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Effect of Urea Fertilizer on the Weight of Different Parts of *Datura stramonium* and their Alkaloidal Contents at Different Developmental Stages

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Abstract:

Plants of *Datura Stramonium* var. *stramonium* were cultivated in pots at different nitrogen levels (60, 120, 180, 240, and 300 kg/ha) using urea fertilizer as the nitrogen source. At various developmental stages, the weights of different parts of the plants which received 60-240 kg N/ha were significantly increased as compared with the relevant parts of untreated (control) plants. The 240 kg N/ha usually caused the highest increases in the weights of different parts of the plant.

Atropine and scopolamine contents of each dried part of the plant were determined by a previously published TLC-spectrophotometric method. The stem of 80 days old pretreated plants with 180 kg N/ha accumulated significantly the highest percentages of atropine and scopolamine. However, the 120 kg N/ha level caused the highest enhancement in the yield of atropine (65.24 %) and scopolamine (40.38%) in the whole plant during the reproductive (80 days old) stage as compared with the yield of these alkaloids in the relevant controls.

Keywords:

Datura stramonium L. var. *Stramonium* , Urea Fertilizer Effect , Atropine , Scopolamine

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