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ABSTRACT

Two open field experiments were performed during the two successive summer seasons of 2013 and 2014 at El- Bosily, El-Behaira governorate and El-Fayuom to investigate the growth and productivity of two tomato cultivars under different climatic conditions and different levels of NPK fertilizers. The experimental treatments were arranged by applying the split split plot design where, location treatments were arranged in the main plots, tomato cultivars treatments were arranged in the sub plots and fertilizer levels were arranged in the sub sub plots. Results showed that planting the tomato in El Fayoum location and using cv. Super Strain B plants and fertilized by 100% from the recommended doses of N.P.K. exhibited the highest values of all vegetative growth parameters compared with the other interaction treatments.. Also the tomato plants cv. Super Strain B cultivated in El Fayoum location combined with using 100% level from the recommended N.P.K doses exhibited the highest values of all fruit yield characteristics expressed as number of fruits/plant, fruit yield/plant, total fruit yield/ fedd., fruit weight, length, diameter, shape and fruit set% compared with the other interaction treatments. On the other hand, using cv. Castelrock and 80% from the recommended dose treatments in El Behaira location gave the lowest values. Meanwhile, cultivating the tomato plants in El Behaira by using cv. Super Strain B and 120 % from the recommended NPK doses exhibited the highest values of all chemical fruit quality of tomato plant (Nitrogen%, Phosphorus%, Potassium%, total carbohydrates, T.S.S and total acidity, compared with the other interaction treatments. As well as, the same interaction treatment exhibited the highest content of all N%, P%, K% and chlorophyll reading in plant foliage as compared with the other interaction treatments