

Name of the technology : **Drought mitigation technologies for FCV tobacco in Karnataka**

Year (s) of development : 2012-2019

Technology details

FCV tobacco is an important commercial crop grown under rainfed farming on red sandy to sandy loam soils in Southern Transitional Zone of Karnataka. Calcium is a mineral element with a much higher demand by tobacco plant like K and it helps in increasing cell wall strength, cell thickness and also helps in better root development to overcome drought conditions. Tobacco cured leaf productivity could be enhanced to an extent of 11.9 -12.8% by increasing the plant density to 22,222 plants/ha adopting inter row spacing of 100 cm and intra row spacing of 55 cm (100 x55 cm) instead of 18,181 plants/ha (with the normal spacing of 100 x 55 cm). Calcium nitrate fertilizer applications (containing 15.5% N and 19.0% calcium) as starter nutrient dose at planting time enhanced the seedling establishment and growth resulting in mean increase of 6.5 – 11.0% in productivity across the season/locations in the dry and semi dry zones of KLS.

Foliar application of N and K nutrients with Potassium Nitrate fertilizer (fully water-soluble foliar grade containing 13.5% N and 45% K₂O) @ 1.0% during crop growth phase at 45 and 55 days after transplanting increased the leaf productivity by 9.3% to 11.2%. Foliar sprays of nutrients can result in increasing the photosynthetic efficiency of the crop.



Calcium nitrate application



Potassium nitrate application



Dense planting

Impact of the technology

High density planting with 22,222 pl/ha, Calcium nitrate fertilizer applications as starter dose and foliar application of N and K nutrients with Potassium Nitrate fertilizer are drought mitigations measures recommended for improved productivity by early maturity to the farming community in drought situations.

Publications/commercialization

- Mahadevaswamy, M., C. Chandrashekara Rao, D. Damodar Reddy, S.Ramakrishnan and P. Sreenivas. 2021. Agronomic measures for enhancing seedling growth & field establishment, crop growth, leaf productivity and quality of FCV tobacco grown in KLS. Tobacco Research 47(1): 35-38.
- Mahadevaswamy, M. 2017. Foliar nutrition of Nitrogen and potassium for optimizing the productivity and enhancing the bright grade leaf productivity of FCV tobacco in KLS in Southern transitional Zone of Karnataka. Tobacco Research 43(1): 27-31.

Investigators /developers

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