



Submitted photo

Mugwort (*Artemisia vulgaris*) has been used since the time of the ancient Greeks to ward off moths, wild beasts and evil spirits.

## Home's garden yields mosquito repellents

By Arthur O. Tucker

I love the claims that have accompanied the "Citrosa Mosquito Fighter." One of the claims was that this was a cross by a Mr. Van Leenen of an African geranium with citronella grass from China. Not only did the late Dutch scientist Dr. Van Leenen not do this research, but it would have been impossible to fuse a grass with a geranium when it was claimed (ca. 1975).

Our own research found no evidence of a *Cymbopogon* sp., a grass, in the "Citrosa Mosquito Fighter;" it was a rose geranium, pure and simple. Tests of the whole plant found almost no repellency of mosquitoes, but the crushed plant had 30 to 40 percent repellency.

That sounded great until we realized that crushed lemon thyme had 62 percent repellency (DEET, the component in Deep Woods Off and the standard upon which repellency is measured, had 90.4% repellency). In other words, there are better ways to spend your money.

Because of variability in the allergenic response, it is always best to rub the plant or essential oil on your clothing, not your skin (especially on hot, sunny days); even repellents that contain DEET are best rubbed on your clothing to prevent absorption into your bloodstream.

What mosquito repellents can you harvest from your garden, then, besides lemon thyme? Catnip (*Nepeta cataria*) is one of the most effective natural insect repellents, but the drawback (advantage?) is that you will then be attractive to cats.

Unless you don't mind cats fighting over you, I wouldn't recommend rubbing catnip leaves on your clothing. Citronella (*Cymbopogon nardus* and *C. winterianus*) have variable reports on repellency, and the candles, while

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smelling somewhat nice, have very little repellency.

Basils (*Ocimum* spp.) can be used as mosquito repellents; the most effective, according to the scientific literature, are common sweet basil (*O. basilicum*), the sacred basil of India (*O. tenuiflorum*), and the tree basil (*O. gratissimum*). Another effective mosquito repellent (and often a noxious weed in gardens) is mugwort (*Artemisia vulgaris*), used since the time of the ancient Greeks to ward off moths, wild beasts and evil spirits.

Tansy (*Tanacetum vulgare*) has always been a traditional insect repellent in gardens; planting it next to the doorway to discourage flies from entering is an old custom. Scientific reports also have shown that many other plants will repel mosquitoes to some extent: sweet flag (*Acorus calamus*), turmeric (*Curcuma longa*), pine (*Pinus* spp.), yarrow (*Achillea millefolium*), hyssop (*Hyssopus officinalis*), German chamomile (*Matricaria recutita*), and bog myrtle (*Myrica gale*).

Repellency is difficult to measure, however, especially when one concentration will repel but another will actually attract, but these plants may offer some relief and at least have some history of repellency.

*Editor's note: On the campus of Delaware State University, the Claude E. Phillips Herbarium is Delaware's center for research, education, and outreach about plant identifications, locations, and uses. Call 302-857-6452 (Dr. Susan Yost) to arrange a tour of the Herbarium, and call 302-857-6408 (Dr. Arthur Tucker) for more information about this article.*