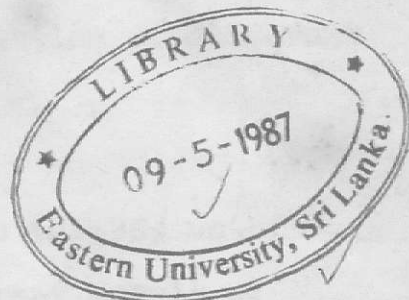


PERMANENT REFERENCE

RESPONSE OF CONPEA (*Vigna unguiculata*(L)Walp) CULTIVARS
TO SALINE WATER IRRIGATION IN THE REGOSOLS

by

GAYATHRI JEEVANANTHAM



A RESEARCH REPORT
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EASTERN UNIVERSITY
SRI LANKA

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P. Vivekanandan
.....
P. Vivekanandan M. Phil.
Supervisor
Division of Agric. Biology
Department of Agronomy
Faculty of Agriculture
Eastern University
Sri Lanka.

S. Sivasubramanian
.....
Dr. S. Sivasubramanian
Head, Dept. of Agronomy
Faculty of Agriculture
Eastern University
Sri Lanka.

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ABSTRACT

The aim of the experiment was to determine the response of cowpea to saline water irrigation at different stages of growth.

Three popular cowpea cultivars (MI-35, Suthumung, and Red cowpea) were subjected to different levels of saline water (electrical conductivity of 1, 2 and 3dS/m) irrigation in the Regosols at the Faculty of Agriculture, Eastern University during the period November 86 to March 87, and compared with the control irrigated with tap water ($E_{c} < 0.01 \text{dS/m}$). These studies were conducted in pots.

Leaf area was more sensitive to saline water irrigation than plant height, seed yield, total drymatter, leaf number or nodulation which were measured during the growth stages.

Successful establishment of a cowpea crop was achieved at the end of two weeks without any marked differences even in the leaf area when irrigated with saline water having electrical conductivity upto 3dS/m.

The performance of the three cultivars had been similar in many aspects and no striking differences could

be observed between cultivars.

Nodule number and nodule dry weight showed the least response to salinity. Total dry matter of plants varied significantly among irrigation treatments, and mobilization of dry matter from stems to fruits was indicated in the stressed plants during the latter stages of the crop.

No significant differences in seed yield were found between the control and 1dS/m salinity irrigation treatments; but the 2 and 3dS/m salinity treatments respectively caused 23 and 35% seed yield reduction when compared with the control.

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