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General Information

Title

Mini-review: Genetic enhancements to the sterile insect technique to control mosquito populations — EN

Type of resource

General library resource
- Article
- Journal
- Magazine
- Newspaper

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2009 EN

Source

Asia Pacific Journal of Molecular Biology and Biotechnology EN

Access to the resource(s)

Link to the resource(s)

? Mini-review Genetic enhancements to the sterile insect technique to control mosquito populations.pdf *(English)*

Information on the content of the resource

Summary, abstract or table of contents

Abstract: The Sterile Insect Technique (SIT) uses the mass release of sterile insects as a highly effective area-wide, environmentally safe method of pest control. Various uses of genetics to enhance the sterile insect technique for mosquitoes have been proposed since the early 1950's. Using induced mutations, chromosomal rearrangements, breeding and selection researchers were able to develop traits such as sex-specific insecticide resistance and hybrid sterility. Unfortunately, selection of such traits is very laborious and can take decades to achieve. In addition this process is usually associated with severe reductions in fitness. Although several studies and control programs developed techniques to rear mosquitoes in large numbers, efficiently sort males, sterilize, distribute, and achieve localized control no large scale control of mosquitoes using SIT is currently being performed. The advent of modern biotechnology has made available a wide variety of tools to manipulate and express genes within mosquitoes on shorter time scales and with a wider range of accessible phenotypes than is possible through classical genetics. This mini review looks at a recent advance in mosquito control that promises to control Aedes aegypti and has the potential to be applied to many other mosquito species.	EN

Keywords for facilitating searching for information in the clearing-houses

Biosafety Thematic Areas

Scientific and technical issues
Risk assessment

Would you like to recommend this document as background material for the "Guidance on Risk Assessment of Living Modified Organisms"?
https://bch.cbd.int/onlineconferences/ra_guidance_references.shtml

Yes

Author affiliation

Section(s) of the "Guidance on Risk Assessment of Living Modified Organisms" this background material is relevant to

5. Risk assessment of living modified mosquitoes species that act as vectors of human and animal diseases

Does this resource address one or more specific LMOs?

No

Does this resource address one or more specific organisms?

No

Does this resource address one or more specific genetic elements?

No

Additional Information

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Further Information

Questions about the Cartagena Protocol on Biosafety or the operation of the Biosafety Clearing-House may be directed to the Secretariat of the Convention on Biological Diversity.

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