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*Biological Control of Diffuse Knapweed: Analyzing Two Natural Insect Enemies*

My experiment was designed to answer 3 questions: which insect, the lesser knapweed flower weevil or the knapweed root weevil, would attack the most plants, would have the furthest spread, and would provide the best control.

I predicted that there would be no significant difference between the insects in the number of plants that they attacked, that the flower weevil would spread farther afield than the root weevil and that the root weevil would provide the best control.

After locating a large stand of Diffuse knapweed for the experiment I placed three enclosures and also set up two 105 foot intersecting transects in the stand. I released both insects into two of the enclosures and at the intersection of the two transects. At the end of the growing season I analyzed the plants in the enclosures and along the transects, recording how many plants were attacked by each insect, the extent of insect activity along the transects and plant mortality.

The two enclosures had a total of 54 plants in them. The flower weevil attacked 29.6% of all available plants and the root weevil accounted for 27.8%. As for the spread, there was no meaningful difference between the two insects. Even though the flower weevil attacked the most plants it caused no plant mortality, however, damage from the root weevil lead to more plant mortality due to internal mining of the root.