Physiological studies on fertilization of young apricot trees”canino” cultivar

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The present investigation was carried out during both successive seasons of 2006 and 2007 on six-year-old of ”Canino” apricot cv. trees budded on local apricot seedlings rootstock, grown in the Experimental Farm at El-Kanater Horticultural Research Station, Kalyubia Governorate.Fifty four healthy fruitful apricot trees ”Canino” cv. budded on local apricot rootstock were carefully selected and devoted for this work. Trees were nearly uniform as possible in their growth vigour, free from diseases, grown in a clay loamy soil and planted at 5 x 5 meters apart under flood irrigation system. All trees used received regularly the same cultural practices adopted in this region.The purpose of this investigation aimed mainly to improve growth, nutritional status and increase productivity as well as improve both fruit physical and chemical characteristics of ”Canino” apricot trees through investigating their response to some N, K and bio-stimulants fertilization treatments included two levels of NK i.e., (N1K1) and (N2K2) fertilizers soil application in combined with one or more from some bio-stimulants compounds under study i.e., Nitrobein, Phosphorene and active dry yeast soil applied. The source of the applied mineral fertilizers i.e., N and K were ammnium sulphate (20.6 % N) and potassium sulpate (48 % K20) for the N and K sources, respectively. In addition, one (1.0) kg from each mineral fertilizer source was soil applied for the first level, while in the second one (N2K2) the dose was doubled i.e., became two (2.0) kgs from each N and K fertilizer per tree. Moreover, as for some bio-stimulants compounds.Summary and ConclusionThe corresponding amounts from N and K mineral fertilizers used for NK level were mixed together and fractioned into equal doses to be soil applied on the last week of February and after two weeks of fruit setting for the first and second doses, respectively. whereas, the entire phosphorus quantity rate added onece in early February during each season, phosphorus level was soil applied to all NK treatments at a constant level once dose at one kg per tree in the form of superphosphate (15.5 % P2O5). Meanwhile, the rate of investigated bio-stimulants were (100, 50 and 40 gms/tree) for Nit., Phos. and active dry yeast, respectively. Moreover, the abovementioned amounts were divided into two equal doses.The complete randomized block design with three replications (an individual tree per each) was adopted for arranging the following eighteen combinations of (NK x bio-stimulants compounds) fertilizations treatments.Accordingly, the investigated N, K and bio-stimulants soil applied fertilization treatments were as follows:1-Control treatment (NoKo + no bio-stimulants) soil applied.2-N1K1 + no bio-stimulants soil applied.3-N1K1 + Nitrobein (Nit) soil applied.4-N1K1 + Phosphorene (Phos) soil applied.5-MK’ + Active dry yeast (y) soil applied.6-N1K1 + Nitrobein (Nit) + Phosphorene (Phos) soil applied.7-N1K1 + Nitrobein (Nit) + Active dry yeast (y) soil applied.8-N1K1 + Phosphorene (Phos) + Active dry yeast (y) soil applied.9-N1K1 + Nitrobein (Nit) + Phosphorene (Phos) + Active dry yeast (y) soil applied.10-Control treatment (NoK0 + no bio-stimulants) soil applied.