

Plants that are indicator of acetochlor, ametryn and glyphosate-isopropylammonium contamination in water sources

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Abstract

The study of Plants that are indicator of acetochlor, ametryn and glyphosate-isopropylammonium contamination in water sources which are agricultural hazardous substances that are a component of the most popular herbicide used in sugarcane, corn and rice farming in Sribooruang district, Nong Bua Lamphu province. By studying the external characteristics and anatomical characteristics of 4 types of aquatic plants, namely duckweed (*Spirodela polyrrhiza*), water fern (*Azolla pinnata*), water lettuce (*Pistia stratiotes*) and water hyacinth (*Eichhornia crassipes*).

From studying the external characteristics and anatomical characteristics of aquatic plants affected by herbicide by raising aquatic plants in herbicide solution at concentrations of 0.001, 0.01, 0.1, 1.0 and 2.5 g/L to find the critical value that causes aquatic plants to change their appearance from the wilted level to the dead level and then study to determine the herbicide contamination index of each type of aquatic plant.

The results of study found that water fern was suitable to be a herbicide contamination index plant. It has an ametryn contamination index value of 0.4 g/L (25 days), an acetochlor contamination index value of 0.003 ml/L (15 days) and a glyphosate-isopropyl ammonium contamination index value of 0.007 ml/L (30 days)

Keywords : Contamination in water sources