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Research Paper

Effect of irrigation scheduling, mulching and salicylic acid on growth, yield and quality of watermelon under rice fallow condition

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ABSTRACT

A field experiment was carried out to study the effect of irrigation intervals, mulching and salicylic acid on growth and yield of watermelon under rice fallow condition with fifteen treatment combinations by using irrigation schedules, one at 6 days interval and another at 8 days interval with three different mulching materials like paddy straw, coir pith and black polythene sheet and salicyclic acid @ 0.1% as a source of antitranspirant. The control is the usual practice of the farmers which is giving two irrigation per week. Various biometric observations on growth attributes *viz.*, vine length, number of branches plant^{-1}, number of leaves plant^{-1}, and leaf area, physiological attributes *viz.*, leaf area index, chlorophyll content, relative growth rate, dry matter production, photosynthetic rate and WUE, flowering attributes *viz.*, days taken for first male and female flower emergence, total number of male and female flowers plant^{-1}, sex ratio and fruit set percentage and yield attributes *viz.*, number of fruits plant^{-1}, fruit yield plant^{-1}, fruit weight, fruit girth, fruit length, yield ha^{-1} and TSS were recorded. Different treatments significantly influenced the growth, physiological, flowering and yield characters. The results revealed that irrigation at 6 days interval along with coir pitch mulch and salicylic acid @ 0.1% spray on 30 and 60 DAS (T_{11}) was found to be the best with higher fruit yield of 59.63 t ha^{-1}, which was followed by irrigation at 6 days interval with black polythene mulch and salicylic acid @ 0.1% spray on 30 and 60 DAS with a yield of 57.25 t ha^{-1}.

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