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Electrophoretic analysis of isozymes in leafy spurge (*Euphorbia* spp.)

J. M. TORELL and J. O. EVANS

Utah Agricultural Experiment Station, Logan, Utah 84322-4820.

This study was initiated to determine isozyme variation within populations of leafy spurge. Accessions collected from ten North American populations and five Eastern European populations were grown in a greenhouse at Utah State University. Leaves were collected 1.5 to 2.0 cm from the shoot apex and ground in Carlson's modified extraction buffer (120 mg leaf/400ul extraction buffer). The crude squeezate was applied to filter paper wicks (Whatman 3mm) for electrophoresis on starch gels and injected into pre-formed wells (100ul/well) for electrophoresis on polyacrylamide gels. Starch gels were 12 percent while polyacrylamide gels were 3.1 percent for the stacking gel and 7 to 10 percent for the separating gel. Several buffer systems were used. Gels were stained for acid phosphatase esterase, aminopeptidase, endopeptidase, glutamic oxaloacetic transaminase, and shikimate dehydrogenase.

Isozyme resolution was better on polyacrylamide than on starch for all isozymes except acid phosphatase. Very little polymorphism was observed within populations but some differences are apparent between accessions representing populations identified as *E. esula* and *E. cyparissias*.