

PERMANENT REFERENCE

EFFECT OF WATER STRESS ON PLANT GROWTH AND QUALITY OF SEEDS IN OKRA

(*Abelmoschus esculentus* (L.) MONECH)

BY
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ABSTRACT

The experiment was planned to evaluate the effect of water stress on plant growth and quality of seeds in okra (*Abelmoschus esculentus*).

This experiment in a RCBD with four replicates was carried out in the division of Agricultural biology of Eastern University Sri Lanka, Vantharumoolai located in the Eastern Sri Lanka, during the period of July to October 2000. Treatments included 2, 4 and 6 days moisture stress at pod initiation and two weeks after pod initiation and the control was without water stress condition.

Measurements as well as observation were made on plant height at pod initiation, at one week and three week after pod initiation, pod length, number of seeds and hard seeds per pod, germination and emergence rate under field and laboratory conditions. The data on these characters were subjected to statistical analysis (ANOVA).

The water stress affected the plant characters such as plant height, pod length, pod girth, number of seed and hard seeds per pod. Significant differences were found among treatments for these characters. The plants without any sort of water stress showed the best performance in plant growth pattern and produced best quality seeds.

It was observed that the long period of water stress, 4 – 6 days in the study, at the initiation of first pod and two weeks after it affected the plant growth and quality of seeds, determined by germination (viability) and emergence rate (vigour), to a

remarkable extent, at a significant level ($P < 0.05$) compared to the control, without any moisture stress conditions

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Long period of moisture stress during pod formation also reduced the number of seeds and increased the hard seeds formed.

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