



SECOND REGIONAL CONFERENCE ON MALARIA ERADICATION

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**CHANGES OF SPRAYING POLICY IN THE LIGHT OF RECORDS
OF INSECTICIDE RESISTANCE**

The following questions have been posed by the WHO regional office for the Americas in a memorandum to the Division of Malaria Eradication. The regional office express the hope that they will be discussed by the Scientific Group on Malaria Research. The Division is glad to put forward these questions as a working paper, as they concern vital issues on which some operational research may be called for.

A great deal of information has now been collected in the Americas, showing widespread resistance of the principal vector of malaria in many areas. We are all hoping that another insecticide may be found to which we can shift, but in the meantime, what use do we make of the data? Is there not some immediate advice which should be given to alter the direction or at least to guide further spray effort in the field? Can we develop useful answers to the following questions?

- (a) At what level of resistance should one recommend shifting the spray programme from DDT to dieldrin, or vice versa, when resistance to one begins to be noticed in the sensitivity tests?
- (b) At what level of resistance to the second insecticide should all spraying be stopped in order to avoid waste of money and effort, and in order not to destroy all susceptible genes in the population? At least theoretically, a resistant population will revert to a fairly susceptible one faster if not all the susceptibles are wiped out by continued insecticide pressure.
- (c) How rapidly can reversion to useful susceptibility occur after spraying ceases? This will obviously depend on how long some residual effect remains on the walls, and on how rapidly the mosquitoes multiply in the area, among other factors.

These are all interim points to be considered while waiting for new insecticides, or some other solution to the resistance problem. But as long as field testing goes on, it should have some practical value to justify its continuation, and to maintain the workers' interest. It would seem not very useful to go on indefinitely amassing resistance data unless some use is made of it.