

Hybrid sweet corn performance under varied date of sowing in mid hill of Meghalaya

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Introduction

Like other regions of the world, North East Hilly (NEH) region of India is also undergoing rapid change in climatic parameters like reduction in rainy days, increasing temperature, variation in rainfall. The crop face acute shortage of water during their critical growth stages which leads to decrease in optimum production. On the other hand, food grain demand is ever increasing but horizontal expansion of land is nearly impossible.

Under these scenario, sweet corn is a potential crop to be promoted in the existing cropping system of NEH region. It is a C₄ crop and has wider adaptability to temperature variations with low water requirement. In a given region not all the cultivars are suitable for inclusion in the cropping system hence, a particular sowing window which offers maximum return needs to be addressed. There is ample scope of growing maize in addition, it has potential to generate employment opportunities in the rural areas. The state has immense scope for growing sweet corn with favourable climate (both temperature and rainfall) but location wise suitability of various sweet corn cultivars and their optimum sowing time has not been identified.

The experiment was conducted at the experimental farm of College of Agriculture, Kyrdemkulai, (Central Agricultural University, Imphal), Ri-bhoi district, Meghalaya, during *kharif* 2018 with four sweet corn varieties and three sowing dates. There were altogether 36 plots with an individual gross plot size of 8m² and net plot size of 4.5m². The experiment was laid out in a split plot design with 3 main plots and 4 sub plots. The 3 main plot treatments were 3 different date of sowing, they were 2nd (S₁), 12th (S₂) and 22nd (S₃) July and 4 sub-plot treatment were 4 different hybrids of sweet corn, they were ASKH-1(V₁), ASKH-4(V₂), ASKH-6(V₃), SWEET-77(V₄). Sweet corn was sown by following all the recommended agronomic practices. External input as nutrient source was 18 tonnes Farm Yard Manure (FYM).



I. Main plot (sowing date)	II. Sub plot (Variety)
Sowing date 1 (S ₁): 2.07.2018	ASKH-1 (V ₁)
Sowing date 2 (S ₂): 12.07.2018	ASKH-4 (V ₂)
Sowing date 3 (S ₃): 22.07.2018	ASKH-6 (V ₃)
	SWEET-77 (V ₄)

Conclusion

Sowing date had significant influence on plant height, leaf area, and dry matter accumulation per plant at various growth stages of sweet corn. Sowing of sweet corn on 2nd July recorded more plant height, leaf area index and dry weight than late sowing on 12th and 22nd July. Similarly, sweet corn hybrid ASKH-6 produced the highest value for all growth parameters like leaf area index, plant height and dry weight per plant at 30, 45, 60 and 75 days after sowing and at harvesting stages, which were distinctly more than remaining three hybrids. Maximum grain yield of 6.59 t ha⁻¹ was found in 2nd July compared to delay sowing probably due the shorter vegetative phase and poor partitioning of photosynthates to the grains. Maximum stover yield was found in the same planting date due to the high dry matter accumulation. Among the hybrids ASKH-6 produced the highest yield of 7.08 t ha⁻¹ compared to the other hybrids. This study indicated that among the sowing dates 2nd July and among the hybrids ASKH-6(V₃) gave the best performance.