

Feature Story



From crop protection to malaria prevention: BASF insecticide helps to save lives

For growers across the country, insecticides are familiar friends in the fight against troublesome pests – and dependable yield savers. But for millions of people in malaria-prone countries, an agricultural insecticide active ingredient – chlorfenapyr – may be nothing short of a lifesaver.

WHO recommends BASF treatment

Following more than a decade of research and collaboration across three continents, BASF scientists achieved the breakthrough they were hoping for: reformulating chlorfenapyr for use on mosquito nets to meet stringent requirements for public health use.

The World Health Organization (WHO) echoed the scientists' conviction. It has officially recommended that BASF's long-lasting formulation of chlorfenapyr be applied on mosquito netting: the latest salvo against the deadly disease. Called Inceptor® G2, the insecticide-coated polyester nets will help to save thousands of lives in countries where conventional nets are failing.

A child dies every two minutes from malaria. The disease threatens nearly half of the world's population and has claimed two million lives in the first half of the 20th century. Malaria is also considered a major contributor to global poverty, afflicting the most vulnerable members of society.

Not only does the novel application represent a potential breakthrough in public health, but it's the first WHO recommendation for a new insecticide class in over 30 years. And independent trials in the African nations of Benin, Burkina Faso, Tanzania and Ivory Coast have proven the efficacy of Inceptor G2 against local insecticide-resistant mosquitoes.

A second chlorfenapyr product, an indoor residual spray named Sylando® 240SC, is also in the final phases of WHO evaluation.

Effectively fighting resistance

The innovation couldn't be timelier. Mosquito resistance has risen dramatically since the introduction of the first treated mosquito nets, which contained a single class of chemistry approved for public health use: pyrethroid.

Continual use of the same insecticide has allowed the highly adaptable mosquito to develop significant levels of resistance. It's a familiar challenge in the agricultural world, too.

"We've got to take insecticide resistance very seriously," says medical entomologist and professor, Hilary Ranson, of the Liverpool School of Tropical Medicine. "In some countries, the local mosquito population has increased its level of resistance a thousandfold." She has studied the problem for many years and believes alternative insecticides are urgently needed.

Ending malaria – for good

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Inceptor G2 mosquito nets treated with chlorfenapyr introduce a completely different mode of action into the equation. Chlorfenapyr works by disrupting the insect's ability to produce energy. The Inceptor G2 nets promise to override the mosquitoes' increasing resistance to pyrethroid-based insecticides – and beat back malaria rates.

“New resistance management products are desperately needed to prevent mosquito-borne diseases and save lives,” says Egon Weinmueller, head of BASF's public health business. “This development breakthrough strengthens my personal belief that we really can be the generation to end malaria for good.”

Long-lasting insecticide-treated mosquito nets and indoor residual sprays are the cornerstones of malaria prevention. Depending on local registration processes, the new mosquito nets and indoor residual sprays should be available to health ministries and aid organizations near the end of 2017.