

NITROGEN CONTENT OF *SESBANIA BISPINOSA* AS AFFECTED BY NITROGEN APPLICATION.

Ashraf Ali, Azizullah Shah, Zahid Iqbal Awan, And M. Akram¹

ABSTRACT

A field experiment was conducted to study the effect of nitrogen application on the nitrogen content of *Sesbania bispinosa* (dhancha). Six levels of nitrogen (T₀-T₅; 0, 10, 20, 30, 40 and 50 kg ha⁻¹), in the form of urea, were applied by broadcast at the time of sowing. Plant tissues (root, shoot, and leaves) were sampled, 30 days after germination and subsequently with the interval of 15 days for two months, for their nitrogen content assessment. The data was statistically analyzed. Nitrogen content in the three diagnostic plant parts increased proportionally to the nitrogen dose applied with maximum at T₅ (50 kg N ha⁻¹). However, N-content, in each plant tissue decreased as the growth progressed.

INTRODUCTION

Soils of Pakistan, being located in the zone of arid climate, are generally deficient in nitrogen. Nitrogen is the most important element in the metabolism of plants and is

(Gueverra *et al.*, 1978; Mendoza *et al.*, 1981 and Kang *et al.*, 1990). *Sesbania* being leguminous plant can fix 542 kg N ha⁻¹ year (FAO, 1984).

However, little is known about the N fixing capacity of legumes (Peoples and Herridge, 1990; Peoples and Craswell, 1991) and of *Sesbania* in Pakistani soils and the influence of nitrogen fertilization on the accumulation of N-content of this plant. The objective of this paper was, therefore, to study the effect of nitrogen application on the N-contents of *Sesbania bispinosa*.

MATERIALS AND METHODS

To evaluate the effect of nitrogen application on the nitrogen content of different plant parts of *Sesbania bispinosa*, a quadruplicated field experiment, using Randomized Complete Block Design, was conducted. Soil samples from 0-30 cm depth were collected for routine soil characterization (Table 1). Six levels