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Research Article

Response of various grasses to different levels of fertilizer

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Abstract : An experiment was conducted to study the response of various grasses to different levels of fertilizer during the *Kharif* seasons of 2002-03, 2003-04 and 2004-05 at Grassland Research Station, Junagadh Agricultural University, Dhari. The treatments comprised of four grasses *viz.,* anjan (*Cenchrus ciliaris*), dharaf (*Chrysopogon montanus*), marvel (*Dichanthium annulatum*) and shaniar (*Sehima nervosum*) and four levels of chemical fertilizer (F_1=00-00-00, F_2= 20-10-00, F_3= 40-20-00 and F_4= 60-30-00 NPK kg/ha). In order to find out the best suitable pasture grass and optimum level of fertilizer for securing the maximum forage yield, the experiment was laid out in randomized block design (Factorial) and it was replicated thrice. The pooled results indicated that among different grasses, significantly the highest green biomass (99.9 q/ha) and dry matter yield (33.1 q/ha) were recorded by marvel grass. Among different fertilizer levels, the fertilizer dose of 60-30 NP kg/ha gave significantly the maximum green biomass (90.4 q/ha) and dry matter yield (30.2 q/ha), but statistically it was at par with the fertilizer level of 40-20 NP kg/ha for green as well as dry matter yield. With the economic point of view, the maximum net return of 3809 Rs./ha was recorded by the treatment combination of marvel grass and 60-30-00 NPK kg/ha fertilizer level.

Key Words : Green biomass, Dry matter, Grasses, Fertilizer

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INTRODUCTION

India has huge livestock wealth which plays an important role in its agricultural economics. The deficiency of green forage is one of the major causes of malnutrition in the livestock resulting in low animal productivity. The annual production of green and dry fodder in the country is 250 and 441 million tones as against the requirement of 932 and 780 million tones, respectively (Anonymous, 2000). At present, natural grassland area have been degraded through over grazing and careless exploitation of the bio diversity. It is now a days considered important to utilize the uncultivated land and cultivated wastelands. The main reason of low productivity of forage yield in Saurashtra region is mainly attributed to its cultivation in poor and marginal lands under rainfed condition with no or little use of fertilizer. Fertilizer plays an important role in increasing forage production with better nutritive value. Fertilizer is a costly input and so it should be used judiciously to get maximum monetary returns per unit cost incurred. In order to find out the best suitable pasture grass and optimum level of fertilizer for securing the maximum forage yield, the experiment was laid out.

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EXPERIMENTAL METHODS

The field experiment was conducted during the *Kharif* seasons of 2002-03, 2003-04 and 2004-05 at Grassland Research Station, Junagadh Agricultural University, Dhari