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## **Evaluation of genetic diversity in leafy spurge (*Euphorbia esula*) using chloroplast DNA sequence variation**

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Understanding the genetic diversity within the North American leafy spurge complex is essential for increasing the success of biocontrol efforts. Multiple introductions of leafy spurge into North America has led to a population of intra-specific hybrids or biotypes often having distinct morphological characteristics. Defining specific North American biotypes and relating them to Eurasian progenitors would be useful in biocontrol efforts. Restriction fragment length polymorphism (RFLP) analysis of chloroplast DNA (cpDNA) was used to determine the existence and extent of cpDNA sequence variation among collections of morphologically, and geographically diverse *Euphorbia* spp. Accessions from Russia, Italy, Austria, Nebraska and Montana were used in the initial phase of this research. Total DNA was extracted and digested with restriction endonucleases Eco RI, Hind III, Pst I and Xho I. DNA fragments were then separated by electrophoresis on agarose gels. Southern blot analyses were performed using labeled mung bean cpDNA probes. Preliminary data suggests that cpDNA sequence variation does exist among the accessions examined and could provide a means of determining relationships between North American biotypes and Eurasian progenitors.