

# Mosquito control

## From Appropedia

(Redirected from Mosquito)

---

IMAGE NEEDED



See also the **Mosquito control category**.

Category pages contain subtopics, howtos, project pages, designs, organization pages and more.

---

*Note: The Wikipedia article on mosquito control has extensive information and sources on different approaches to mosquito control; this page does not try to duplicate that information, but rather contains some key points relevant to sustainable, community-level and cost-effective methods, plus additional information on projects and research.*

**Mosquitoes** carry disease, including malaria, dengue fever and others (see *Mosquito-borne diseases*). Thus, measures to prevent the growth of mosquitoes is an important aspect of public health.

## Contents

- 1 Mosquito control measures
  - 1.1 Source reduction
  - 1.2 GEM mosquito control
  - 1.3 Water bottle traps
  - 1.4 Capture
  - 1.5 Biocontrol
  - 1.6 Screening
  - 1.7 Applications of pesticide
- 2 Personal protection
- 3 Suggested projects
- 4 Footnotes and references
- 5 Interwiki links
- 6 External links

## Mosquito control measures

### Source reduction

This is a common approach (including the program at Recycling and dengue fever in Sukunan, Indonesia): this can be as simple as emptying water from containers around

the home, and removing garbage that might collect water - the *Aedes* mosquito (which carries Dengue fever) is reputedly able to breed in just a few drops of rainwater in a discarded plastic water. However, source control may have a limited effect, as the mosquito can just lay in dry place (where the eggs wait for rain) or locate another water body (near or far off) and accomplish their mission. *(See GEM mosquito control, the inventor of which disputes the effectiveness of source control. This issue is debated on the Appropedia Forums: Efficacy of source reduction in mosquito control (<http://forums.appropedia.org/node/60>) .)*

In some cases, filling in or repairing water bodies is needed - e.g. small pools, stagnant drains. Apart from that, the cost should be quite low. Once a culture of correct garbage disposal is established, the main costs should be those for the proper disposal of rubbish.

## **GEM mosquito control**

A very cheap means of capture is GEM mosquito control, where small water containers are placed around houses for mosquitoes to lay their eggs in, and carefully emptied at regular intervals, so that the larvae cannot grow to adulthood. Consisting only of a few pots (earthenware, plastic or whatever is available), the financial cost is probably lower than almost any other method.

## **Water bottle traps**

Or small water bottles painted black with a little water in. Placed around the house but where the sun can shine on the trap for a few hours each day. The mosquitos enter

during dawn to hide, you then close the top off. Later the hot sun shines down and kills all that is inside. Late afternoon you take the tops off to start the cycle again.

## Capture

Relatively sophisticated designs (and presumably somewhat expensive and difficult to maintain) have depended on emitting CO<sub>2</sub> to attract mosquitoes.

## Biocontrol

Includes fish such as mosquitofish<sup>W</sup> and various other predators, including a tiny freshwater crustacean used in Vietnam in combating dengue fever mosquitoes.

## Screening

- Protecting living space (houses and other buildings) through the use of fly screens on doors and windows. This has the advantage of allowing windows and doors to be left open to cool night breezes, making things more pleasant, and reducing the attraction of expensive and unsustainable air conditioning.
- Protecting sleeping space with mosquito nets over beds. The mosquito nets may be treated with pesticide. These may be hot to sleep under, but where mosquito bites are a nuisance, they may actually be considered more comfortable than sleeping without one.

## Applications of pesticide

Pesticide has obvious negative effects; however these are usually minor compared to high death rates when a disease is rampant. Care must obviously be taken; other measures should be taken very seriously to reduce or eliminate the need for toxic chemicals, even if pesticide is necessary in the short term. Pesticide is used for:

- Larvae - a surface film of oil such as kerosene can also be used, though the environmental impact is a problem if done in the natural environment.
- Adult mosquitoes - if applied to interior walls, less toxin is spread through the environment. DDT is still sometimes used in this way, as this method of application minimizes the ecological damage, while providing an effective way of complementing other methods and other pesticides.<sup>[1]</sup>

## Personal protection

- light-colored clothing is less attractive to mosquitoes.
- covering up, e.g. by wearing long sleeves, reduces mosquito bites.
- use a repellent - DEET<sup>W</sup> is widely recommended. Non-chemical repellents may help but must be applied more often and may also be irritating.
- headnets are effective - usually used when entering areas of severe mosquito infestation.

Will taking vitamin B stop mosquitoes biting you?

(<http://www.abc.net.au/health/talkinghealth/factbuster/stories/2007/11/14/1973754.htm>) - a doctor answers that this claim has no solid scientific evidence.<sup>[2]</sup> People in the comments offer their own experience, some finding it makes no difference, some claiming a significant improvement. (Could it be that it works for some and not for others, or is it just a placebo?)

Catnip oil has been found to be a very effective mosquito repellent Catnip sends mozzies flying (<http://www.abc.net.au/science/news/stories/s355524.htm>) but it has not been tested for skin irritation. Will planting catnip around the house help reduce mosquitoes?*suggested project.*

## Suggested projects

Some questions that arise are:

- Kerosene is sometimes used to kill mosquito larvae, e.g. after collection with the GEM mosquito control method. Is vegetable oil as effective? (This would be better from an environmental point of view.) Or does it not spread effectively?*suggested project.*
- How effective is source control?*suggested project.*
- The place of DDT in mosquito control - see footnote below.

These projects might best be approached initially with a literature review.

## Footnotes and references

1. ↑ While some environmental skeptics (typically right-wing commentators) present DDT<sup>W</sup> as a simple solution to malaria with little downside, a more moderate form of the pro-DDT argument is that when applied to the walls of houses, DDT lasts for months, and once the mosquitos develop resistance, the newer insecticides remain effective (whereas the reverse may not be true). DDT is also cheaper. See Tim Lambert's anti-DDT blog post (<http://timlambert.org/2005/02/ddt3/>) with pro-DDT arguments in the comments by tc,with links. A literature review would be useful to weigh the evidence.<sup>*suggested project*</sup>. Also, is DDT sprayed onto the walls, or is it applied in a liquid to minimize the amount entering the environment?<sup>*suggested project*</sup>.
2. ↑ A commenter adds a reference, saying that nothing taken internally has been shown to have any effect: "Comparative Efficacy of Insect Repellents against Mosquito Bites" Mark S. Fradin, M.D., and John F. Day, Ph.D. *New England Journal of Medicine*, Volume 347 (1):13-18 July 4, 2002. This cites 3 studies:
  1. Khan AA, Maibach HI, Strauss WG, Fenley WR. Vitamin B1 is not a systemic mosquito repellent in man. *Trans St Johns Hosp Dermatol Soc* 1969;55:99-102. [Medline]
  2. Strauss WG, Maibach HI, Khan AA. Drugs and disease as mosquito repellents in man. *Am J Trop Med Hyg* 1968;17:461-464. [Free Full Text]
  3. Food and Drug Administration. Drug products containing active ingredients offered over-the-counter (OTC) for oral use as insect repellents. *Fed Regist* 1983;48:26987-26987.

## Interwiki links

- [Wikipedia: Mosquito control](#)

## External links

- Frank B. Peairs, Professor of Entomology and Extension Specialist, Department of Bioagricultural Sciences and Pest Management, Colorado State University:
  - Frequently Asked Questions About West Nile Virus and Mosquito Management (<http://www.ext.colostate.edu/westnile/faq.html>)
  - Mosquito Management Fact Sheet (<http://www.ext.colostate.edu/pubs/insect/05526.html>) - by F.B. Peairs and W.S. Cranshaw<sup>1</sup>.
  - Mosquito Management (supplement to fact sheet) ([http://www.ext.colostate.edu/westnile/mosquito\\_mgt.html](http://www.ext.colostate.edu/westnile/mosquito_mgt.html))
- Guidelines for integrated vector management for control of dengue / dengue haemorrhagic fever ([http://www.nvbdc.gov.in/Doc/dengue\\_1\\_.%20Director\\_Desk%20DGHS%20meetir](http://www.nvbdc.gov.in/Doc/dengue_1_.%20Director_Desk%20DGHS%20meetir) - *Govt of India, National Vector Borne Disease Control Programme*)

Retrieved from "[http://www.appropedia.org/Mosquito\\_control](http://www.appropedia.org/Mosquito_control)"

Categories: [Suggested projects](#) | [Pest control](#) | [Water](#)

---

- Page was last modified 10:01, 4 July 2010. Based on work by Chriswaterguy's bot, Chriswaterguy, chris mattinson and Curt Beckmann.

-



14/10/2011

Mosquito control - Appropedia: The su...

Text is available under CC-BY-SA

---