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Research Paper :

Effect of molybdenum and carbofuran on growth, yield and biochemical pararmeters of greengram (*Vigna radiate* L.)

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ABSTRACT

The experiment was carried out to study the interaction between molybdenum and carbofuran on physical and biochemical levels of greengram. On the basis of findings, it is concluded that the treatment combination T_7 *i.e.* 2 kg Mo+5.6kg carbofuran/ha showed the best performance particularly with respect to plant height, crop yield and protein content, while maximum nodules formation was recorded in T_6 *i.e.* 2kg Mo+0kg carbofuran.

Key words : Greengram, Molybdenum, Carbofuran, Growth, Yield, Test weight and Protein content

India is one of the major countries for pulse production. Pulses are an excellent source of dietary protein, energy, minerals and vitamins for the predominantly vegetarian population of India. Pulses form an integral part of cropping system for the farmers all over the country because they fit well in crop rotation. In addition pulses, enrich the soil through symbiotic nitrogen fixation from atmosphere. Therefore, pulses play an important role both in human nutrition as well as soil nutrition and enrichment. In global context the requirement of pulses is increasing on account of ever multiplying human population. Among all the pulses which are grown in our country greengram is one of the important pulse crop and is a rich source of various essential amino acids, phosphoric acid and minerals. Mungbean, also known as greenbean, mung, moong, mash bean, munggo or, green gram, and green soy, is the seed of *Vigna radiata* which is native to India and Pakistan. The split bean is known as moong dal, which is green with the husk, and yellow when dehusked. The beans are small, ovoid in shape, and green in color. The mung bean is one of many species recently moved from the genus *Phaseolus* to *Vigna* and is still often seen cited as *Phaseolus aureus* or *Phaseolus radiatus*. It can be grown as rain fed *kharif* crop on water retentive soil like loamy or heavy soil. In order for a crop to give optimum yield it is necessary that mineral nutrition as well as other needs of the growing plants is well looked after which includes water supply, fertilizer, insecticides etc. Since leguminous crops fulfill their own requirement of nitrogen from atmosphere therefore nitrogenous fertilizers are not much required. However, proper micro-nutrient supply to the crop is a requisite for healthy crop development which increase the yield of the crops (Saha *et al.*, 1996). It is one of the important factors which help towards optimizing yields in such crops. Molybdenum an important micro-nutrient required for legume plant, act as a co-factor for the enzymes in the process of fixation of atmospheric nitrogen. It is present in small amount in soil which has been found necessary for nodule formation in plants. In legumes crops the yield is affected by various insects, the use of insecticides is also necessary to fully optimize the yield of the crop and controlling the pest/insects (Gupta and Singh, 1992). Among insecticides, Carbofuran being water soluble, enters through the roots and transported to each and every part of the plant. It is a systematic granular carbamate insecticide containing 3%G by weight of Carbofuran as its active ingredient. Little attention has been paid on the interaction of micronutrient (molybdenum) and insecticide (carbofuran) in greengram. Therefore, keeping in view the above facts the present investigations were carried out to study the response of Molybdenum and Carbofuran on physical and biochemical parameters of green gram.

MATERIALS AND METHODS

The investigations were carried out at the research