

植物保护—研究报告

不同农药单剂及混配微乳剂的环境毒性研究

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摘要:

为了研究高效氯氰菊酯、阿维菌素、甲维盐等9种单剂或混配微乳剂的安全性,笔者测试了其对环境生物的毒性大小。根据《化学农药环境安全评价试验准则》,对斑马鱼、鹌鹑、蜜蜂、桑蚕分别采用半静水式鱼毒测定法、经口染毒发、接触染毒法、食下毒叶法进行测试。在鱼毒性方面,0.2%高渗甲维盐、3%啶虫脒和20%阿维?杀虫单微乳剂表现为低或中毒,其余药剂均表现为高毒或剧毒;在鸟毒性方面,4.5%高效氯氰菊酯微乳剂表现为高毒,其余药剂均表现为低毒或中毒;在蜜蜂毒性方面,0.2%高渗甲维盐和3%啶虫脒微乳剂表现为低毒或中毒,其余均表现为高毒;在桑蚕毒性方面,所有药剂均表现为高毒或剧毒。说明啶虫脒和低含量甲维盐对鱼、鸟、蜂、蚕毒性较低,而拟除虫菊酯类杀虫剂、阿维菌素及高含量甲维盐风险性较高,在施用时应远离鱼塘、蜂场及桑树。

关键词: 环境毒性

Environmental Toxicity of Several Different Pesticides Single or Mixed Micro-Emulsion

Abstract:

In order to study the safety of beta-cypermethrin, avermectin, emamectin benzoate, et al, 9 single or mixed micro-emulsion, the authors tested their environmental toxicity. Using semi-hydrostatic-type, oral exposure method, food intake method, contact exposure method to test the toxicity to fish, bird, honeybees, silkworm, respectively according to 'The guidelines of chemical pesticides environmental safety evaluation'. On the toxicity to fish, 0.2% hypertonic emamectin benzoate, 3% acetamiprid and 20% avermectin. monosultap were evaluated as 'low toxic class' or 'moderate toxic class', others were 'high toxic class' or 'hypertoxic class'; on the bird toxicity, 4.5% beta-cypermethrin was evaluated as 'high toxic class', others were 'low toxic class' or 'moderate toxic class'; on the toxicity to honeybees, 0.2% hypertonic emamectin benzoate and 3% acetamiprid were evaluated as 'low toxic class' or 'moderate toxic class', others were 'high toxic class'; on the toxicity to silkworm, all the pesticides were evaluated as 'high toxic class' or 'hypertoxic class'. Shows that acetamiprid and low content emamectin benzoate behaved low toxicity to fish, bird, honeybees, silkworm, but pyrethroid insecticides, vavermectin and high content emamectin benzoate behaved high toxicity, so these insecticides should be far away from fish pond, bee yard and mulberry while applying.

Keywords: environmental toxicity

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