Effects of Light on Growth and Nodulation of Six Native Legumes. (C03-mcgraw160008-Poster)

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Abstract:

Native legume species found in savanna environments have evolved to grow in association with trees. These species may have potential for use in agroforestry where crops and trees are grown together. Native legumes, when grown within the tree rows in alley cropping or in silvopasture, could provide biologically fixed nitrogen, ground cover, and wildlife food and habitat. Two greenhouse experiments were conducted to evaluate the effects of three sunlight levels (100%, 45%, 20%) on the growth and nodulation of Lespedeza virginica, L. capitata, Desmodium canescens, D. canadense, D. illinoense, and D. paniculatum. Data were taken on dry matter production, number of nodules per plant, number of nodules per gram of plant dry weight, nodule weight, and nitrogen concentration. In general, most species produced equal or greater dry matter at 45% light compared to 100% light and had greater or equal concentrations of nitrogen. Species differed for nodule number and weight in response to light. Results indicate that these native legumes grow well and fix nitrogen in partial shade.

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