

Monitoring the role of molybdenum and seed priming on productivity of mung bean (*Vigna radiata* L.)

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ABSTRACT:

Molybdenum is recognized as one of the basic micronutrient required for the plants which improves soil fertility and the yield of legume crops. Globally major problem of mung-bean is inappropriate germination and the spaces are occupied by weeds that compete with the crop for nutrients. In various countries, shortage of molybdenum in soil is major constraint that declines the production of mung-bean. Therefore, the experiment was planned to evaluate the influence of various priming methods and molybdenum application on various cultivars of mung-bean. The trial was laid out in Randomized Complete Block Design (RCBD) with factorial arrangement with four replications. The experiment comprises of three factors i.e. two cultivars (NIAB 2006, AZRI 2006), four seed treatments (control, hydropriming, bio-priming and bio-coating) and Molybdenum application on vegetative phase (No molybdenum and molybdenum @ 1 kg ha⁻¹). Various agronomic parameters i.e. number of leaves per plant, number of pods bearing branches, number of pods per plant, 1000 seeds weight, economical yield, biological yield and harvest index were observed and were statistically analyzed utilizing Fisher's analysis of variance techniques and treatment means were compared by least significance test (LSD) at 5% probability level. The results indicate that cultivars of mung-bean, seed treatments and molybdenum significantly influenced the agronomic traits of mung-bean. Maximum harvest index (41.9%) was recorded in hydropriming @ 1 kg of molybdenum foliar application. In short bio-priming, bio-coating and molybdenum foliar application in legumes crop must be done to maximize the pulses production and to overcome the challenges of food security.

Keywords:

Molybdenum, Hydro-priming, bio-priming, bio-coating, foliar application of molybdenum, mung-bean