

ABSTRACT

A field experiment was carried out in a calcareous soil at Dirab Experiments and Researches Station, Fac. of Food and Agric. Sci., King Saud University during 2005-2006 season. This research aims to study the effect of phosphorus, nitrogen fertilizers and irrigation intervals on forage yield and yield components of guar plant. The experiment includes three levels of nitrogen fertilizer (0, 40 and 80 Kg N/ha), four levels of phosphorus fertilizer (0, 40, 80 and 120 Kg P₂O₅/ha) and two irrigation intervals (5 and 10 days).

The results showed that irrigation interval periods had significant effect on green forage yield (GFY), dry forage yield (DFY), protein percentage (CP %) and nitrogen content in guar plant, while the effect was no significant on dry matter percentage (DM%), crude protein yield (CPY), phosphorus and potassium contents in guar plant.

Application of nitrogen fertilizer had significant effect on green forage yield, dry forage yield and crude protein yield. There were no significant effects on dry matter percentage, protein percentage, nitrogen, phosphorus and potassium contents in guar plant. The same trend was obtained when phosphorus treatments were applied.

The best treatment in this study was irrigation intervals every 5 days with applying 80 Kg N/ha and 40 Kg P₂O₅/ha.

Keywords: Guar, forage yield, calcareous soil, irrigation intervals, P and N fertilization.