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Research Article

Growth, biomass production and quality characters of cowpea as influenced by phosphorus and sulphur fertilization on loamy sands of semi-arid sub tropics

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Summary

A field experiment was conducted at C.C.S. HAU, Regional Research Station, Bawal to evaluate the effect of phosphorus and sulphur fertilization on fodder yield and quality of cowpea (*Vigna unguiculata*). There was significant increase in green and dry fodder yield with increase in S levels from 0 to 40 kg/ha. Similarly, with increase in P_2O_5 level from 0 to 60 kg/ha, there was significant increase in green and dry fodder yield of cowpea. Application of 60 kg/ha P_2O_5 with 40 kg/ha S resulted in maximum green and dry fodder yield of cowpea as compared to other treatment combinations. Crude protein, ether extract and ash content were increased with each increment of P_2O_5 and S levels while crude fiber and nitrogen free extract showed reversed trend.

Key words : Phosphorus, Sulphur, Fertilization, Fodder, Quality, Cowpea

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Introduction

Forage crops play an important role in successful management of livestock industry, as feeding alone accounts for 2/3rd of the total cost of animal production. The poor performance of cattle and buffaloes in India is, mainly, ascribed to inadequate supply of nutritious forage and feeds, besides lower production potential of the animals. Even the best animals fail to express their genetic potential in the absence of appropriate feeding schedule. The population of livestock in India has increased at a rapid rate from 336 million in 1961 to more than 450 million in 2007. The present feed and fodder resources of the country can meet only 46.6 per cent of the requirement, that too by feeding poor quality roughages. Cowpea provides nutritious fodder for fairly long period of time. Green and dried fodder is the most important roughage for feeding the cattle throughout the country. The legume fodder crop like cowpea provides highly nutritious, succulent, proteinous and rich in mineral nutrients forage to animals. This leguminous fodder in combination with cereal fodders constitutes an excellent source of balanced diet for dairy as well as drought animals. Haryana is a cattle intensive state having enormous production of milk. To sustain the long-term supply of milk requirement of the state and country at large, special efforts are needed. Under these circumstances, cowpea can be a promising alternate to meet the feeding requirements of the cattle. Keeping in view the above aspects under consideration, the present investigation was undertaken to evaluate the fertilization effect of phosphorus and sulphur on fodder yield and quality of cowpea.

Resources and Research Methods

The experiment was conducted at CCS HAU, Regional