

## SURFACE BAFFLES FOR MOSQUITO CONTROL

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The problems met where mosquito larvicidal measures are practiced are often quite unforeseen. For instance, very slowly running water can be infested with larvae of *Anopheles*. The slowness of the flow and the irregular shape of the banks may allow breeding even of larvae which usually are found in stagnant waters only. For industrial or agricultural reasons there may be limitations to the use of the basic larvicidal measures such as draining, increasing the slope, etc. (Stitt, 1944).

The procedure described below was developed and applied in central Africa, for control of *Anopheles gambiae* in slowly running water originating from open pit mining and road construction. Oiling of the surface (Matheson, 1929) would have been completely futile as the film would have been carried away by the current before it could act on the larvae.

Therefore, a modification of the oil boom method (Mackie, *et al.*, 1945) was employed with the object of transforming the surface of such slowly running water into an ideal stagnant one, assuring at the same time the normal output of water through the deeper layers of the brook. Such an arrangement permits larvicidal measures such as oiling.

*Technique:* At intervals of one to five yards, varying with the slope of the brook, laths or sticks, two to three inches wide, were placed across the brook on the surface of the water from one bank to the other. They were immersed in such a way that about one inch was left above the water surface and about one inch was immersed. Where the sticks joined the banks, there were often small spaces through which water (and therefore oil) could flow. To prevent this, these spaces were filled in with handfuls of clay or sand. Water

flowed freely beneath these barriers. After the stagnant surface was formed, an oil layer was spread between the surface baffles, using the technique usually applied for stagnant waters.

There may be larvae which sink to the bed of the brook and are carried away by the deep current before being completely asphyxiated, which will eventually be able to rise at another surface to breathe. But they could do so only in swiftly running parts of the brook where they could not survive, or at such a distance from human habitation that their development no longer has epidemiological importance.

To prevent the accidental displacement of the sticks or laths, the superficial barriers should not be left in place indefinitely, but should be removed after the number of hours required to kill the larvae. The whole procedure should be repeated every four to eight days, depending on the larvicidal measures to be used in the stagnant waters of the particular area. After proper instruction, native workers trained in larvicidal measures can carry out this work satisfactorily, but must be checked from time to time.

*Resumé.* A simple and inexpensive method of changing slowly moving water surfaces into stagnant pools is described. This is brought about by the use of surface baffles which do not interfere with the free run of the water in deeper layers and allow larvicidal oiling of the surfaces.

### References

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MACKIE, T. T., C. W. HUNTERS, C. B. WORTH, A manual of tropical medicine. 1945, Saunders, Philadelphia.