

研究报告

黄荆提取物对小菜蛾幼虫毒力及对成虫的产卵忌避作用

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摘要

系统地研究了黄荆种子和叶片的二氯甲烷、石油醚和甲醇提取物对小菜蛾2龄和4龄幼虫的毒力及其对成虫的产卵忌避作用.结果表明,6种提取物中,以二氯甲烷种子提取物对幼虫的毒力最高,二氯甲烷叶片提取物次之,甲醇叶片提取物的毒力最低.二氯甲烷种子提取物对2龄和4龄幼虫的毒力分别是甲醇叶片提取物的2.62倍和3.09倍,对4龄幼虫的毒力达辛硫磷的0.73倍,杀虫活性较高.甲醇叶片提取物和二氯甲烷种子提取物对小菜蛾成虫有较高的产卵忌避作用,在4 000 mg·L⁻¹浓度下,处理后24 h,产卵忌避率分别为60.6%和55.2%,且持久性也较好,处理后72 h忌避率仍分别达50.9%和46.1%.

关键词 [黄荆](#) [小菜蛾](#) [毒力](#) [产卵忌避](#)

分类号

Toxicity and oviposition-deterrence of *Vitex negundo* extracts to *Plutella xylostella*

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Abstract

This paper studied the toxicity of dichloromethane-petroleum ether-and methanol extracts from *Vitex negundo* seed and leaf to the 2nd and 4th instar larvae of *Plutella xylostella*,and the oviposition-deterrence effects of these extracts to *P.xylostella* adults.The results indicated that among the 6 extracts,dichloromethane extract from seed had the highest toxicity to the 2nd and 4th instar larvae,followed by dichloromethane extract from leaf,and methanol extract from leaf had the lowest toxicity.The toxicity of dichloromethane extract from seed to the 2nd and 4th instar larvae was as 2.62 and 3.09 times as that of methanol extract from leaf,respectively,and the toxicity of dichloromethane extract from seed to the 4th instar larvae was as 0.73 times as that of phoxim.The methanol extract from leaf and the dichloromethane extract from seed had higher oviposition-deterrence to *P.xylostella* adults.At the concentration of 4 000 mg·L⁻¹,they had a longer residual efficacy,with the oviposition-deterrence ratio being 60.6% and 55.2% after treated for 24 h,and 50.9% and 46.1% after treated for 72 h,respectively.

Key words [Vitex negundo](#) [Plutella xylostella](#) [Toxicity](#) [Oviposition deterrence](#)

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