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Responses of *Hydrilla verticillata* (L.f.) Royle and *Vallisneria natans* (Lour.) hara to glyphosate exposure

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Abstract

Glyphosate is a broad-spectrum herbicide that is frequently detected in water bodies and is harmful to aquatic systems. We conducted an experiment to explore the ecological sensitivity of *Hydrilla verticillata* (L.f.) Royle and *Vallisneria natans* (Lour.) Hara to glyphosate. Our research focused on the physiological responses of *H. verticillata* and *V. natans* after exposure to various concentrations of glyphosate (0, 1, 10, 20, 30, 40, 50 and 80 mg/L) in hydroponic culture after one day (1D) and seven days (7D). The results show that after 1D, the soluble protein content of *H. verticillata* was significantly stimulated under low herbicide concentrations. Other indices for *H. verticillata* and *V. natans* had no remarkable changes at 1D. After 7D of treatment, the soluble protein content of *H. verticillata* showed no significant differences, while the malondialdehyde (MDA), pigment contents and catalase (CAT)