

## **Abstract**

Evaluation of eco-physiologic and agronomic aspects of maize (*Zea mays* L.) and guar (*Cyamopsis tetragonoloba* L.) intercropping under different levels of manure, agricultural Research Institute of Zabol University experimental farm in the 2013 season, in a split plot in a randomized complete block design with three replications. Experimental factors and three levels of manure (0, 20 and 40 tons per hectare) as the main factor and the ratio of different cultured including pure corn plantation, pure guar, 75 percent of corn and 25 percent of guar ,50% corn and 50% guar, 25% guar and 75% corn respectively as subplots. The results showed that in all treatments, mixed land equivalent ratio greater than unity which indicates the superiority of mixed culture than in pure culture. The highest value of equality of treatment, 50% corn + 50% guar 2.62 equal the 40 tons manure was acts. From the statistical viewpoint effect of yard manure sowing rates on grain yield, biomass yield, grain protein and chlorophyll, maize and guar significant. Intercropping treatments yield than monoculture maize and guar gained. Mean comparison results indicated that the grain protein content in the mixture increased the plant with 40 tons of manure had the highest amount of protein. Increase the amount of nitrogen manure and legumes increase soil fertility and improve the soil after harvest. Overall, the results show the importance of intercropping Legume - Grass on the optimal use of environmental resources, enhance soil fertility and manure effect on growth performance, ultimately more beneficial than sole crop intercropping of maize and guar plant is approved.

**Keywords:** manure, ratios sowing, grain protein, nitrogen soil, land equivalent ratio



University of Zabol  
Graduate School  
Faculty of Agriculture  
Department of Agronomy

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**Supervisor:**  
Dr. I. Khammari

**Advisor:**  
Dr. M. Dahmardeh

**By:**  
S. Soleymani

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