stage we are still only making limited numbers of releases of both species as release numbers are constrained by the logistics of laboratory rearing cultures.

Like all graziers, what we need now are a couple of good years that will allow both the rosette moth and weevil populations to build up in the field so that we can commence a redistribution process similar to that which we conducted for the stem and seed weevil.

Louise Hufton, Harden Murrumburrah Landcare Group Coordinator said, the group would like to hear from landholders about their observations on weevil numbers this year and level of activity.