

**USING MICROSATELLITE ANALYSIS TO STUDY GENETIC DIVERSITY OF BUTTERFLY MILKWEED (*ASCLEPIAS TUBEROSA*) IN IOWA NATIVE PRAIRIES.**

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*Abstract:* Reduced population size can result in the loss of genetic diversity, which in turn can make organisms more susceptible to environmental challenges. In Iowa less than one percent of the original tallgrass prairie remains, isolated in a few remnant prairies. We are undertaking a long term project to assess the genetic variability in native prairie plants on remnant prairies in Northwest Iowa. We are testing six microsatellite sequences for butterfly milkweed (*Asclepias tuberosa*) from the Steele Prairie State Preserve, Broken Kettle Grasslands, a private prairie near Cherokee IA, a prairie restoration project on the Dordt College campus and populations from suppliers in Oklahoma and Pennsylvania. We hope to answer the following questions: A) Do nearby remnant prairies share alleles and have similar allelic diversity? B) Is there evidence for inbreeding in remnant populations? C) Is there evidence that plant populations found in local native prairies are genetically distinct from restored prairies and from those originating outside the state of Iowa? Preliminary results suggest that A) the three remnant prairie populations of butterfly milkweed that were tested do not differ in allelic diversity and B) the degree of homozygosity does not differ from expected values. The answers to these questions will help inform strategies for prairie conservation and restoration in Iowa and across the Midwest.