

ABSTRACT

Title of the thesis/dissertation	:	Production of Strawberry (<i>Fragaria am L.</i>) Cultivars in Nutrient Film Technique (NET) System of Hydroponics .
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Name of the university		Sher -e- Kashmir University of Agricultural Science and Technology of Jammu

Detailed systematic studies were conducted on production of strawberry (*Fragaria ananassa L.*) cultivars in hydroponic nutrient film technique (NFT) in the Division of Plant Physiology , Sher - e - Kashmir University of Agricultural Sciences and Technology of Jamm Ten foet long , six feet wide and eight feet height with four inches PVC pipes were used to create hydroponics system of 180 pot holes . Two varieties Chandler and Ronis were taken as an experimental material . The runners of both varieties were obtained from IARI substation 22 , Dhanda , Shimla , Himachal Pradesh . In NFT technique , the roots of plants hang down to the bottom of the channel where they came into contact with the shallow film of the nutrient solution and absorbed nutrients from them instead of soil . The experiment was laid out in two Factorial Completely Randomized Design with 5 different treatments viz . , Tr : Soil (100 %) , T : Cocopeat (100 %) , Tx : Coco - peat + Perlite (1 : 1) . Te Cocopeat + Perlite + Vermiculite (1 : 1 : 1) , Ts : Cocopeat - Perlite + Vermiculite + Vermicompost (1 : 1 : 1 : 1) . Data were recorded at vegetative , reproductive and harvest stage . In relation to morpho - physiological responses , maximum plant height in Chandler and Rania were observed in Tr : Cocopeat + Perlite + Vermiculite - Vermicompost (12.31 cm and 11.58 cm) and minimum was found in control (8.58 cm and 7.23 cm) respectively . Maximum leaf area in Chaneller and Rania were observed in Ti (122.10 cm² and 120.30 cm) and minimum was found in control (114.00 cm and 112.30 cm ') respectively . Highest relative loaf water contest in Chandler and Rania were found in Ts (83.13 % and 81.11 %) and minimum was recorded in control (75.36 % and 73.30 %) respectively . Highest total chlorophyll in Chandler and Rania were observed in Ts (2.10 mg / g and 2.02 mg / g) and minimum was found in control (1.50 mg / g and 1.42 mg / g) respectively . Maximum total segars in Chandler and Ramia were recorded in Ts : Cocopeat Perlite Vermiculite + Vermicompost (7.91 % and 8.10 %) and minimum was recorded in control (7.25 % and 7.25 %) respectively . Highest number of flowers per plant in Chandler and Rania were found in Ts (24.39 and 22.82) and minimum was found in control (15.36 and 14.40) respectively . Highest berry yield per plant in Chandler and Rania were observed in Ts (447.65g and 389.16g) and miniman was found in control (183.03g and 114.10g) respectively .

The results clearly indicated that treatraent Ty Coco peat Perlite Vermiculite + Vermicompost (1:1:1:1) were found the most promising treatment for enhancing the morpho physiological , biochemical and yield responses in both varieties of strawberry as compared to Vermiculite , other treatments .

Key words: Hydroponics, Nutrient Film Technique, Strawberry, Cocopeat , Vermiculite, Chandler , Rania

Signature of major Advisor

Signature of Student