

论著

淡色库蚊DDVP抗性与酯酶活性的相关性

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摘要

目的检测抗DDVP品系各世代的抗性指数及蚊体内酯酶(esterase)的活性,探讨蚊虫抗性与酯酶的关系。方法生物测定法,微滴定板法。结果淡色库蚊经过43代选育,抗性指数达12.17倍,蚊体内非特异性酯酶(nonpecificesterase,NSE)的活力随世代增加抗性增高而增强。OD \geq 0.9的个体频率逐渐增高,与生物测试法基本一致。乙酰胆碱酯酶(AChE)的平均抑制率随世代的增加、抗性增高而变低,而抑制率 $<$ 30%的个体频率随世代增加而增加,呈相关关系。结论DDVP抗性与酯酶NSE和AChE的活性呈一定的相关关系。

关键词 [淡色库蚊](#) [DDVP](#) [酯酶](#) [抗性](#)

分类号

The Correlation between DDVP Resistance of Culex pipiens patters and Esterase Activity

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Abstract

Objective To detect the resistance index and esterase activity of each generation of DDVP-resistant Culex mosquitoes and analyze the relationship between insecticide resistance and esterase. Methods WHO bioassay and micro-plate measurement were used for the detection. Results The resistance index increased to 12.17 after 43 generations' insecticide selection compared to 1.00 as sensitive isolate. The nonspecific esterase(NSE) activity of the mosquitoes became strengthened with the extension of the generations, and the individual frequency of those with OD values no less than 0.9 increased gradually, consistent basically to the bioassay. The AChE average inhibition rate decreased with the extended generation and increased resistance, and the individual frequency of those with inhibition rate less than 30% became strengthened with the extension of generations, showing a positive correlation. Conclusion The activity of NSE and AChE shows a correlation with DDVP resistance.

Key words [Culex pip/ens pollens](#) [DDVP](#) [esterase](#) [resistance](#)

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