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The Effect of Canopy Direction on Plant Distribution Within an Oak Savanna

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Poster Presentation 39

THE EFFECT OF CANOPY DIRECTION ON
PLANT DISTRIBUTION WITHIN AN OAK SAVANNA

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Oak savannas, which are prairies with scattered oak trees, were common in central North America in the early 1800's. However, they are now one of the most endangered ecosystems in North America. Determining limiting factors in plant distribution is an important aspect in efforts to restore oak savannas. The objective of this study was to determine if there was a relationship between canopy direction (i.e. north and south facing canopies) and plant distribution in oak savannas. Light penetration through canopies is important for agricultural crops by providing stronger lower branches and better fruit quality. Sun-shade gradients have also been demonstrated to be a major factor on plant distribution within oak savannas. The study was conducted in the Cedar Creek Natural History Area near Bethel, Minnesota during July - August, 1996. Nine north-south 200 m transects spaced 25 m apart were established in this oak savanna. Sample sites along these transects occurred every 5 m and were 1 m by .5 m in dimension. The presence of 29 plant species native to oak savannas was determined within the sample boundaries. In addition, two light measurements were taken at sample sites to determine the amount of light penetration from the north and from the south. Plant distributions will be compared in relation to light measurements using linear regression.