

(The following is a Q&A published in *Equine Wellness*.)

## Fly Control

Dr. Christine King

### Question:

As the owner and operator of a trail riding business I am plagued with the fly issue. While our season is shorter than some in western NY, at times the flies are unbearable on the trails. I have tried numerous herbal and chemical sprays as well as my own concoction of vinegar, listerine and Skin-So-Soft.....Nothing really seems to work well or for very long. I use fly parasites around the barn and they have certainly helped contain the fly problem around the building. I rarely have to use fly masks at all.

This past Summer I tried feeding loose salt with Garlic powder (bought in bulk at a food warehouse). I am wondering if there is any evidence that shows this might help repel bugs from the inside out. If so, should I continue this treatment though out the winter in order to maintain this internal odor in preparation for next spring? Could it have a cumulative effect?

### Answer:

Ahh; you ask the \$64,000 question. It is my experience that biting insects of all varieties are becoming more of a problem for more animals and people; there are more of them, and they are becoming more resistant to insecticides and insect repellants of all varieties. My feeling is that the cause of this problem is a combination of excessive use of chemical insecticides, reduction in the insects' natural predators (because we've destroyed so much of their habitats around us), and too much poop (too many horses on too few acres).

Somewhere in all that gum flapping lies the answer to this problem. This dilemma is multifactorial in the making, so its solution must also involve a multi-pronged approach. Thankfully, the essential oils that have long been the mainstay of natural insect repellants are still effective, although they do need to be applied every 2-8 hours, depending on the intensity of the bugs (how many and how hungry). *EQUItelligent* ([www.equitelligent.com](http://www.equitelligent.com)) makes a great product called Zuffa Spray which works a treat here in bug paradise west (the Pacific Northwest).

Fly predators are handy little articles to help keep the fly population down around the barn. I'd also suggest that you explore ways to encourage insectivorous birds, bats, amphibians, and fish to co-habit on your farm, as they are the insects' natural predators. Most of these little guys need the protection of plants, so look into planting an insectivore-friendly garden near the barn.

Effective and ecologically friendly manure management is important, too. That includes avoiding overstocking, keeping your manure pile well away from the barn, and turning the pile regularly to allow the internal heat of the pile to kill parasite eggs and larvae.

But of course, all that doesn't help you when you're miles away from home on a trail ride, being eaten alive by someone else's bugs. That's where a good insect repellant can save the day. Apply it liberally before you set out and, if you're going to be out all day, reapply as needed from a small plastic bottle of repellant you keep in your saddle bag.

Instead of messing with spray bottles on the trail, use a piece of cloth to reapply the repellent to wherever it's needed, on your horse and on yourself.

As for garlic, I'm underwhelmed by it as an insect repellent. It works well in some horses, but not at all in others. There have been some studies in humans investigating garlic as an insect repellent; most concluded that it is worthless when taken orally against blood-sucking insects. It is, however, an effective repellent when used topically (as garlic oil).

Another thing to bear in mind is that garlic can cause irritation of the stomach in some horses. It can also cause oxidative damage to hemoglobin and consequently destruction of affected red blood cells (Heinz body anemia), although both of these problems are more likely at high dose rates.

In the individuals in which garlic is effective, it probably exerts its insect-repellent effect via the excretion of sulfurous compounds through the skin. Why garlic works in some horses but not others remains a mystery to me. Perhaps some individuals don't break it down the same way and so don't emit as many of the sulfurous byproducts as others in which it is an effective repellent.

I also don't know whether these compounds are actively repellent to insects or they simply alter the scent of the horse sufficiently that the insect no longer recognizes the horse as prey. Given that garlic oil is an effective topical repellent, and blood-sucking insects are primarily attracted by body heat, the first explanation seems the most plausible.

As for whether you should feed garlic throughout the winter to keep the stink going for the spring, no; I don't think that's a useful strategy, at least not for bug control. There may be some value in feeding a little garlic through the winter months, as it has a mild antimicrobial effect and supports immune function. But I think the health benefits of garlic in healthy horses are over-rated.

Christine King BVSc, MACVSc, MVetClinStud  
Licensed Veterinarian