

## EVALUATION OF NEWLY INTRODUCED TOP DRESSING FERTILIZERS ON PRODUCTIVITY AND QUALITY OF FLUE-CURED TOBACCO

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### ABSTRACT

*A three year field experiment was performed at Tobacco Research Institute of Tanzania from 2016/17 up to 2019 in order to evaluate different application rates of YaraLiva Nitrabor, YaraBela Sulfan and YaraMila tobacco on top dressing fertilizers. Six different top dressing fertilizers were tested for yield and quality of flue cured tobacco. These rates were YaraLiva Nitrabor 66.668 kg/ha, YaraLiva Nitrabor 125 kg/ha, YaraBela Sulfan 55 kg/ha plus YaraLiva Nitrabor 83.335 kg/ha, YaraBela Sulfan 125 kg/ha, YaraMila tobacco NPK 10:18:24 (310 kg/ha) and the control treatment CAN 27% 125 kg/ha. The measured variables were the leaf length and width, dry weight, percentage of nicotine, nitrogen, phosphorus, potassium, sulphur and boron concentrations on dry leaves, average grade index and gross margin.*

*Results show that the highest dry leaf yield with respect to top dressed fertilizers were recorded from YaraBela Sulfan 125 kg/ha which weigh 2049.55kg/ha, 1904.86kg/ha and 2055.00 kg/ha during the 2016/17, 2017/18 and 2018/019 respectively. The results also shows that the combination of YaraBela Sulfan 55 kg/ha and YaraLiva Nitrabor 83.34 kg/ha resulted into tobacco with relatively higher quality. Economic analysis revealed that the higher gross margin was attained with basal application of NPK 10:18:24 at 500 kg/ha which was top dressed with a combination of YaraBela Sulfan 55 kg/ha and YaraLiva Nitrabor 83.34 kg/ha. The lowest gross margin was obtained when basal application of NPK 10:18:24 at 500 kg/ha was top dressed with NPK 10:18:24 at 310 kg/ha. YaraBela Sulfan (CAN 24% + 6% S) at a rate of 125kg/ha performed better than CAN 27% at 125 kg/ha in terms of quantity and quality of tobacco productivity. From this results it is economically viable to top dress with a combination of YaraBela Sulfan 55 kg/ha and YaraLiva Nitrabor 83.34 kg/ha.*

**KEY WORDS:** *Tobacco quality, top dressing, fertilizer rate, NPK, CAN*

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