

Customized fertilizer Technology for balanced nutrition of FCV tobacco

Flue-Cured Virginia (FCV) tobacco, a premium cash crop in India, particularly in the light soils of Andhra Pradesh, demands precise nutrient management to achieve high yields of superior-grade cured leaf under both rainfed and irrigated conditions. Conventional fertilizer schedules often result in imbalanced nutrition, suboptimal uptake, and environmental losses, especially in the nutrient-responsive Northern and Southern Light Soil (NLS and SLS) agro-ecologies. To address these challenges, site-specific customized fertilizer grades were developed for the first time for FCV tobacco.

Customized fertilizers were developed for the first time for FCV tobacco. Two grades of customized fertilizers viz., Basal grade [12 – 18 - 14 - 4.5 - 2.5 (N:P₂O₅:K₂O:S:Ca)] and Top dress grade [17 – 0 - 17 - 9.5 (N:P₂O₅:K₂O:S)] were developed for giving the N, P₂O₅, K₂O, S & Ca @ 117.5-36-121.5-61.3-5 kg/ha based on the 100% nutrient recommendation for Northern Light soil grown FCV tobacco. One grade of customized fertilizer viz., Basal grade(16-10-18-6-1.5) NPKSCa was developed containing the N, P₂O₅, K₂O, S & Ca of 60-37.5-67.5 -22.5-5.6 based on the 100% nutrient recommendation for Southern Light soil grown FCV tobacco. Trace Sure containing Zn, Mg, Cu, Fe, B, Mo and Acre Shield containing C, H, N and S were tested along with customized fertilizers in different combinations. The Customized fertilizers along with trace sure microgranules (micronutrient product) and acre shield foliar spray technology has significantly enhanced the FCV tobacco productivity to an extent of 13-14% under rainfed and irrigated conditions in Andhra Pradesh. Recommendation of application of customized fertilizers along with Trace Sure and Acre Shield was given to the farming community for enhanced yields and balanced application of nutrients.

Benefits:

- Enhanced the productivity of FCV tobacco to an extent of 13-14 %
- Reduced the labour cost upto 25-30%
- Enhances the nutrient use efficiency
- Balanced application of nutrients
- Reduces the fertilizer input cost
- Reduces the excess application of phosphorus and potassium fertilizers by the farmer
- Precision agriculture with enhanced nutrient delivery efficiency
- Environment safety by minimizing nutrient losses
- Economic optimization by reducing input cost.



a. Field view of FCV tobacco with Straight



b. Field view of FCV tobacco with Customized fertilizers