Enzyme Activities Following Weed Control and Soil Disturbance in a Missouri Ozark Forest. (4112)

Authors:

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Abstract:

A long-term experiment was initiated in Missouri on the Carr Creek State Forest to determine the effects of tree removal and forest floor disturbance on a regenerating oak (Quercus spp.)- hickory (Carya spp.) forest. The study included three replication of nine treatments derived from the factorial combinations of three levels each of organic matter removal and of soil compaction. Weeds were controlled in half of each treatment plot. Eight years later, soil samples were taken from 0-15 cm depth and were processed for enzyme activities and chemical analysis. In this study the activities of acid and alkaline phosphatases, beta glucosidase, sulfatase, and beta glucosaminidase were measured. Results showed that treatments affected the activity of the enzymes differently. Acid and alkaline phosphatase activities were affected by one or more treatments and their interactions, but the activity of other above mentioned enzymes were affected only by a three-way interaction between organic matter removal, soil compaction, and weed control.

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