Effect of spraying by Gibberellin and manganese on growth yield and quality of mung bean (Vigna radiata L).

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Abstract

Field experiment executed during 2016 autumn season in farmers' fields in the AL-Aufia district southwest of Missan province (about 3 km from city center) in Silty loam soil. The objective of the study was to know the effect of sprayed of gibberellin and manganese on growth, yield and protein percentage of Mung bean (*Vigna radiata L.*).The experiment executed in split-plot in (R.C.B.D) design with three replicates, main plot were include three gibberellin concentration (0 , 100and200 mg GA3wq L^{-1}) , While sub plot were include three concentration of manganese (0, 50and100mg Mn L^{-1}) the local variety of Mung bean was used, the experiment include 27 experimental units, area of each units(3×3)m.

The stude include following characteristics:
Number of days from planting to maturity ,plant height(cm), number of leaves(leaf plant $^{-1}$), number of branches, leaf area(cm^2), leaf area index, number of pod plant^{-1}, number of seed pod^{-1}, weight of 100 seed(gm), total seed yield(kg ha^{-1}), percentage and protein yield in seeds(%).

The result of the study showed the following:
1- gibberellin sprayed with concentration 200 mg l^{1-} caused significant increasing in most of growth characteristics of mung bean (plant height, number of leaves, number of branches, leaf area,), and most of yield characteristics (number of pod in plant, number of seed in pod ,total seed yield 865.70 kg ha^{-1}, percentage and protein yield in seeds ,and sprayed of gibberellin non – significant on weight100seed.
2-Sprayed of manganese with 100 mg L^{-1} concentration modify total studied characteristics and gave highest average plant height, number of leaves, number of branches, leaf area, leaf area index, number of pod in plant, number of seed in pod , total seed yield 898.76 kg ha^{-1}, percentage and protein yield in seeds.
3- Results also showed a significant Interaction between gibberellin and manganese, the combination of (200 mg GA3 L^{-1}×100mg Mn L^{-1}) gave the highest seed yield 1002.66 kg ha^{-1} and protein Yield 268.86 Kg **ha^{-1},the increase of total seed Yield due to most of growth characterists and Yield components**.