

Effect of different Nitrogen fertilization on cabbage (*Brassica oleracea*) and development of diamondback moth (*Plutella xylostella*)

ABSTRACT

Cabbage (*Brassica oleracea* var. *capitata*) contains highly nutritional values compared to other leafy vegetables in tropical areas. This vegetable requires an adequate amount of plant nutrients for growth and development. Nitrogen (N) fertilization can improve plant qualities, but at the same time, it may also lead to higher levels of pest damage to crops. Diamondback moth (DBM) is one of the major insect pests attacking cabbage thus reducing the profitable cabbage production. This study is to demonstrate the effect of N on the plant growth and response of the insect pest towards higher N fertilization. Cabbage were applied with different N level; control; 50 mg/L, 100 mg/L, 150 mg/L, 200 mg/L and 300 mg/L at 2nd and 4th week after transplanting. At 6th week, treatment with higher N enhances the growth and development of cabbage and fastens the development of DBM. Glucosinolate content in cabbage was higher at 6th week compared to 9th and 12th weeks. It was further concluded that N fertilizer can increase cabbage productivity and understanding to learn chemical ecology and insect behaviour are crucial to develop pest control approaches.

Keyword: Development; Fertilization; Insect-Plant interaction; Nitrogen

