

Abstract

To evaluate the effect of seed position on the mother plant on yield and yield components of guar (*Cyamopsis tetragonoloba* L.) under drought stress experiment split plot in a randomized complete block design with three replications in research in the field in the Persian date Khordad 1395 Mollasani city located 25 kilometers from Ahvaz. The treatments consisted of drought stress (as main factor) in three levels: control (90% FC), moderate stress (60% FC) and high stress (30% FC) and native plant seed position (as sub) on 9 levels including seeds elementary, middle and bottom covers of the bottom, middle and top of the plant), respectively. The characteristics such as plant height, number of lateral branches, leaf area, number of pods per plant, seeds per pod, seed weight, seed yield, biological yield, harvest index, percentage and speed of germination and seed protein content and chlorophyll content was measured. Data analysis was performed using SAS version 1.9. Analysis of variance showed that the effect of drought stress was significant on all traits at 1% level. Effects of seed position on all traits except number of seed per pod was significant at 1% level. The interaction between positions seeds and drought on the number of pods per plant, seeds per pod, seed germination rate and chlorophyll a non-significant on plant height, the percentage of germination, biological yield and harvest index at 5% and the number of lateral branches, leaf area, thousand grain weight, grain yield and protein content was significant at 1% level. Mean comparisons showed lower seed pods and pods of the bush to plant germination percentage was higher. And seedlings of stronger production and ultimately better performance. The lower and middle pods per plant seeds under drought stress conditions also showed a better performance.

Key Words: guar, seedsize, seed position, yield, drought stress



University of Zabol

Graduate school

Faculty of Agriculture

Department of Agronomy

The Thesis Submitted for the Degree of M.Sc

(in the Field of Agronomy)

**The effect of seed position on mother plant on yield
and quality of guar (*Cyamopsis tetragonoloba* L.)
under drought stress**

Supervisors

Dr. M. Moussavi Nik

Advisors

Dr. A. Ghanbari

Dr. M.A. Asoodar

By:

Z. Vaziri

January 2017