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RESEARCH PAPER

Effect of plant growth regulator (PGR) and cultural practices on supression of post monsoon vegetative flush in relation to physiological and yield parameters of alphonso mango (*Mangifera indica* L.)

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Abstract : This experimental work was performed on Alphonso mango treeat Centre of Excellence for Mango, Department of Horticulture, Dr. Balasaheb Sawant Konkan KrishiVidyapeeth, Dapoli, during mango growing season summer-winter 2016 -2017 and 2017-2018. It is observed that the post- monsoon vegetative flush in mango trees affects reproductive phase that ultimately cause huge economic loss and so the study aimed at the effect of plant growth regulator (PGR) and cultural practices on supression of post monsoon vegetative flush in relation to physiological and yield parameters. The experiment laid out in ten treatments *viz,*. T_1_ control,T_2_ CCC-1500 ppm,T_3_CCC-2500 ppm,T_4_foliar spray of diammonium phosphate 3%,T_5_PBZ-500 ppm,T_6_PBZ-1000 ppm,T_7_ PBZ- 2000 ppm,T_8_ Soil opening upto the depth of 4-5 inch at tree basin region once in last week of September,T_9_ Soil opening upto the depth of 4-5 inch at tree basin region once in last week of October and T_{10} Soil opening upto the depth of 4-5 inch at tree region twice in last week of September and last week of October. Among physiological parameters considered, the rate of photosynthesis was maintained at significantly highest rate (7.44 µmol CO_2 $m^{-2}s^{-1}$) by treatment T_{10}. The rate of respiration was found to be increased from before bud break stage to bud break stage and then declines towards flower initiation stage. In case of rate of transpiration, treatment T_{10} maintained significantly highest rate of respiration from before bud break stage to flower initiation stage and recorded highest rate of respiration at bud break stage (-6.03 µmol CO_2 $m^{-2}s^{-1}$). In case of yield, treatment T_{10} recorded significantly minimum days required for harvesting (102.16 days) from flowering among all treatments. Significantly maximum days required for harvesting (129.83 days) was recorded by T_1.The treatment T_{10} recorded significantly maximum number of fruits per plant (188.50) followed by treatment T_3 (184.16), significantly minimum fruits per tree (89.50) was recorded by T_1. The fruits per tree (kg) was found to be significantly higher (48.96 kg) in T_{10}.

Key Words : Plant growth regulator (PGR), Cultural practices, Supression of post monsoon, Vegetative flush, Alphonso mango

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