

“Flies are the price we pay for summer.”

Ann Zwinger, *Beyond the Aspen Grove*

## Bug Off

A comprehensive guide to the safest, most effective pest repellents

YOU'VE JUST SETTLED DOWN to a lazy day at the beach, book in hand, lemonade at your side, surf in your ears, when bzzz bzzz bzzz!—the blackflies arrive to feast on your ankles. Later, no-see-ums swarm in to sully your patio supper. Let's not even mention the wee hours, when a lone mosquito whines around your head, ruining your sleep and your sanity. Have these pests no mercy? Ask the bug experts, from university entomologists to your local pharmacist, and they'll tell you: Bugs that bite are a growing problem. Not only do their bites sting and itch but more and more of them also carry harmful, even deadly, diseases, such as the West Nile virus and Lyme disease.

It's time to bite back. Armed with just the right repellents—new formulations are fighting bugs more effectively than ever—you can avoid the stings of the season's spoilers as well as concern over the diseases they carry. Plus, there is a wealth of ointments to quell the itch and ouch of bites when they do happen. Here, bug by bug, a guide to preventing and treating insect bites: what's safest, what works, what doesn't.

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## Take Back Your Yard

To reduce the insect population around your home, try these tactics.

■ **Eliminate breeding grounds.** Police your property for standing water in buckets, flowerpots, and clogged gutters—favorite haunts of mosquitoes. Keep grass mowed to help prevent chiggers and ticks from moving in.

■ **Get rid of nests.** Try treating anthills by pouring boiling water into mounds or spraying nests with Terro Ant Killer Spray. Carpenter ants burrow into wood, so try a bait (such as Advance Carpenter Ant Bait) to lure them out of their lairs. If the infestation is severe, you'll need a professional exterminator.

■ **Use sprays sparingly.** Sprays and foggers keep pests at bay for short periods, but they kill *all* the insects in your yard—including beneficial ones, like spiders.

■ **Use traps in closed areas.** Traps that attract mosquitoes with carbon dioxide (for example, the Mosquito Magnet) claim to rid your entire backyard of mosquitoes. But they work best if they're used in a contained area, such as a tent or a screened porch. If used outside, these traps attract mosquitoes from neighboring yards, making a bug problem worse.



## Mosquitoes

**What they are:** Small flying insects that feed on blood; only the females bite. For most people, they are more of a nuisance than a serious threat. If you're young and healthy, danger from West Nile virus—an infection carried by mosquitoes that has been a growing problem since the late 90s—remains fairly low. The Centers for Disease Control and Prevention report that serious illness or death from West Nile is a risk mostly for people over 50 or those whose immune systems have been weakened. Regardless of your age, mosquitoes are a pain.

**Where they are:** Everywhere in the United States, except at elevations above 8,000 feet.

**How to keep them away:** Female mosquitoes are attracted to carbon dioxide (that is, what you exhale) and sweat. Repellent blocks the mosquitoes' receptors so they can't catch your scent. The most effective repellents contain DEET, a chemical that, despite controversy over its safety, has been used for 50 years. (See How to Use DEET, page 167.) Choose a controlled-release block with less than 30 percent DEET (such as 3M Ultrathon spray). Or consider a product with a newly available chemical repellent, Picaridin, which is derived from black pepper and is a popular repellent in Europe (try Cutter Advanced Picaridin Insect Repellent Pump Spray).

But if you hate the idea of putting chemicals on your skin, use formulas made from natural oils, such as Bite Blocker insect repellent, which is soybean oil-based. Natural repellents work for only 30 minutes to two hours, compared with up to eight hours for DEET, but since they're nontoxic, you can reapply them as often as you like.

Also, mosquitoes like sweet scents, so avoid using perfume or highly scented lotion when they're around.

**The best way to heal bites:** You'll want to both stop the itch and decrease the allergic reaction. One of the best itch stoppers is menthol, which is why generations of grandmothers have dabbed Vicks VapoRub on bites. Modern alternatives include Sarna Anti-Itch Lotion, which is recommended by dermatologists; it contains menthol and camphor. AfterBite, with ammonia and natural oils, soothes the skin.

When you are bitten, your body releases compounds called histamines to try to get rid of the toxin, says David A. Berman, a dermatologist in Palo Alto, California. "Some people have stronger histamine reactions than others," he says. If you have an allergic reaction to mosquitoes (your bites swell and are very itchy), take an oral antihistamine, such as Benadryl (which can cause drowsiness). And stay away from after-bite remedies that contain topical antihistamines. Taking them orally is fine, but applying them to skin gives some people a rash.



## Biting Flies (Greenheads, Horseflies, Blackflies)

**What they are:** Greenheads, horseflies, and blackflies are all members of the Diptera, or fly, order. Like mosquitoes, they feed on blood, but they don't transmit diseases to humans.

**Where they are:** Greenheads are found primarily near marshes, and horseflies near large animals, while blackflies tend to be near rapidly flowing water.

**tip** Mosquitoes are attracted to contrasting colors, like a black shirt on fair skin, or bright prints, so **wear clothes that blend with your skin tone.**

## The Lowdown on Lyme

Lyme disease, a bacterial illness, has been around for decades but became a significant health threat only in the late 1980s. The Centers for Disease Control and Prevention now receive about 20,000 reports of the disease a year.

“Lyme disease is serious, as it can enter the nervous system and cause lifelong damage,” says dermatologist David A. Berman. If you are bitten by a tick, **watch for the telltale signs of Lyme disease:** a rash that spreads around the bite, usually starting a few days after you were bitten; fever, chills, and muscle aches; extreme fatigue; and neck stiffness that can set in quickly or weeks later.

If you are experiencing some of these symptoms, take a Lyme test, available through your doctor. If you do have Lyme disease, your doctor will most likely prescribe a course of doxycycline, the antibiotic of choice for Lyme.

**How to keep them away:** Swatting is a time-honored method, but when these flies are particularly persistent or prone to swarming, a repellent can be necessary. DEET works on biting flies, but a better choice is a repellent that contains the chemicals R-326 and MGK-264 as well. Sawyer Broad Spectrum has all three. Most of the natural repellents also work on biting flies, but, again, for a shorter duration. Use fly traps (a popular brand is Arbico Organics) and fly strips (Hot Shot No-Pest Strips) in areas where flies breed, like stables and near swimming pools.

**The best way to heal bites:** Depending on the type of fly that got you, your bite may itch or sting. For itching, use a topical desensitizer (such as AfterBite). For inflammation, use hydrocortisone (try Cortaid). For stinging, try a topical anesthetic (such as LMX 4%).



## Ticks

**What they are:** Bloodsucking parasites related to spiders and chiggers that insert barbed probes into the skin to feed.

**Where they are:** Ticks are found all over the country. But Lyme disease-carrying ticks are most prevalent in Minnesota, Wisconsin, and the Northeast. (See The Lowdown on Lyme, left.)

**How to keep them away:** Clothes are your best armor: Cover up as completely as possible. If you're walking in a woodsy area, wear long pants tucked into your socks and a long-sleeve shirt. For the most effective tick deterrent, try products with the chemical permethrin (Repel Permanone or Sawyer Permethrin Clothing treatment), which not only repels but also kills ticks. Spray it on

your clothing, where it can last up to two weeks, and be sure not to miss the edges of garments, like around wrists and ankles. Avoid spraying it on the skin.

**The best way to heal bites:** Use tweezers to remove a tick, pulling straight out without twisting. (If you're in an area where Lyme disease is common, save the culprit so you can bring it with you to the doctor.) Wash the bite area with soap and water and apply a topical antiseptic (such as Polysporin) to prevent infection. Tick bites don't usually hurt or itch as much as other bites, but watch them carefully for any sign of Lyme disease. If Lyme disease is a problem in your area, your doctor may treat you right away with the antibiotic doxycycline as a precaution.



## Chiggers

**What they are:** The larval stage of a tiny bug called the harvest mite. So tiny you can barely see them, they work their way up from the ground looking for food.

**Where they are:** Mostly in the South, along riverbanks and marshes and in tall grass.

**How to keep them away:** When you hike in a chigger-prone region—beside a river, for instance—cover up thoroughly (tuck your pants into your socks, and wear a shirt with tight cuffs). Use DEET to repel chiggers or permethrin to kill them outright (remember, though, to spray permethrin on clothing and shoes only, not on skin). Also, chiggers differ from other biting insects in that they hang out for a while before they start biting. So after you've been in a chigger-prone area, shower off and toss your clothes into the wash.

**tip** Before sitting down in chigger territory, **test for their presence by slipping a black piece of paper vertically into the grass.** If tiny red or orange moving specks appear, find another place to sit.

**The best way to heal bites:** There is nothing that itches like a chigger bite—nothing. And the itching can last for days. A common misconception is that this is because the chigger is still under your skin, but that's not true, says Mark Fradin, a dermatologist and an insect-repellent expert in Chapel Hill, North Carolina. Instead, the itching is caused by a toxin that the chiggers inject to help them digest skin tissue. To treat the bites, first apply hydrocortisone cream (such as the 1 percent variety available in drugstores). If you have a fierce allergic reaction to chiggers and your bites become red, swollen, and painful, use a topical anesthetic, such as lidocaine (found in LMX 4%), and consider asking your doctor for a prescription-strength hydrocortisone. You can also take an oral antihistamine to minimize the allergic reaction. And make an effort not to scratch the area, since chigger bites are prone to infection.



**No-see-ums**

**What they are:** A type of biting fly, no-see-ums have many other names, including sand flies, gnats, and punkies.

**Where they are:** Beaches, rivers, marshes, and areas with humid climates, like the Southeast.

**How to keep them away:** The rules are the same as for mosquitoes: Use a DEET-based repellent for long-term protection or one containing a low level of DEET or natural oils of eucalyptus, neem, catnip, or geranium for briefer periods. Since no-see-ums can slip through screens, they can be an indoor as well as an outdoor pest. If you're being bitten at night, try sleeping under mosquito netting (sold at most outdoor stores) treated with permethrin. (Spray the netting and let it dry, then drape it over your bed.)

**The best way to heal bites:** The regimen that works for mosquito bites (topical anti-itch lotion and, for severe reactions, an oral anti-histamine) works for no-see-um bites, too.



**Biting Ants**

**What they are:** Those common in the United States include harvester, carpenter, red, and fire ants.

**Where they are:** Harvester ants are found in the dry areas of the West. Carpenter ants are ubiquitous. Fire ants, which inflict a painful sting, are common throughout the South. The nastiest biters are the red fire ants, which have spread from Florida to as far west as Arizona and Southern California.

**How to keep them away:** The best way to deal with biting ants is to attack them at their source. Set out ant bait (try Ortho Fire Ant



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Killer Bait), and treat mounds with a pesticide, such as carbaryl or diazinon. But since the queens are notoriously hard to kill, and fire and harvester ants can colonize a yard in a matter of days, call a pest-control specialist if the problem is severe. And if you have fire ants, watch out. Surprisingly aggressive, they can attack en masse, and even a single fire ant can sting repeatedly.

**The best way to heal bites:** Since ant bites can easily become infected, treat them right away. One homemade remedy is to apply a paste of baking soda to ease the symptoms. Other options include topical anesthetics, such as lidocaine, to numb the bites, and hydrocortisone to reduce inflammation. If you are having a strong reaction, take an oral antihistamine.

To find out where to buy the repellents, traps, and sprays recommended in this story, go to [www.realsimple.com/bugbites](http://www.realsimple.com/bugbites). A brief list of information on repellents also appears on page 298.

## How to Use DEET

DEET, short for diethyl-meta-toluamide, was developed for the military during World War II and has been available since the late 1950s. It is one of the most effective repellents on the market, keeping pests away for as long as eight hours. Although there has been concern about its safety (a few people have suffered seizures from DEET, but they were using very strong formulations), the Environmental Protection Agency recently relicensed it, concluding that it is safe when used with care. Nevertheless, DEET is a strong chemical, so follow these guidelines.

- Use products that are less than 30 percent DEET (such as Off! Deep Woods).
- When possible, look for controlled-release DEET products (also called microencapsulated DEET). Introduced in 1998, these formulas are more effective because the chemical is released slowly throughout the day, rather than all at once.
- Use just enough repellent to cover exposed skin and clothing, and don't use it under clothes.
- Avoid cuts or wounds when applying.
- Wash treated skin with soap and water after you go indoors.
- Don't spray it on your face. Apply it to your hands first, then carefully rub it onto your face.
- Reapply only when necessary—that is, when bugs start biting.
- Don't apply it on infants under two months of age.



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