Physiological studies on guava trees

Abd El-Moaty Salim Abd El-Moaty

This investigation was carried out during two successive seasons of 2003 and 2004 on 12 year old seedy guava trees grown at a private farm at Alkhankah region, Qualubeia Governorate. Twenty four trees nearly uniform in their grow vigour and received regularly the same horticultural care adopted annually in the region were carefully selected and devoted for the present study.This work aimed to improve growth, nutritional status, productivity and fruit quality of seedy guava trees through investigating their response to some nutrient element (urea, K2SO4, ZnSO4 and Borax); dormex and their possible combinations.The complete randomized block design with three replications (an individual tree per each) was adopted for arranging the following eight treatments:1-Control ”water spray”.2-Urea at 1%.3-Potassium sulphate at 2%.4-Zinc sulphate at 0.5%.5-Borax at 0.3%.6-Urea at 1% + K2SO4 at 2% + ZnSO4 at 0.5% + Borax at 0.3%.7-Dormex at 2%.8-Urea at 1% + K2SO4 at 2% +ZnSO4 at 0.5% + Borax at 0.3% + dormex at 2%.V- x ,vnmary and Con::thsion..LAMM’ •Nutrient elements were sprayed twice at full bloom and after fruit set (one month later), while dormex was carried out in mid January during both seasons of study.Since those foliar treatments were evaluated regarding their influence on some vegetative growth measurements; leaf photosynthesis pigments and nutritional status (leaf mineral composition) and some fruiting aspects of seedy guava trees (fruit set, yield and fruit quality). Data obtained during both 2003 and 2004 seasons could be summarized as follows:V.1. Vegetative growth measurements:1-The obtained data showed that, all treatmentssignificantly increased number of shoots //meter / jo Co.(virshoot length and number of leaves / shootover the control. whereas, foliar spray with urea at 1% + K2SO4 at 2% + ZnSO4 at 0.5% + B at 0.3% was the superior in this respect. In addition, urea at 1% foliar spray alone or combined with K2SO4 at 2% + ZnSO4 at 0.5 + B at 0.3% + dormex at 2% came the second class, meanwhile, the other treatments appeared to be less effective than the abovementioned ones.2-The obtained data showed that foliar spray with all treatments significantly increased leaf characteristics leaf area (cm2); leaf blade length and width (cm) except dormex at 2% foliar spray treatment showedJo- V- Summary and ConclusionNutrient elements were sprayed twice at full bloom and after fruit set (one month later), while dormex was carried out in mid January during both seasons ofstudy.Since those foliar treatments were evaluated regarding their influence on some vegetative growth measurements; leaf photosynthesis pigments and nutritional status (leaf mineral composition) and some fruiting aspects of seedy guava trees (fruit set, yield and fruit quality). Data obtained during both 2003 and 2004 seasons could be summarized as follows:V.1. Vegetative growth measurements:1-The obtained data showed that, all treatments significantly increased number of shoots / per one meter of branch, shoot length and number of leaves / shoot over the control. whereas, foliar spray with urea at 1% + K2SO4 at 2% + ZnSO4 at 0.5% + B at 0.3% was the superior in this respect. In addition, urea at 1% foliar spray alone or combined with K2SO4 at 2% + ZnSO4 at 0.5 + B at 0.3% + dormex at 2% came the second class, meanwhile, the other treatments appeared to be less effective than the abovementioned ones.2-The obtained data showed that foliar spray with all treatments significantly increased leaf characteristics leaf area (cm2); leaf blade length and width (cm) except dormex at 2% foliar spray treatment showed