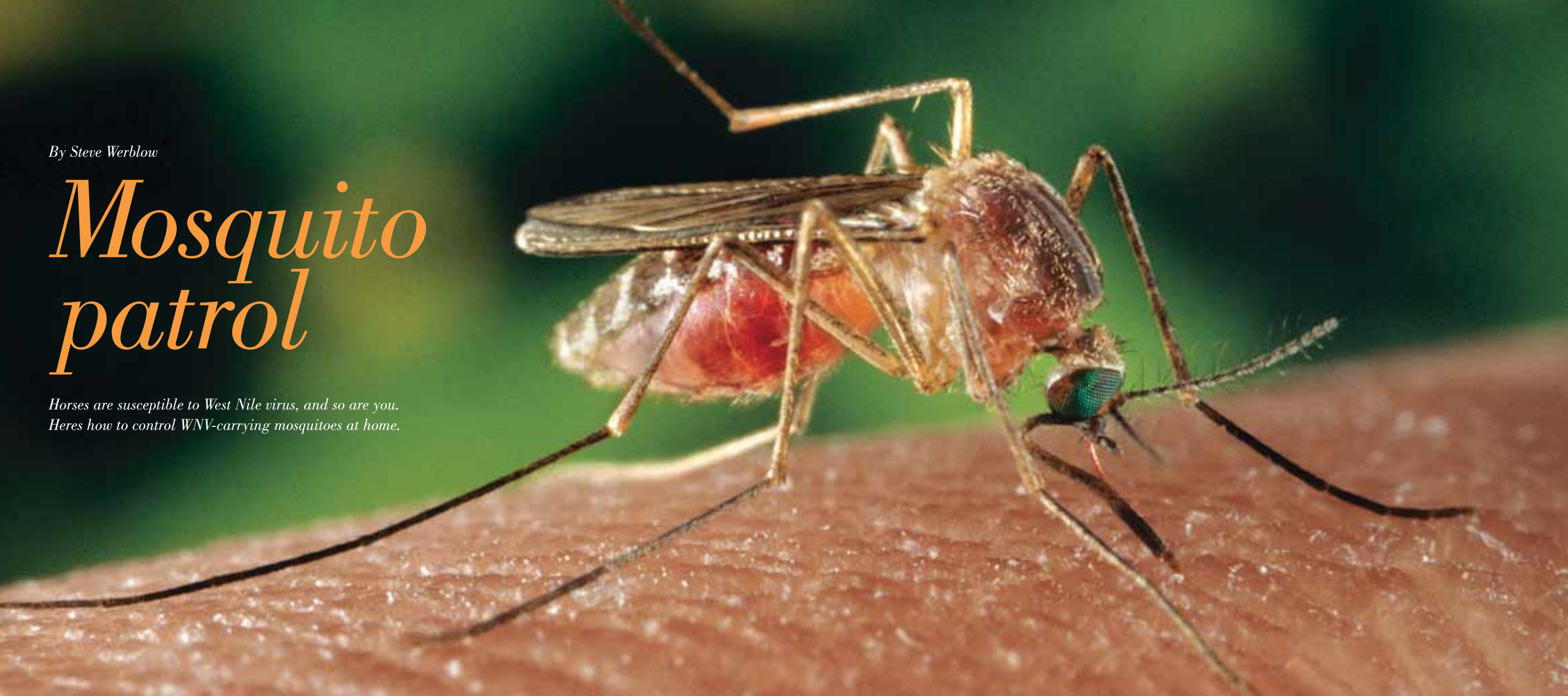


By Steve Werblow

Mosquito patrol

Horses are susceptible to West Nile virus, and so are you. Here's how to control WNV-carrying mosquitoes at home.



Horses and their owners share a special bond. They also share susceptibility to West Nile virus, a mosquito-borne disease that leaves most infected people and horses symptom-free—but has cut a swath of misery across the U.S. since it arrived in 1999.

Nearly 20,000 Americans have fallen ill with West Nile Fever or related inflammation of the brain or spinal column; 782 have died. Horses fare even worse. Of more than 22,000 reported cases of West Nile in horses in the U.S., about 30% died or were euthanized.

Afflicted horses can progress from fatigue, lethargy, or irritability to muscle twitching, stumbling, and an inability to stand in just

a few hours, says Josie Traub-Dargatz, professor of large animal medicine at Colorado State University's College of Veterinary Medicine.

Horse vaccines. Though no vaccine exists for humans, two vaccines can guard horses against West Nile virus, says Traub-Dargatz. Timing is important, as either vaccine needs to be administered in two injections several weeks apart, weeks before mosquito season.

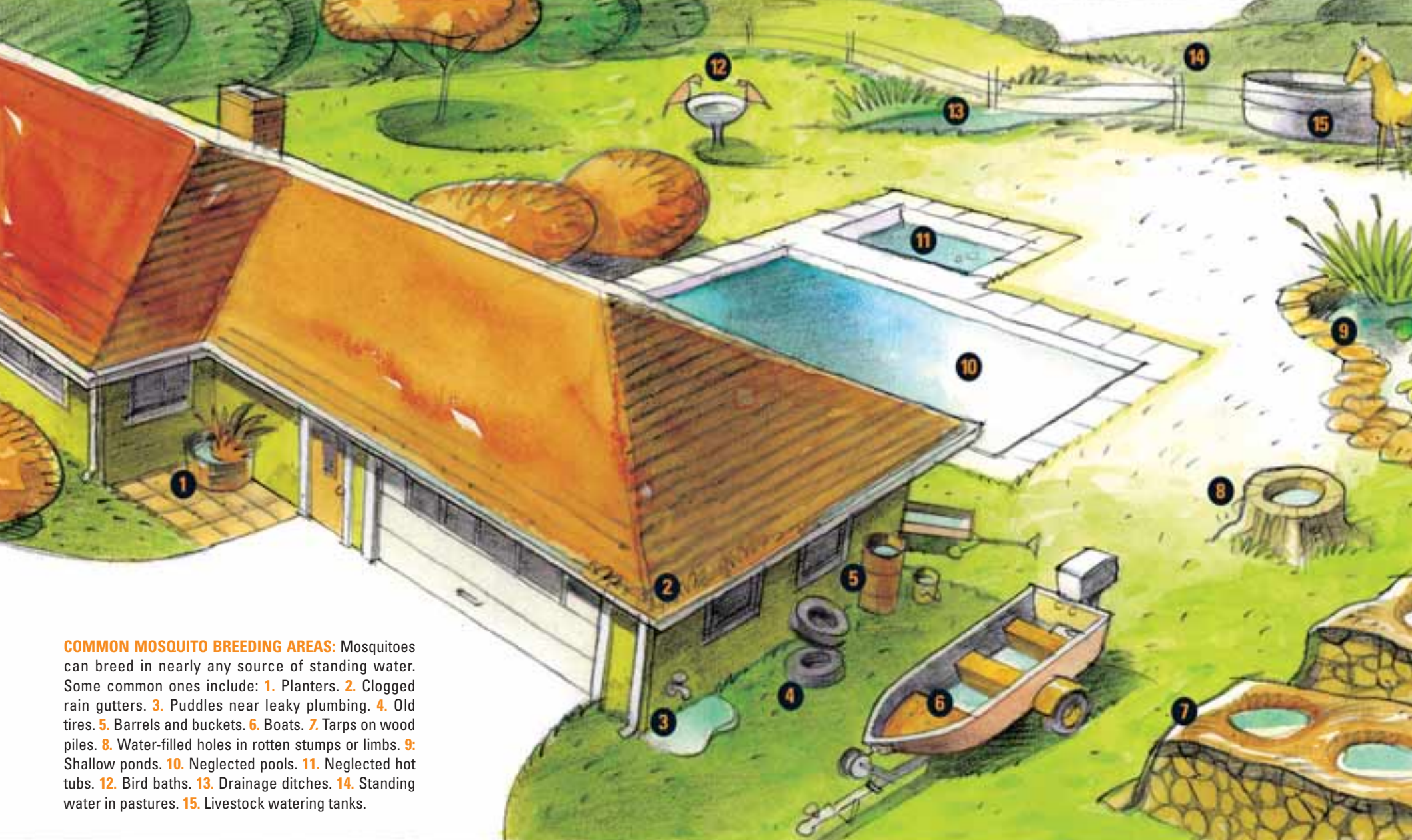
"I think it's important for owners to work with their veterinarians to develop a vaccination program for their horses," says Traub-Dargatz. "West Nile is a disease horse owners should consider vaccinating animals against because the disease could be experienced even if they don't leave the home place."

Above: Just one bite from an infected mosquito can deliver a lethal dose of West Nile virus. **Right:** Alien-looking mosquito larvae thrive in standing water.

Another vital step in protecting your horses, and yourself, against West Nile virus is controlling the mosquitoes that spread the disease. Nearly one-third of the mosquito species in the U.S. can transmit West Nile virus, which they pick up by biting infected birds.

"One bite is all it takes," says Joe Conlon, technical advisor for the American Mosquito Control Association. "Even during an intense epidemic, only one in 500 or one in 1,000 mosquitoes is carrying the virus, but you don't know which one is biting you. You want to reduce the population of mosquitoes





COMMON MOSQUITO BREEDING AREAS: Mosquitoes can breed in nearly any source of standing water. Some common ones include: **1.** Planters. **2.** Clogged rain gutters. **3.** Puddles near leaky plumbing. **4.** Old tires. **5.** Barrels and buckets. **6.** Boats. **7.** Tarps on wood piles. **8.** Water-filled holes in rotten stumps or limbs. **9:** Shallow ponds. **10.** Neglected pools. **11.** Neglected hot tubs. **12.** Bird baths. **13.** Drainage ditches. **14.** Standing water in pastures. **15.** Livestock watering tanks.

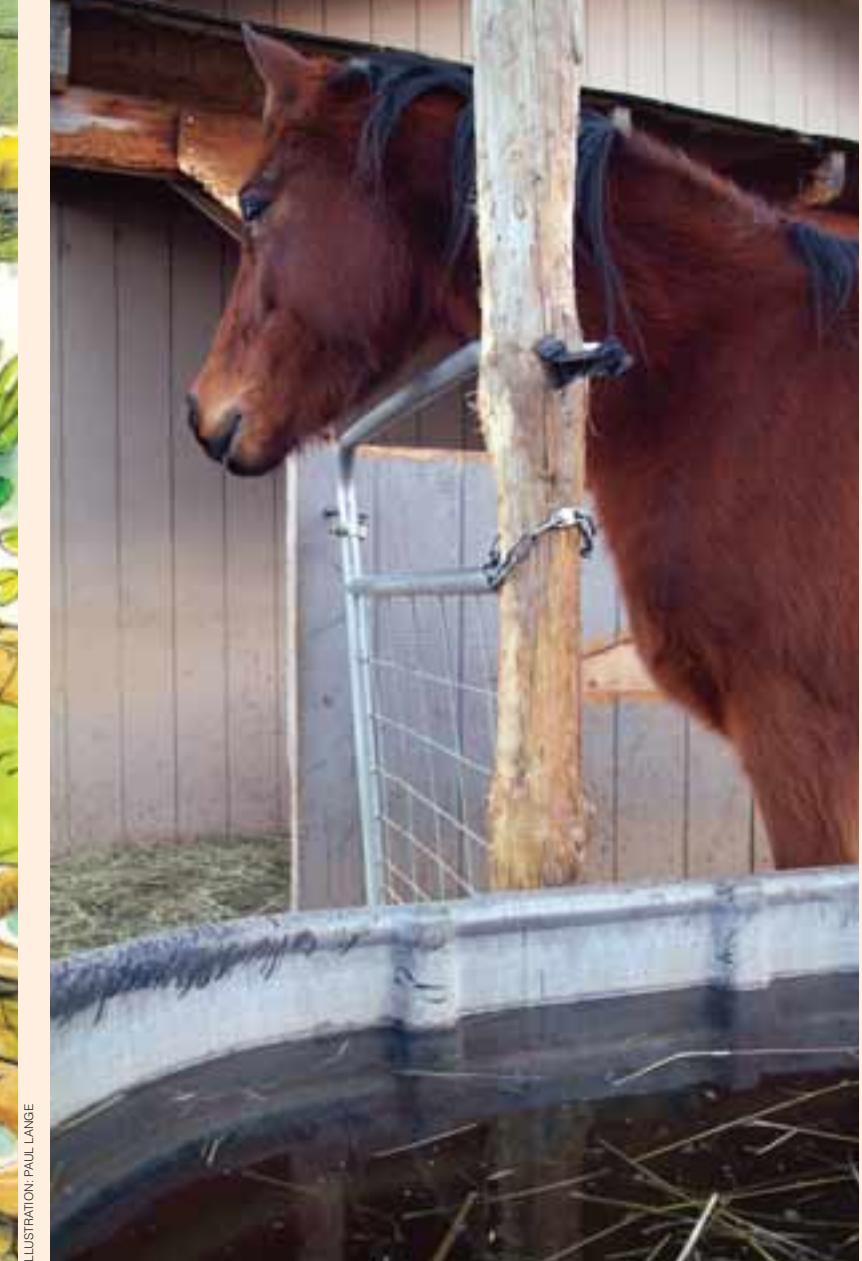


ILLUSTRATION: PAUL LANGE



Above: Vaccinate horses several weeks before prime mosquito season.

to reduce transmission of the disease.” Of course, controlling mosquitoes also reduces the odds of contracting other mosquito-borne diseases like Eastern and Western Equine Encephalomyelitis, St. Louis Encephalitis, and dog heartworm, Conlon adds.

Three Ds. Conlon breaks up his mosquito management strategy into the Three Ds: Drain, Dress, and Defend.

Female mosquitoes lay their eggs, up to 100 at a time, in standing water. Each species has its favorite habitats, notes Conlon, which can range from broad wetlands to a dollop of water inside a soda pop cap. One common denominator is that the insects need at least five days to complete the cycle from egg to adult.

That means that water should not be allowed to stand for more than a few days wherever it collects—anywhere from horse

watering tanks to puddles that form on tree trunks, tarpaulins, tires, or children’s toys.

Mosquito fish (*Gambusia affinis*) can be introduced to stock tanks or ornamental ponds to eat larvae, Conlon says, but contact local fish and wildlife authorities before introducing the predators to large ponds or other water sources. When mosquito fish are done feasting on mosquito larvae, they can feed on trout, bass, and other desirable species.

Mosquito larvicides such as *Bacillus thuringiensis israelensis* (found in Mosquito Dunks) and methoprene (in Mosquito Torpedo and First Strike) provide excellent, targeted control of mosquito hatchlings while leaving most other water-borne wildlife alone, Conlon adds. A squirt of Agnique (available from www.erlichdistribution.com) changes the surface tension of water so larvae can’t poke their siphon tubes through to breathe.

Dressing to dodge mosquitoes thwarts feeding behavior. Mosquitoes see dark colors and can pierce the skin through snug clothes, so light-colored, loose-fitting clothes are best. A blanket, especially at prime dawn and dusk mosquito feeding hours, can help your horse; so can stabling him during peak biting times.

Defending against mosquitoes involves blocking their routes indoors—whether it’s the barn, the bathroom vent, or a bedroom window—with 24 mesh screen, and interfering with their usual flying and feeding patterns.

A simple fan on the deck or in the barn deters mosquitoes, which are weak fliers. DEET, picaridin, or even lemon-eucalyptus oil can interfere with the signals that prompt mosquitoes to bite. “Just remember that any exposed skin is fair game,” Conlon warns.

Insecticide foggers only kill those mosquitoes that fly into the mist during fogging, says Conlon, but applying a pyrethroid insecticide directly to interior surfaces of a barn can offer a residual effect. Be sure to use a wettable granule formulation, which leaves a powdery residue on treated surfaces, rather than an emulsifiable concentrate, which soaks into wood and can’t contact resting mosquitoes.

Be careful. “Mosquitoes have been around for 170 million years, and it’s not because they’re stupid,” notes Conlon. Though some mosquitoes are a fact of life in the country, managing their populations is possible—and the effort could save your horse’s life.

Don’t forget to protect yourself, adds Traub-Dargatz. “You need to take precautions,” she says. “If something happens to you, who’s going to take care of your horse?” **11**