

NO BUG: Biobased mosquitoes repellent textiles

L. Ciera*, V.A. Nierstrasz, K. De Clerck, L. Van Langenhove

Department of Textiles, Ghent University
Technologiepark 907, 9052 Zwijnaarde / Gent, Belgium

Introduction

This research work is part of the FP7 No-Bug project (Novel release system and biobased utilities for insect repellent textiles). The main interest of the project is personal protective textiles against insects (mosquitoes) for application not only in tropical areas where vector borne diseases are a major threat to the public health but also in European countries where the presence of mosquitoes can be nuisance. Malaria and dengue fever are well known diseases that cause a lot of deaths in the world today.

Focus

The focus of the project is to control;

- Malaria – Infects more than 300 million people worldwide (~ one person in every 30 seconds)
- Dengue - 100 million cases of dengue and 250,000 cases of dengue hemorrhagic are reported every year

Current repellents are synthetic and are associated with the several shortcomings;

- Harmful to the user and the environment
- Resistance of conventional repellents is increasing
- Short efficacy

The target group of our novel mosquito repellent personal protective equipment is professional travelers;

- Business
- Research
- Education
- Missionary
- Peace corps
- Volunteers
-

Professional travelers underuse personal protective Measures due to some concerns;

- Safety of permethrin impregnated materials and DEET
- The smell of DEET
- Sticky feeling of DEET lotion

Biobased mosquito repellent textiles

Our aim is;

- Novel biorepellents
- Innovative slow release system

Target Mosquitoes

- *Anopheles stephensi* a night feeding mosquito that causes malaria
- *Aedes aegypti* a day feeding mosquito that causes dengue

Our objective;

- Optimize conditions of use of biorepellents
- Determine ways of integrating biorepellents on textile products

The NO BUG Consortium

- | | |
|------------------------------|----------|
| 1. Universiteit Gent | Belgium |
| Dept. of Textiles | |
| Dept. of Terrestrial Ecology | |
| Dept. of Mathematics | |
| 2. Universität Bonn | Germany |
| 3. CNRST | Morocco |
| 4. Devan Chemicals NV. | Belgium |
| 5. HOL-tex GmbH | Germany |
| 6. Paul Boyé SA. | France |
| 7. Body Waer kft | Hungary |
| 8. S.C. Ro Challenges S.R.L. | Romania |
| 9. Utexbel N.V. | Belgium |
| 10. REFOTDE | Cameroon |

* Corresponding author

Authors gratefully acknowledge the support of the European Commission, Grant agreement NMP2-SE-2009-228639

NO  BUG

