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Oral Presentation

## **P10. MODE OF ACTION OF INSECTICIDES USED IN VECTOR MANAGEMENT**

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Since it was understood that many of the diseases which caused mass human deaths are carried by vectors, their management has become increasingly important. The fact that humans are living in larger settlements with large populations, the improvements in international commerce and transportation and also the increase of the traveled distance as well as the frequency of human travels have had an important part in this matter. On the other hand, as in other cases while the increase of knowledge in vector management and improvements in international standards and information sharing have made it possible to successfully maintain vector management, it has also caused chemical management to become prominent and an increase in use of chemicals. Increase in the use of chemicals especially insecticides on insects which are primary types of vectors has caused health and environment problems as well as many other problems. To overcome these problems the use of many insecticides has been banned and to ensure an effective and sustainable insecticide use, training users and primarily responsible managers has become mandatory.

Another result of widespread and intense use of insecticides is the resistance problem which results from consecutive use of an insecticide with the same active ingredient. As a result of the resistance problem there are serious difficulties in efficient and sustainable insecticide use; and the use or suggestion of insecticides by individuals who do not know their mode of action and who are unaware of the resistance management cause an increase in the resistance problem. A good knowledge of the mode of action of insecticides is important above all for choosing the suitable insecticides against vectors and also for managing and solving the resistance problem. For instance, although there are many registered biocidal products in the management of a vector, the level of knowledge is usually insufficient when it comes to choose which one to use in each situation. For this reason, either the most affordable product or a random registered product is chosen and used. Vectors, which can rapidly increase their populations in a short time, start to get unaffected by these applications after some time; and since resistance development is not observed. The problem is tried to be solved by more or frequent insecticide applications and this increases the resistance even more.

Based on this information, for choosing an appropriate insecticide and for resistance management it is very important to know the effect mechanisms of insecticides. In this report the mode of action of insecticides used in vector management will be inspected in detail.