Volume 13

Washington University
Undergraduate Research Digest

Spring 2018

Insect Diversity Survey of White Clover in Wild vs Cultivated Environments

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Insect Diversity Survey of White Clover in Wild vs Cultivated Environments

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This project was designed to complement a common garden experiment being conducted by the Olsen Lab at Tyson Research Center. In that study, white clover plants are being surveyed for leaf herbivore damage to determine whether cyanogenic plants (those that produce HCN following tissue damage) receive less damage than acyanogenic plants. However, the research gardens being used do not fully represent the local environment for a variety of reasons. Our goals here were to determine whether there were differences in insect diversity and trophic structure between the research gardens and mowed areas where white clover grows naturally at Tyson. Between June and August 2017, we captured insects in both environments seven times using 12" sweep nets. Insects were classified according to their taxonomic families, or more specifically when possible. We found that although the insect abundance was reduced by approximately half in the research gardens, the most abundant species and the trophic structure remained similar. Family differences were also determined between the two environments, which shed some light on potential differences in predation that wild clover experience but garden-grown clover does not. Overall, we expect that herbivore leaf damage in the research gardens will be lower than in more natural settings, which may impact the interpretation of those data.