

Natural Insect Repellants

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A naturally-occurring compound prepared from pine oil that seems to deter mosquito biting and repels two kinds of ticks has been found by Agricultural Research Service ([ARS](#)) scientists.

A patent several years ago was granted for the compound, isolongifolenone, and partners are being sought to bring this technology to commercial production. Although I have not seen it available yet look for 141 Repellent which should be coming out soon. In laboratory tests, ARS chemists discovered that the naturally occurring compound deters the biting of mosquitoes more effectively than the widely used synthetic chemical repellent DEET. The compound also repelled two kinds of ticks as effectively as DEET.

Insect repellents are used widely to prevent bites from mosquitoes, sand flies, ticks and other arthropods. For the most part, people apply repellents just to avoid discomfort, but there is a more serious side to the use of these products. Human diseases caused by blood-feeding ticks and mosquitoes represent a serious threat to public health worldwide.

Malaria is the chief threat, killing approximately two million people per year and threatening billions. Other diseases include dengue fever, chikungunya, Lyme disease and typhus. Some segments of the public perceive efficient synthetic active ingredients as somehow more dangerous than botanical compounds, giving additional importance to the discovery of the plant-based isolongifolenone.

Zhang's team also developed an easy and efficient method to prepare this repellent. Many natural-product chemicals isolated from plants and essential oils have proven to have repellent effects. Most often, such compounds never attain commercial development and their use is limited or impractical because they are expensive and not available in pure and large quantities.

In contrast, this newly-discovered repellent can be prepared inexpensively from pine oil feedstock in ton quantities for large-scale commercial applications, giving it a significant advantage over many of the other natural-product repellent chemicals.

Some other natural sources for insect repellants would include many herbs such as: Lemon balm which is non-irritating to the skin, has a nice lemony smell, and is effective at repelling mosquitoes and other pests. Catnip is not a favorite scented plant but it works extremely well as an insect repellent, so more power to it! Also, try planting some of this

in the flower bed to discourage deer and rabbits from eating your other flowers. Rosemary, either you like the fragrance or you do not, however try some in the flowerbed. Most people enjoy the scent of lavender and the essential oil in lavender flowers and leaves; it also works as an insect repellent and has many other uses, so try planting some in the flowerbed. Peppermint is another herb with a strong fragrance.

Oil of lemon eucalyptus is one of the few natural-based repellents subject to EPA's strict testing. Sold under the trade name Citriodiol (no relation to citronella). Citriodiol can be found in a number of brands, including Repel, Cutter and, new in 2011, Coleman Botanicals.

By planting one or more of these herbs you not only enjoy the benefits of the culinary properties of these plants but also the insect repellent properties. The other advantaged I mentioned earlier is most of these herbs will discourage deer and rabbits out of the flower bed but most have a nice fragrance which adds to a garden. The disadvantage most of these herbs have is they generally have to be re-applied several times during the day to maintain their repellency. Also, be aware that several of these herbs can be quite aggressive and should be contained in a small area or they could overtake the flowerbed.

When planting any of these herbs watch the zone rating on the variety of herb used, as some will not work in all parts of Wyoming. However, all of these can be grown as annuals.

The University of Wyoming and the United States Department of Agriculture, Sheridan county Office cooperate. The University is an equal opportunity/affirmative action institution.

ARS is a scientific research agency of the [U.S. Department of Agriculture](#).

By [Sharon Durham](#)

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