

Research  
Paper

## Effect of bio-regulators on the quality of greengram

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### ABSTRACT

An experiment was conducted at Millet Breeding Station, TNAU, Coimbatore during *Kharif* (July, 2006 - October, 2006) in CO 6 green gram with nine different treatments. The foliar spray of 0.1% humic acid with 0.1 ppm brassinosteroid treatment increased the seed quality parameter of grain protein content.

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**Key words :** Bio regulators, Greengram and seed protein

## INTRODUCTION

Pulses play an equally important role in rainfed and irrigated agriculture by improving physical, chemical and biological properties of soil and considered as excellent crops for natural resource management, environmental security, crop diversification and consequently for viable agriculture. Foliar spray of NAA increased the seed protein content in black gram (Lakshamma and Subba Rao, 1996) and in soybean (Maccomick and Poll, 1979). However, according to Subbiah Reddy and Shah (1987), application of 50 ppm NAA did not influence the seed protein content significantly. Ravikumar and Kulkarni (1988) also reported that NAA had no effect on protein content in seeds. There was not much difference in the distribution of protein in seeds due to TIBA application. Kinetin treatment maintained a higher rate of protein synthesis and thereby, increased the protein content of wheat grain (Sekhon and Singh, 1994). Increase in grain protein content in pearl millet was reported with the application of SA (Rangacharya and Bawankar, 1991).

## MATERIALS AND METHODS

A field experiment was conducted at Millet Breeding Station, TNAU, Coimbatore during *Kharif* (July, 2006 - October, 2006) in greengram (CO 6) with nine different

treatments in randomized block design with nine treatments and replicated thrice. Duration of the crop was 75 days. Sowing was done on 20.07.2006 with a spacing of 30 x 10 cm between rows and between plants. The soil was low in available nitrogen and phosphorus content and high in potassium content. The cultural management and plant protection measures were undertaken as and when needed. The treatment details were given below.

### Treatments:

- T<sub>1</sub> - Control
- T<sub>2</sub> - HA 0.1 % alone
- T<sub>3</sub> - HA 0.1 % + 10 ppm benzyl adenine (BA)
- T<sub>4</sub> - HA 0.1 % + 100 ppm salicylic acid (SA)
- T<sub>5</sub> - HA 0.1 % + 0.1 ppm brassinosteroid (BR)
- T<sub>6</sub> - HA 0.1 % + micronutrient mixture
- T<sub>7</sub> - HA 0.1 % + micronutrient mixture + 10 ppm benzyl adenine (BA)
- T<sub>8</sub> - HA 0.1 % + micronutrient mixture + 100 ppm SA
- T<sub>9</sub> - HA 0.1 % + micronutrient mixture + 0.1 ppm BR

Sprays of 2 % DAP and 40 ppm NAA are common for all the above treatments. Time of sprays: First spray at peak vegetative phase and second spray at 10 days thereafter).