

How to Deal with Mosquitoes Naturally

It's mosquito season again here in North America. All too often, this is the time when many people rely on pesticides for their yards or they use synthetic insect repellents. Many of us are under the false impression that this is the heavy-duty approach, and everything else is "not hardcore enough."

There are numerous downsides to outdoor pesticide treatments and synthetic insect repellents. Pesticides create insecticide resistant bugs. The active ingredient in most commercial bug repellents is DEET, a dangerous chemical. DEET has been linked to neurological damage, cancer, and environmental damage. Chemicals are also less effective than natural methods. In addition, natural methods are cheaper and pose little to no health risk.

A Wealth of Options

There are many natural methods for mosquito control. You can grow the right kind of plants in your yard, and mosquitoes will leave you alone. You can make some changes to your diet to make yourself far less appealing to mosquitoes. Another tried and proven tactic is to create bird, bat, or frog habitats, which work well to keep mosquitoes and other bug populations down. Finally, you can use essential oils, the ultimate non-toxic, all-natural mosquito repellent to keep the dastardly bloodsuckers away.

Take Away The Mosquito Habitats

You also don't want to make it easy for mosquitoes to reproduce. Remove anything that collects and pools stagnant water- that's where they lay their eggs. Tires, buckets, pet

bowls, birdbaths, gutters, and the like are potential breeding pools for mosquitoes. Eliminating these breeding spots is an essential step if you wish to be taken off the menu.

The easiest solution, and my favorite, is to use your green thumb against mosquitoes. All you need to do is grow the right plants. There are several dozen tested and proven plants that repel mosquitoes, and many are beautiful and easy to grow. You can use flowers such as marigolds (see further reading below), and ageratums (also known as floss flowers). Or you could use plants such as catnip, lavender, mint, or citronella. There are so many plants that repel mosquitoes.

There are many essential oils that repel mosquitoes and other biting insects. To avoid being bitten by mosquitoes and other pests including ticks, biting flies, and midges, you'll need a combination of essential oils for complete protection. The following essential oils repel mosquitoes:

- Basil
- Bergamot
- Citronella
- Eucalyptus
- Lavender
- Lemon
- Pine
- Peppermint
- Rose geranium
- Rosemary
- Spearmint
- Tea Tree Oil
- Thyme
- Vetiver

Remember to try a little essential oil on your skin to test for an allergic reaction before you apply the oil more generously. Don't use essential oils straight out of the bottle. You need to either dilute them with water, or better

yet, you can mix a few drops of essential oils with coconut oil as a carrier, which also doubles as a sunblock. Coconut oil is also good for the skin.

It's the Female Mosquitoes You Need To Look Out For

We call it biting, but being bitten by a mosquito more closely resembles a miniature needle jab. The bloodsucking tube of the female mosquito looks rigid; however, it is actually a very complex flexible organ that bends at right angles in order to find a good source of blood.

A mosquito's needle-like hollow probe tapers to a point. The labrum is the flat strip that collapses as the mosquito pushes into the skin. This well-evolved feeding tube is finer than a human hair. From inside the tube, four tiny cutting filaments, known as mandibles maxillae, dig their way into the skin. The mosquito pushes in with these four filaments to drive the other mouthparts deeper.

These biting parts are only found on female mosquitoes. While, both the male and the female mosquito feed on plant nectar, only the female feeds on blood. The rich amounts of protein and iron in blood aids them in producing their eggs.

A Short Lifespan

All mosquitoes live a short life, but the females live quite a bit longer than the males with a typical lifespan could be 6 to 8 weeks. The male's main purpose in life is to find the females and mate with them. Longevity is not needed for this endeavor. Once they have grown to an adult, males rarely last more than 2 weeks.

Some female mosquitoes can lay up to 300 eggs at a time, some lay less than a hundred. Most lay their eggs in water or very

close to the water. The eggs quickly mature in water.

Mosquito eggs grow in stages, the four stages that are typical of many insect species: egg, larvae, pupae, and adult. Larvae and pupae mosquitoes need water in order to survive.

They Come in Many Sizes

Mosquitoes vary in size from 1.6 mm to 12.5 mm (up to 1/2 an inch). Half an inch doesn't sound very big, but the big ones are 20 times the size of normal mosquitoes. The super-sized mosquitoes are known as gallinippers. Gallinippers can bite through clothing.

And in Many Different Species, Too

There are more than 3,500 different species of mosquitoes in the world, and about 200 of them are in North America. Many mosquitoes bite whenever the opportunity presents itself, but some are more choosy about their targets.

Some mosquitoes are very specialized – humans are not the meal they choose. Others, of course, are our biggest fans. *Aedes aegypti* feed on human blood almost exclusively. As the name implies, *aedes aegypti* originated in North Africa, but they, like others, have spread across the world. There are only a few safe havens like Iceland and Antarctica.

They Know What They Like

Mosquitoes are attracted to body heat, dark clothing, perfume, cologne, hairsprays, cosmetics, and natural body odors. Our skin can create over 340 different chemical odors, and these smells can be unappealing or appealing to mosquitoes. These are some of the reasons that mosquitoes like some of us more than others, but there are other reasons as well.

We have over a trillion microbes living on our skin. When scientists compare microbes from person to person, there is a great deal of variation. Mosquitoes are attracted to some kinds of bacteria while other kinds mask our scent. As chance would have it, some kinds are downright unappealing to them.

Our diet is the biggest factor influencing our microbial makeup, but there are other factors like how much we sweat, what kind of soap we use, how much we exercise, the last time we bathed, and of course, genetics are a big factor as well.

Predators and parasites both prefer their prey to be in less than optimal health. When we are in optimal health, our bodies are teeming with beneficial bacteria, killer white T-cells, and all of our other natural defenses. Diet plays a huge role in both health and micro-bio diversity. The microbes on our skin reflect the microbes in our gut. Mosquitoes like sugary blood and perfumes. If you are attracting mosquitoes and you aren't wearing perfumes, you are probably eating too much sugar, and it is time to balance your gut flora. You might find it surprising how much less they'll like you if you're eating a truly healthy diet (see further reading below). It's helpful to know mosquitoes don't like garlic, onions, leeks, and vinegar. If you eat a healthy diet and enough of these foods, mosquitoes will like you a lot less.

Itchy, Painful Bites are Not the Worst-Case-Scenario

It's a good idea to avoid mosquitoes and mosquito bites. Mosquitoes inject their prey with an anti-inflammatory and an anti-coagulate to make it easier to suck blood. Usually this bug spit that gets injected in the bite area just causes some mild irritation. In rare cases, people have severe adverse reactions. Symptoms of a mosquito allergy include:

- Increased swelling at bite

- Fever
- Hives
- Swollen lymph nodes
- Headache

This type of physical reaction is more commonly seen in children and is sometimes referred to as skeeter syndrome. Unfortunately, even this kind of reaction is still not the worst-case scenario for mosquito bites.

Mosquitoes are vectors of numerous diseases:

- Chikungunya
- West Nile virus
- Filariasis
- Encephalitis
- Malaria
- Rift Valley fever
- Yellow fever
- Dengue fever

Malaria is the most infamous disease listed. Roughly 200 million people contract malaria every year and the disease kills over a million people a year.

Genetically Modified Mosquitoes

The biotech industry has turned to genetically modified mosquitoes as a means to reduce mosquito populations. They release genetically modified males that have been modified to be sterile. They are released in close enough proximity to where mosquitoes are found, so the males can seek out the females. Unsurprisingly, the males are really, really good at finding the females. GMO mosquitoes mate with the females, which denies them the opportunity to mate with fertile males.

GMO mosquitoes have been released in Brazil, Malaysia, and Florida. The male mosquitoes seek out the female mosquitoes

and they impregnate them with doomed offspring. In a generation, large numbers of *aedes egypti* mosquitoes die off.

Of course, this is the ideal circumstance, a best case scenario. Only male genetically modified mosquitoes are supposed to be released. We don't know what would happen if female GMO mosquitoes were to get free. People could be bitten by GMO mosquitoes, which would leave GMO proteins in their body. What if some of the genetically modified males malfunction and don't work as they're supposed to and they somehow produce viable offspring? The changes they could make to the population are impossible to predict. Though the first trials appear to be successful, it is a dire risk to manipulate the genes of any organism and then release it into the environment. We may not understand enough about genetics to be doing these kinds of manipulations to species and then releasing them, just hoping for the best. Many critics of this technology argue this approach is unrealistically optimistic.

Conclusion

Mosquitoes have been with us a long time, even before there was an "us". Way before human beings or primates evolved, mosquitoes were doing their thing.

Fossil evidence puts mosquitos all the way back to the Jurassic period. Amazingly, the little buggers harassed the dinosaurs, too. Back then mosquitoes came a bit larger, up to 2 inches in size.

We hope you take the extra time to make it more difficult for mosquitoes to make a meal out of you or your friends and family. One of the best end results of repelling mosquitoes is the knowledge that you're doing your part to reduce their population the natural way, by starving them out of the blood they need to reproduce. Donating blood should be reserved for fellow people in need, not these vile pests.

Recommended Products:

- Essential Oils

Further Reading:

- *Repel Mosquitoes by Cultivating Marigolds*
- *How to Kill Candida and Balance Your Inner Ecosystem*
- *80% Raw Food Diet*

Sources:

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- *Green Cleaning: 10 Essential Oils that Naturally Repel Insects – ACHS Health and Wellness Blog*
- *What REALLY happens when a mosquito bites – Daily Mail*