Management of Nitrogen Through the Use of Leaf Colour Chart (LCC) and Soil Plant Analysis Development (SPAD) or Chlorophyll Meter for Sweet Corn in Sandy Loam soils

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ABSTRACT

A field experiment was conducted in sandy loam soils of Agricultural College Farm, Bapatla, Andhra Pradesh, India to evaluate the best site specific real time nitrogen management strategies for sweet corn (var. sugar75) during *kharif* of 2014-15 by taking 120 kg N ha^{-1} and 150 kg N ha^{-1} in three to four splits as treatment combinations through SPAD and LCC. The experiment was laid out in randomized block design with nine treatments and replicated thrice. The experimental soil (0-15 cm) had pH 6.81; organic C 0.19 %; available N 242.8 kg ha^{-1}; available P_2O_5 20.6 kg ha^{-1} and available K_2O 164.2 kg ha^{-1}. The results show that values of both LCC and SPAD significantly increased with an increasing level of N. The mean values of LCC and SPAD varied from 3.0 to 5.4 and 42.2 to 51.2, respectively in sweet corn and they were significantly correlated with N content and uptake at 30 and 60 DAS. The results show that the amount of N can be saved as 20-40 and 40-60 kg N ha^{-1} through the use of SPAD and LCC in sweet corn over T_1 where 120 kg N ha^{-1} was applied in three splits. The plot received 120 kg N ha^{-1} in four splits and SPAD- treated N plots produced the maximum grain yield. The results further show that 40 kg N ha^{-1} as basal + 20 kg N ha^{-1} if SPAD value is <48.0 has been proved to be superior treatment for the best management of N in sweet corn in sandy loam soil.

Key words : Chlorophyll meter, LCC, Nitrogen uptake, Sweet corn ,Yield.