

# A Study of the Effects of Fertilization and Liming on Yield of Slope-land Foxtail Millet.

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## Abstract

This trial was conducted on slope land (strong acid, silt loam, Schist Alluvial soils) from fall of 1989 to spring of 1990. The objective of this experiment is to find out the reasonable fertilization and the effect of liming on the yield of foxtail millet.

The soil pH values were raised about 0.4-0.6 units, and Ca, Mg, Si in soil also increased and enhanced 31% (fall crop 1989) and 12% (spring 1992) more in yield after silicate slag was applied. It seems as if it was better to last for the second crop in 1990 spring but not obviously in yield (increase 7% only).

The yield was decreased by 13% (fall 1989), 25% (spring 1990), and 10% (spring 1992) in -50% N treatment, as compared with the recommended treatment (Control), and then the treatment of + 50% N increased 20-33%. The treatment of + 50% P and + 50% K increased yields by 11-29% and 23-38%. The yield of - 50% P and - 50% K fertilizer treatments were not significantly different from control.

It is concluded that the silicate slag can raise soil pH value and improve nutrients availability in acid soils. The maintenance of high yield under 50% reduction in K fertilizer, might be attributed to the existence of Ca in applied silicate slag, which can promote K use of crops.

**Key words:** Foxtail millet, Liming, Fertilizing management.

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