Abstract

Regarding the development of stable agriculture, using herbal hormones has been put into attention in recent decades. Therefore it should be investigated in the field of agricultural plants management. In order to find the effect of the concentration and time of spraying auxin on qualitative and quantitative characteristics of sesame, an experiment was conducted in the field of Agriculture Research Institute of Zabol University (Chahnimeh) in Zahak at cropping season of the year 2014. The experiment was done as splitplot based on randomized complete block design with three replication. The main agent (variable) i.e. spraying of auxin was investigated in three stages including the flowering stage, the pod-filling stage, and the flowering as well as the pod-filling stage. To investigate the effect of the secondary agent i.e. the concentration of auxin, it was sprayed in five different densities of 0 mg/l (with stilled water as the control variable), 10 mg/l, 20 mg/l, 30 mg/l, and 40 mg/l. The findings from the research showed that: the stem height, the economic function, the oil function, the number of dehiscence and indehiscence capsules, biomass function, the harvest index, the number of seeds in each capsule, the weight of 1000 seeds, and the number of dehiscence and indehiscence capsules per meter cubic(m^3) was affected by the concentration and the time of spraying auxin .Checking the interactions of treatments showed that the maximum function per area unit for stem height, economic function, biomass function, harvest index, and the number of indehiscence capsules was as a result of the compound treatment of the time of auxin spraying in the stage of flowering as well as the pod-filling with the fourth concentration. According to the research results, spraying auxin with the concentration of 30 mg/L in the flowering as well as the pod-filling stage would be an appropriate treatment for achieving the maximum function and decrease in the rate of sesame dehiscence capsules in Sistan Region.

Key words: Auxin, Capsule dehiscence, Function, Sesame

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Effect of auxin folair application (times and concentrations) on qualitative characteristics of sesame

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