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Effects of Light and Monosulfuron on Growth and Photosynthetic Pigments of Anabaena Flos-Aquae Breb

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ABSTRACT

The effects of monosulfuron on growth and photosynthetic pigments of the nitrogen-fixing cyanobacterium Anabaena flos-aquae grown exposed to 2000-, 3000-, and 4000-lux light intensity were studied. Exposed to three light intensities, the seven concentrations of monosulfuron tested can significantly inhibit algal growth in a dose-dependent manner. The cell numbers and growth rate were decreased with the increase in mono-sulfuron concentration, and A. flos-aquae had different degrees of sensitivity to monosulfuron with the most sensitive light intensity being 4000-lux followed by 3000-lux and 2000-lux. The herbicide monosulfuron appeared to have different effects on the synthesis of photosynthetic pigments. The chlorophyll appeared to tackle monosulfuron concentrations. The caroteniod content of algae treated with 0.008 and 0.08 mg/L monosulfuron exposed to 2000-lux had a different stimulatory effect from that of treatments exposed to 3000-lux and 4000-lux, but an inhibitory effect at concentration above 0.8 mg/L. The effect of monosulfuron on biliprotein in cells of A. flos-aquae exposed three light intensities displayed contrary dose dependence.

KEYWORDS

Anabaena Flos-Aquae, Growth, Light, Monosulfuron, Photosynthetic Pigments

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