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Insect Repellents, Fact and Fiction

AGRI-VIEWS

by Chuck Otte, Geary County Extension Agent

I want to follow up last week's mosquito discussion with a little more detailed information on insect repellents. There's a lot of misinformation out there about what does and doesn't repel insects. I'm not going to talk about all the plants that allegedly repel insects (most don't) but I want to focus on personal protection.

Regardless of what your neighbors or friends may claim, wrist bands, electronic devices, all those devices and home remedies simply don't work. Additionally, some of the folk remedies that are recommended, aren't legal and may even be putting your health at risk!

When repellents were evaluated by independent researchers many were found to have no effect or very limited effect to the point of not being worth the expense. In one series of tests, effectiveness was evaluated against two different (most common) mosquito species as well as ticks. In some cases effectiveness wasn't even able to be evaluated in hours, it was in minutes. Some products had zero minutes of effectiveness. All the items, with the exception of oil of lemon eucalyptus, that have "natural" plant oils gave one hour or less of repellency to one or both groups of mosquitoes.

In general, I set my criteria of whether a product is worth using by whether it has given a minimum of five hours of effectiveness against all three of the previously mentioned pests. Tested products that fell into this range contained one of the following: 20% picaridin, 30% oil of lemon eucalyptus or DEET from 15 to 25%. One newer active ingredient, IR3535 was of interest in that it is a man made compound that is structurally similar to a naturally occurring amino acid but does appear to be a better option for children to use. It gave over 5 hours of repellency to ticks and culex species mosquitoes but only about 3 hours against aedes species mosquitoes. We have several species of both families of these mosquitoes in Kansas.

The other category of protection is clothing treatments. All of the above products can be used on clothing. This is going to help protect against mosquitoes biting through clothing or ticks crawling up on clothing trying to get to skin. They all will also help against chiggers. But there is one active ingredient labeled for clothing only treatment, not skin. The active ingredient is permethrin. Permethrin is a synthesized version of pyrethrum, a naturally occurring insecticide from chrysanthemums. Permethrin is sold by several companies as a clothing treatment. You can spray it on the outside of shirts, pants, socks, and shoes. It repels many biting insects that land on it and if ticks stay on it too long, it will even kill them. It does not work as a skin treatment and is not labeled for use on skin. It has the added advantage that once it has dried it will survive several machine washings and still be effective. You can even now buy clothing pre-treated with these products.

One last product to mention is also a clothing treatment primarily for socks and shoes. Powdered, or dusting, sulfur can be used to repel chiggers and ticks. It's smelly, and it's messy and it does work. I don't personally use it because the permethrin products are so much easier to use and last much longer.

Mosquitoes and ticks are not only creepy and annoying, but they can carry diseases. Keep in mind that most don't, but all it takes is one. The insect season is now upon us and the crawly, flying biters are out there. Protect yourself and your family with proper use of insect repellents. If you have any questions, contact me at the Extension Office, 785-238-4161, or via email: cotte@ksu.edu.

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