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Evaluation of butachlor for control of some submerged macrophytes along with its impact on biotic components of freshwater system

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Abstract:

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In this investigation, the efficacy of the herbicide butachlor, (N-butoxymethyl-2 chloro-21, 61 diethyl acetanilide) was tested against few common submerged macrophytes namely Hydrilla (Hydrilla verticillata (L.) Royale), Najas (Najas minor All.), Nechamandra (Nechamandra alternifolia (Roxb.) Thwaites) and Ottelia (Ottelia alismoides (L.) Pers.) of freshwater fish ponds. Almost complete decay of Hydrilla, Nechamandra and Ottelia was achieved at 7.5 L of active ingredient/ha/m butachlor within 15 days while the herbicide showed no negative effect on Najas. However at the same concentration of butachlor, total mortality of zooplankton and water fern Azolla (Azolla caroliniana Lamarck) occurred within seven days. In case of few freshwater fish species like Rohu (Labeo rohita), Channa (Channa punctatus), Anabas (Anabas testitudineus) and Heteropneustes (Heteropneustes fossilis), total mortality occurred upto 90 days after application of the same dose of butachlor but fish survived beyond 120 days of herbicide application indicating degradation of the herbicides.

Keywords:

Hydrilla verticillata , Najas minor , Nechamandra alternifolia , Ottelia alismoides , Azolla caroliniana , butachlor

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