

CURRENT TRENDS IN VECTOR CONTROL. A REVIEW (*)

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Introduction

During the last few decades synthetic insecticides have been extensively used in the world, generally with great benefit, for the control of important pests or vectors of diseases.

The discovery of DDT opened a new era in pest control. Being extremely effective at low rates, this insecticide provided a prolonged effect maintaining its lethal properties for months after application. DDT was followed by various other organochlorines, then by organophosphorous compounds, carbamates and synthetic pyrethroids.

The success of these chemical insecticides was gradually eroded by two unexpected and undesirable consequences : the emergence of resistant strains in most of the vectors and the toxic effect for the non-target animals leading to contamination of the environment.

Resistant strains of pests were very rare before the Second World War. They increased in number with the introduction of synthetic insecticides. Gradually resistance extended to more and more pests and at present about 400 species of arthropods have become resistant of synthetic insecticides. Among these about one third are of Public Health importance. Resistance involves all arthropod genera of medical importance except so far tsetse flies and sandflies.

Until now, it has not been possible to restore susceptibility to an insect population which has become resistant. The only way to prevent this trouble is to avoid excessive use of insecticides and to try to detect emergence of resistant strains as early as possible. As soon as resistance appears an alternative insecticide or another method of control should be used. Very often resistance in insects of Public Health importance is a consequence of extensive uses of insecticides in agriculture and it might be difficult for medical officers to prevent this kind of pollution.

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