New Monocyclic Class of Mosquitocides

UA ID Technology #ua18-248

Title: Stereochemistry-specific Mosquitocides

Invention: Inventors at the University of Arizona have discovered compounds that have a potent larvicidal effect on Anopheles stephensi and a moderate larvicidal effect on Aedes aegypti. The synthesis can be done in only a few steps and the compounds show a high degree of chemical specificity.

Background: Numerous diseases are spread by mosquitoes including Dengue virus, a mosquito-borne virus that infects ~250 million humans per year. Larviciding can be an effective strategy of Integrated Pest Management (IPM) where mosquito larvae are terminated before reaching maturation.

Applications:
- Mosquitocides
- Larvicides
- Global health
- Agriculture

Advantages:
- Results in high mosquito larvae mortality rates
- Provides a high degree of chemical specificity
- Requires only a few steps
- Mild reaction conditions and high yields
- Results in minimal impact on the environment

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