

Bird Safety Corner

Insect Repellants

Most insect repellants contain **DEET** (*N,N*-diethyl-*meta*-toluamide), a neurotoxin which protects against mosquitoes, ticks, chiggers, and sand flies. It has been used by the military as a pesticide in Southeast Asia. It works by blocking the ability of the insect to smell carbon dioxide coming off the skin and also by actually repelling insects. DEET blocks acetylcholinesterase, a major neurotransmitter in insects and mammals, and has been known to cause seizures in humans. Concentrations above 30% are totally banned in Canada, and are also banned for use in children in the U.S. It is absorbable through the skin. It is also a potent solvent which can dissolve plastics and leather. Obviously you do not want your birds anywhere near this chemical.



Permethrin is another agent used primarily on clothing to repel ticks. It is also used in pet flea collars and to treat scabies. It has low toxicity for most mammals and birds, but high toxicity for cats, fish, reptiles, amphibians, and insects. Nevertheless, you should make sure that birds do not come into contact with any clothing treated with permethrin.

Citronella oil is touted as a "natural" alternative to DEET. Citronella candles are commonly used to fend off mosquitoes. Citronella, however, is an essential oil, and these can be quite toxic if heated. Your birds should

never be around citronella candles. (There is more about candles in another column).



The newest approved insect repellent in the U.S. is **picaridin**, a synthetic compound which has been in wide use around the world for several decades, but has only been approved for use in the U.S. since 2005. Picaridin is similar to the natural compound piperine, found in plants that produce black pepper. It protects against mosquitoes, biting flies, ticks, fleas, and chiggers and comes as a pump spray, lotion, liquid, aerosol, and wipe. Picaridin appears to be as effective and much safer than DEET and does not dissolve plastic. It is

considered nontoxic to birds, so this is probably the safest product to use around birds, but I still wouldn't recommend having your birds on you after you've applied picaridin.

In general, most insect repellents can cause at least some degree of neurotoxicity to birds (picaridin may be the exception), including stimulation or depression of the central nervous system or even death. If you do wear insect repellents outside, make sure you apply them after leaving your home and have thoroughly scrubbed them off your skin before touching your birds. Since most contain oils, water is not adequate to remove them, even if they don't feel particularly oily on your skin. There is no safe level of exposure to insect repellants for companion birds.

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