

甲磺隆和苄嘧磺隆对水华鱼腥藻生长的抑制作用研究

Inhibitory effects on *Anabaena flos-aquae* growth by Metsulfuron-methyl and Bensulfuron-methyl

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中文摘要:

将广普、高效、低毒的甲磺隆、苄嘧磺隆作用于水华鱼腥藻, 用分光光度法测得的藻液吸光度作为藻现存量指标, 研究甲磺隆、苄嘧磺隆对水华鱼腥藻的生长效应。结果表明: 甲磺隆、苄嘧磺隆对水华鱼腥藻的生长有明显的抑制作用, 比传统的杀藻剂硫酸铜更优越, 且其抑制作用与用药量及初始藻密度密切相关。加药越多, 对水华鱼腥藻生长的抑制作用越强; 藻密度越大, 相应的抑制藻生长所需药量越大; 加药的时间越早, 抑藻效果也越好。同时以甲磺隆、苄嘧磺隆可湿性粉剂分别代替其纯品, 进行了小型水体试验, 抑藻效果显著, 确证了磺酰脲类除草剂用于控制藻类生长、治理“水华”和“赤潮”等环境问题的可行性。

英文摘要:

The effects on the growth of *Anabaena flos-aquae* were researched by Metsulfuron-methyl and Bensulfuron-methyl which are high activeness, effective and safe to animals. Visible Spectrophotography was employed to measure the Index of Absorbance which could be viewed as an index of the standing crop of *Anabaena flos-aquae*. The experimental results indicated that Metsulfuron-methyl and Bensulfuron-methyl have conspicuous effects of controlling algal growth and are more efficacious than Cupric sulfate. The inhibition on algae is closely related to the dosage and the initial algae cell density. The inhibition on algae is more evident with the increasing concentration of Metsulfuron-methyl and Bensulfuron-methyl and earlier exerting chemical reagents during the algae breeding. The higher amount of Metsulfuron-methyl or Bensulfuron-methyl is required with the rising of algae cell density. Furthermore, the inhibitory effect on algae is also obvious in small-scale body of water when the pure Metsulfuron-methyl and Bensulfuron-methyl were replaced by their solubility powder. These results proved the feasibility of applying the sulfonyleurea herbicides to control the growth of algae and cure the increasingly serious pollution.

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