

Growth and Yield of Mungbean (*Vigna radiata* L.) in Response to Gibberellic Acid and Uniconazole Foliar Application

Bahaa El-Din Mekki

Field Crops Research Department, National Research Centre, 33 El-Bohouth St., Dokki, Giza, Egypt.

Abstract: This study was carried out during summer seasons of 2014 and 2015 in the greenhouse of the National Research Center, Dokki, Giza, Egypt in order to investigate the response of growth and yield of mungbean (*Vigna radiata* L.) to Gibberellic acid (GA_3) (0,100 and 200 ppm) and Uniconazole (0,100 and 200 ppm). The results indicated that application of 100 ppm GA_3 significantly increased plant height of mungbean plants in comparison to untreated plants or the treatment received 200 ppm GA_3 . On contrary, the plant height was significantly gradually decreased by increasing the Uniconazole concentration from zero to 100 and /or 200 ppm. The untreated plant produced the highest plant height (53.17 cm), while the lowest (44.17 cm) was produced with the treatment received 200 ppm Uniconazole. Number of pods/plant was gradually increased by increasing GA_3 from 0 to 200 ppm. The highest number of pods/plant (46.17) was observed with 200 ppm GA_3 , while the lowest (22.83) was observed with control plants. On the other hand, the number of pods per plant was decreased by applying 100 and 200 ppm Uniconazole compared to control plants. The results indicated that the 1000-seed weight was gradually decreased with increasing GA_3 up to 200 ppm, while applied of 100 ppm Uniconazole produced the highest 1000-seed weight (59.30 g). Seed yield per plant was increased gradually with increasing GA_3 up to 200 ppm, while it was increased only by using 100 ppm Uniconazole resulted in the highest seed yield (16.65g). The highest content of calcium (17.25%) was recorded with the treatment received 200 ppm Uniconazole, while the lowest with untreated plants. The same trend was noticed with some micronutrients Fe, Zn and Mn. The application of 100 or 200 ppm GA_3 decreased the contents of Fe, Zn and Mn in the seeds, while applied the same concentrations of Uniconazole lead to an increase in these micronutrients.

Keywords: Mungbean (*Vigna radiata* L.), Growth, Yield, Gibberellic acid, Uniconazole.