Abstract

Plant datura (*Datura stramonium*) is a medicinal plant that has secondary metabolites atropine and hyoscine. These two alkaloids had many applications in medicine and are used to treat spasms and anticholinergic properties. Generally, the effects of these alkaloids on parasympathetic nerves in the body. In this study, two separate tests on the amount and extent of these alkaloids, influenced by nitrogen fertilizer levels and levels of methyl jasmonate elicitor was on datura. Greenhouse cultivation experiment was in a factorial completely randomized design with four replications, First operating at different levels of nitrogen containing 50, 150 and 250 kg ha ammonium nitrate and the second factor levels Alysytvr include 0.1, 1 and 10 micro M methyl jasmonate elicitor be sprayed on plants that were applied. Testing of tissue culture as factorial in completely randomized design with three replications were conducted, the first factor varying levels of nitrogen in MS½ 0.5, 1 and 2 times the basic MS ½ and second levels elicitor include 0.1, 1 and 10 micro-M methyl jasmonate were elicitor. Different levels of nitrogen application have significant differences in the level of a percent on the number of lateral branches, plant height, leaf number, flower number, plant dry weight, plant height, crown diameter, length and width of the leaf. The alkaloid atropine, chlorophyll content and chlorophyll concentration in all three nitrogen treatments also showed significant differences in the level of a percent, but with no significant difference in alkaloid hyoscine. The interaction between two factors more weight only significant difference between treatments was cultivated in greenhouses. Impact on the amount of hyoscine alkaloids in plants cultivated in greenhouses and plant tissue culture, was significant. Alkaloid atropine had no effect on the amount of methyl jasmonate but elicitor levels.

Keywords: Elicitor, Thornapple, Medicinal plant, Secondary metabolites, Nitrogen.

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The effects of nitrogen and elicitor methyl jasmonate on secondary metabolites product in medicinal plant Thornapple (*Datura stramonium*).

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