Effect of cultivar, planting date and growing medium on growth , flowering and yield of strawberry plant *Fragaria ananassa* Duch. cvs. Fern and Hapil

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Summary

This An experiment on six – months old strawberry plants (*Fragaria ananassa* Duch.) grown in a plastic bags during the growing period December , 2010 to April , 2011 at a private orchard in Abi El- Khassib District , Basrah Governorate , to investingate effects of cultivar (Fern and Hapil) and planting date (10 th , Dec., and 25 th , Dec., / 2010) and growing media (peatmoss , sand : peatmoss (1:1,v/v) , sand : peatmoss (3: 1, v/ v) , and clay , on some vegetative , rooting and flowering characters , yield components and fruit quality.

Results of this experiment showed a significant influence of cultivar factor on the studies characters in which Hapil cv. recorded the highest significant increase in leaf area , total soluble carbohydrate per leaf , vegetative and rooting growth dry weights , inflorent length , number of flowers per inflorent and plant , number of fruits per inflorent and plant , plant yield , fruit fresh weight , its volume and diameter , anthocyanin concentration per fruit , but the increases were not significant in the number of crowns and inflorent per plant , percentage of fruit set , fruit length ,total acidity , total sugars , and vitamen C per fruit . Fern cv. recoded significant increases in the total chlorophyll pigments concentration per leaf , concentration of nitrogen , phosphours and potassium per leaf , early fruit ripening , brix acid ratio and fruit dry matter , but the increase was not significant in total soluble solids (T.S.S) per fruit.

The study also revealed that strawberries planted on 10 th Dec. 2010 recorded significant increases in leaf area per plant , concentration of total chlorophyll , nitrogen , phosphorus and potassium per leaf , vegetative and rooting growth dry weights, inflorent length , number of inflorents per plant , number of flowers per inflorents and plant , number of fruits per inflorents and plant , plant yield , fruit fresh weight , its volume , length and diameter , T.S.S., acidity , brix acid ratio, vitamen C content per fruit , and fruit dry matter , but the increases were significant in the number of crowns per plant and percentage of fruit set . The strawberries planted on 25 th Dec.2010 had the highest significant increases in the total soluble carbohydrate per leaf , early fruit ripening and anthocyanin concentration per fruit , but the increase in total sugars per fruit was not significant.

Results obtained indicated that different growth mediums affected the studied characters significantly , in which strawberries grown in peatmoss medium recorded the highest significant increase in the number of crowns , leaf area per plant , total soluble carbohydrate and concentration of total chlorophyll , nitrogen , phosphorus and potassium per leaf , vegetative and rooting growth dry weights , inflorent length , number of inflorents per plant , number of flowers per inflorent and plant , number of fruits per plant , plant yield , fruit fresh weight, its volume , length and diameter , fruit T.S.S., acidity , brix acid ratio , vitamen C , anthocyanin concentration and dry matter content , but the increase in fruit number per inflorent was not significant . Strawberries grown in sand : peatmoss (3 : 1) recorded significant increases ib the early fruit ripening and total sugars per fruit whereas ,strawberries grown in clay soil gave a significant increase in percentage of fruit set.

The bi- combination of (cv.Hapil) and planting date (10 th , Dec. 2010) and the bi- combination of (cv.Hapil) and growth medium (peatmoss) , and the bi- combination of planting date (10 th , Dec. 2010) and growing medium (

peatmoss) recorded the highest significant increases in most of the studied characters as compared to other bi combination treatments .

The tri- combination of (cv. Hapil) , planting date (10 th , Dec. 2010) and growth medium (peatmoss) gave the best results of the studied characters in comparison the other tri- combination treatments .