B-66 : EFFECT OF NITROGEN ON YIELD AND QUALITY OF SUGARCANE

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Sugarcane yield is often limited more by the deficiency of nitrogen (N) than by any other nutrient element. Nitrogen favors tillering, increase the yield and promote succulence in sugarcane, while it has a detrimental effect on sucrose accumulation. Not much information is available on the N requirement of sugarcane grown on Non Calcic Brown (NCB) and Alluvial soils. Therefore, two field experiments were conducted to determine the effect of N on sugarcane yield and quality of juice.

The average total N levels in NCB and Alluvial soils were 0.042% and 0.094% respectively. In NCB soils, millable stalk count and cane and sugar yields were significantly affected by different N levels but had no effect on Pure Obtainable Cane Sugar (POCS). At the inherent N levels in the soils and the current prices of fertilizer and sugarcane, the optimum N requirement to NCB soils in Hingurana was 172 kg/ha which produced 130 tons of cane per hectare. This was under no moisture stress condition by following the normal cultural practices. Comparing the two soil groups, the Alluvial soils apparently had a higher mineralization than that of NCB soils. Therefore, the farmer could produce relatively high yield without applying any N fertilizer.