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NEWS

Insecticide beats DDT in early trials

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17 February 2010 | EN

[COTONOU] Malaria researchers in Benin say they may have found a replacement for DDT in areas where mosquitoes are resistant to common insecticides.

Indoor residual spraying (IRS) of insecticides is a major part of malaria control. But worries over toxicity and environmental persistence have led to calls for DDT to be phased out, and mosquitoes are growing resistant to widely used pyrethroid insecticides. Alternatives are expensive and short-lived.

Researchers writing in *Malaria Journal* this month (8 February) say that a modified version of the insecticide chlorpyrifos-methyl (CS) could provide a solution.

CS is too short-lived to be feasible or cost-effective for malaria control when applied directly. But coating tiny droplets of it using a process known as microencapsulation boosts its effectiveness and longevity.

Raphael N'Guessan — a researcher at the Entomological Research Centre of Cotonou (CREC) — and colleagues sprayed experimental huts in Ladji, a village in southern Benin, with this modified CS, DDT and the pyrethroid lambda-cyhalothrin.

Spraying with CS killed almost all *Anopheles gambiae* mosquitoes. DDT killed half and lambda-cyhalothrin just under one third. A similar pattern at lower levels was seen in *Culex quinquefasciatus* mosquitoes.

CS was still active nine months after being sprayed on cement walls, N'Guessan told *SciDev.Net*. The other insecticides were ineffective within a few months.

"This suggests we have a better alternative to conventional insecticides used in IRS programmes and this product should be more cost effective than current products if used at community level," he said.

The authors of the research say the modified insecticide's toxicity profile makes it acceptable for use in IRS or bednet impregnation, which the trial also studied.

Sheick Oumar, a malaria researcher at the University of Ouagadougou, Burkina Faso, said the results need to be verified in the field.

"Trials are generally carried out in particular conditions in order to make scientific comparisons, and these



Coating tiny droplets of the insecticide made it last longer

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conditions are different from real life. It's not [certain] results will be the same when applied to a normal situation."

The authors called in their article for international donors and technical authorities to encourage the manufacturer, Dow Agrosiences, to pursue further development of CS.

Link to article in *Malaria Journal*  [355kB]

REFERENCES

Malaria Journal doi 10.1186/1475-2875-9-44 (2010)

<http://www.scidev.net/en/news/insecticide-beats-ddt-in-early-trials.html>

Printed on: Wednesday, February 24, 2010 03:38

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