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Physiological responses of *Ankistrodesmus acicularis* to diuron

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ABSTRACT

The impact of diuron on the fresh water alga *Ankistrodesmus acicularis* was investigated. Parameters studies were the effect on photosynthetic pigments, growth rate, ^{14}C-photoassimilation, carbohydrate, protein, and free amino acids contents, adenosine triphosphate (ATP), uptake of nitrate and diuron by algal cells. Photosynthetic pigments [chlorophylls (a) and (b) contents and total carotenoids] of diuron—treated algae were significantly decreased compared to control. Carbohydrate, protein, and free amino acids contents of treated algae were significantly decreased in response to diuron treatments. The values of EC_{50}, which exert 50% inhibition, were calculated by Probit test which varied with respect to the exposure time. Decreased in ^{14}C-photoassimilation and ATP were in harmony with the decrease of other determined metabolic activities.

Keywords: Algae; Toxicity; Diuron; Herbicide; Photosynthesis; Uptake

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