



## THE EFFECT OF SELENIUM WITH DIFFERENT LEVELS OF ORGANIC MATTER ADDITION ON DRY MATTER YIELD AND CONTENT AND UPTAKE OF SELENIUM BY LOBIA (*VIGNA UNGUICULATA* L.)

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### ABSTRACT

The interaction of applied selenium with organic matter fertilization in lobia (*Vigna unguiculata*) was evaluated in pot experiment. Selenium application at different levels (0-10ppm) significantly decreased in fresh and dry matter yield. However, selenium application increased its content and uptake in plants. Application of organic matter showed favourable effect on fresh and dry matter yield. Application of organic matter reduced content and uptake of selenium showing antagonistic relationship.

**Key words :** Lobia, Selenium, Organic matter, Antagonism.

### INTRODUCTION

Muzaffarnagar district of western U.P. and nearby areas are the major sugarcane growing belt this and majority of farmers of this district are marginal having less than 2 acres of land. Besides, crop production, milk production is the main source of income of these farmers. They use sugarcane top (locally known as agola) as cattle feed. Nutritive value of chopped sugarcane stalk (CSS) is not enough to satisfy energy requirement (Kawashima *et al.*, 2001). Nutritive value such as metabolizable energy of sugarcane stalk has not been well elucidated. The CSS can be used as roughage for feeding cattle in the dry season with proper supplementation of protein and energy. Lobia which is generally grown as interculture crop in sugarcane is a leguminous fodder rich in protein and can fulfil nutritional requirement of milch animals.

Selenium though a non-essential element for plants is an important element for animals and feed deficient in selenium reported to be causing animal health problem. Investigation on certain diseases such as muscular dystrophy in calves and lambs, exudative diathesis, liver necrosis and infertility in animals, indicate the effectiveness of selenium in preventing these maladies (Hartley and Grant, 1961). Visual symptoms of selenium toxicity have never been observed in plants growing on naturally seleniferous soils in field. However, visual toxicity symptoms have been produced in green house experiments by the addition of selenite, selenite or organic matter to the soil medium. The uptake of selenium depends on forms and concentration of selenium in soil. The effect of soil organic matter on the uptake of selenium by plants is mixed. Organic matter has a large capacity to remove selenium from solution, but the nature of fixation appears