



Session VI - INTEGRATED CONTROL OF VECTORS INCLUDING GENETIC MANIPULATIONS

Paper 6.6 - Rice-field mosquito control in Northern Italy

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ABSTRACT

Introduction

Rice is a profitable crop widely grown in Piedmont, Northern Italy. About 120,000 ha of farmland are used for wetland rice culture. Flooding has beneficial effects on rice cultivation, but provide an excellent habitat for several species of mosquitoes, including the vectors of WNV. In the first part of the season, the fields are often drained to allow agricultural practices. Therefore, rice-fields became the ideal breeding sites for flooding mosquitoes. In particular, *Aedes caspius* represents a particularly knotty problem in this area.

The abatement program

An abatement program, funded mainly by Regione Piemonte, is focused on an integrated larval control on 1/3 of the flooded surface in order to reduce the nuisance in the main populate areas.

Rice growers can control directly the first infestations. Short irrigation periods, larvicide applications with seeding, and herbicide treatments are the tools they have to assume a greater burden for sustaining such program. For the main part of the season, aerial applications remain the only way to treat a so wide area. Nine helicopters are daily engaged to spread suspensions of Bti with good results and less environmental impact.

In order to reduce the cost and in view to face a possible outbreak of WNV, some tests were performed with success employing fix wings aircrafts for aerial applications and liquid urea as larvicide carrier for applications by growers.

Conclusions

A successful mosquito control plan in wide rice field areas can be sustained, but only with the rice growers involvement and a continuous technical improvement.