

Abstract:

A study was conducted during the period from November 1993 to April 1995 at the Demonstration Farm of the Faculty of Agriculture, University of Khartoum, to investigate the effect of three levels of phosphorus fertilizer and two sowing methods on yield and quality of two alfalfa (*Medicago sativa* L.) cultivars. Levels of phosphorus fertilizer used were 0, 50 and 100 kg/ha P₂₀₅ in the form of triple supersphosphate (48% P₂₀₅). The two alfalfa cultivars (Hegazi and Pioneer 5929) were planted on flat and on ridges. Phosphate fertilization at the rate of 100 kg/ha P₂₀₅ increased dry matter production, leaf to stem ratio and improved forage quality. Sowing on flat increased dry matter production. The local cultivar Hegazi was superior to the introduced variety in dry matter yield but the opposite was true for leaf to stem ratio and nutritive value.