

The Lakelands Master Gardener Newsletter

February 2019 Edition

Upcoming Events

Greenwood STEAM (Science, Technology, Arts, Engineering and Math) Festival

Saturday, March 16th in Uptown Greenwood from the Arts Center down Oregon Street to the Farmers' Market. We should have a booth next to the Bee Booth and will have the Garden in a Glove activity - so will definitely need volunteers to assist. There will be lots of booths with interactive activities - a very family-friendly day.

LMG Annual Plant Sale

Saturday, April 13th from 10 AM to 2 PM at the Uptown Farmers' Market. Remember, to be a success, we need each member to bring in 10 plants (*labeled* with name of plant and light requirements) to the market on Friday, April 12th from 4pm-6pm. Jan Coffey and Summer Booker are the co-chairs. *Please note that this is a cash - only event; checks and credit / debit cards will not be accepted.*

The Newsletter Is Dead. Long Live the Newsletter!

As you may have heard, after quite some years of dedicated service as the editor and publisher of the monthly Lakelands Master Gardener Newsletter, Sandy Orr is stepping down from that post. Fortuitously, I happened to sit next to her at our annual banquet last week, and in the course of our dinner conversation ended up volunteering to take the reins. I've enjoyed contributing to the newsletter since I began writing a regular column last year, and I look forward to keeping it going in the months and years to come. From here on out, if you have

stories, announcements, pictures, or anything else you would like to contribute to the newsletter, please send them to newsletter@lakelandsmastergardener.org.

Happy Gardening!

Chris Hackmeyer

2019 Annual Banquet Recap

A wonderful time was had by all at our annual banquet on February 21st. Our large group of new interns who finished the Master Gardener course last fall were welcomed into the organization, and we also recognized those who completed their internships over the course of the past year.

Donna Feldmaier was honored as the LMG Master Gardener of the Year. Thanks, Donna, for all you do for our organization!

Our new board members and committee chairs for the next year were announced, as well:

Board

- President: Donna Sears
- Vice President: Jan Coffey
- Secretary: Sandy Orr
- Treasurer: Summer Booker
- Past President: Wally Sears

Committee Chairs

- Education: Tom Nelson
- Fundraising: Jan Coffey / Summer Booker
- Projects: Carol Mitchell
- Public Relations: Olivia Reynolds
- Website: Chris Hackmeyer
- Facebook: Amber Nappier
- Email: Ann Barklow
- Landscape Clinics: Ann Barklow
- Newsletter: Chris Hackmeyer
- Office: Julia Ciezadlo
- Social Chair: Julia Ciezadlo
- Clemson Advisor: James Hodges

LMG Website Redesigned

Have you visited our website at www.lakelandsmastergardener.org lately? It has been completely redesigned, with a more “modern” appearance and improved usability. Maintenance of the site has also been greatly simplified, so keeping it up to date should be much easier and more consistent from here on out. Should you need to access the old site for any reason, there is a link to an archived copy near the bottom of the sidebar on the right side of the page.

Useful features of the site include a calendar of events, contact forms to help members of the public reach out to us, newsletter archives, and information about upcoming educational opportunities. So far, traffic to the site has more than doubled compared to last year, and we hope that it will increase public engagement with our organization, while also helping members stay up to date with our programs and activities.

If you have feedback or information that you would like added to the site, email them to webmaster@lakelandsmastergardener.org. Photos of any LMG - related events are especially welcome.

Gardening for Mosquito Control?

by Chris Hackmeyer

No one likes being pestered by the buzzing and biting of mosquitoes while enjoying their garden, but we all know they're a fact of life during the warmer months that are fast approaching. There's no shortage of claims out there about



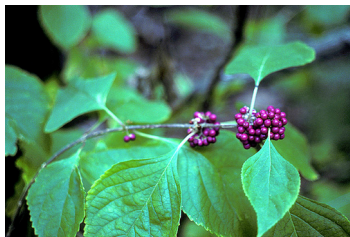
plants that are supposed to repel, disorient, or otherwise keep these annoying critters at bay, but do any of them really work? Unfortunately, the available evidence is complicated, often incomplete or ambiguous, and sometimes even contradictory. But in the interest of clearing up confusion where we can, let's dive into what information is available on the subject, shall we?

What doesn't work?

While there are lots of plants with a reputation for repelling mosquitoes that have only limited or conflicting evidence in their favor, there seem to be very few that have actually been proven *ineffective*. Frustratingly, one that has been pretty thoroughly debunked is *Pelargonium citrosa*, a citrus-scented geranium very widely sold in hardware stores and garden centers as “citronella” or “mosquito plant”. Contrary to what is often heavily implied in marketing materials for this plant, it is not the same as (or even closely related to) the species that the popular citronella oil is derived from. That would be *Cymbopogon nardus*, a close cousin of lemongrass. Unlike genuine citronella oil,¹ a study of *P. citrosa*'s essential oil found that it had no effect at all as a mosquito repellent.² So if you like geraniums, by all means grow geraniums, but don't bother paying extra for the ones misleadingly labeled as “mosquito plants” or “citronella”.

What does work?

Unfortunately, that's a much more difficult question to answer. While there have been small trials of many different plant-based essential oils, more rigorous research in this area is limited by the scarcity of funding that tends to plague clinical trials of natural products in general.



A really interesting case in point is a native shrub, American beautyberry (*Callicarpa americana*), well known to many gardeners in the Carolinas. About fifteen years ago, a USDA botanist working in rural Mississippi remembered his grandfather having once mentioned that tucking a few clippings from a beautyberry bush into livestock harnesses would keep mosquitoes away from his farm animals.³ Amazingly enough, some laboratory experiments at the University of Mississippi found that a component of the plant's essential oil was indeed about as effective a mosquito repellent as DEET. Based on those promising results, there were plans to carry out more extensive real-world tests for repellency against other insects like ticks and to ensure it was safe for regular human use. But then it was discovered that *C. americana*, a wild plant that has never been heavily domesticated, was not well suited to mass production,⁴ meaning it could not be made into a

profitable commercial product. Perhaps unsurprisingly, the university has apparently put that research on hold.

Studies on most other herbal repellents that could reasonably be grown in our region are pretty mixed. There's some evidence that the essential oil of catnip (*Nepeta cataria*) can work against mosquitoes and ticks, but its effectiveness varies quite a bit from one mosquito species to another.^{5,6} A field trial in Tanzania found that a couple of *Ocimum* species (relatives of basil) worked almost as well as DEET when burned like incense in traditional huts,⁷ though the relevance of that approach to industrial societies is perhaps questionable.



Blackberries along the Blue Ridge Parkway. © Famartin, CC BY-SA 4.0, from Wikimedia Commons.

But now for my favorite. Back in 2015, researchers from Maine and Illinois discovered that leaf litter from *Rubus allegheniensis*, the common blackberry native to the eastern United States, creates an ecological trap for the primary mosquito that carries West Nile virus.⁸ What's an ecological trap? Well, basically the leaves attract female mosquitoes to lay eggs in water they've fallen into, but then they inhibit the development of the larvae. The researchers think they do this by somehow altering the balance of different bacteria in the water, favoring those that are hostile to the young mosquitoes.⁹

I just love this sort of thing! It makes for a brilliant example of what permaculturists call "stacking functions". You've cleaned up the artificial sources of standing water in your yard, but what to do about that little low-lying area out back that just seems to stay on the marshy side no matter what you do? Well, maybe plant some native blackberry canes along its upwind edges, maybe building up a little berm to keep their feet from staying too wet. Now you have not just a natural mosquito trap, but an all-you-can-eat berry buffet for yourself, plus an area attractive to birds that might also eat insect pests. And the beauty of an ecological strategy like this is that it consists of a complex and dynamic web of living checks and balances, not one static means of control that the mosquitoes can quickly evolve to resist. The various parts can *co-evolve* in response to one another, and have been for ages. So the chances of natural selection rendering this type of approach obsolete in the foreseeable future are probably much lower than with something like a chemical spray.

As spring arrives and we prepare for the return of its livelier interplay of living creatures, perhaps these findings can provide us with inspiration to remain always mindful of the mystical game of ecology that dances through our gardens. Even in our age of highly sophisticated science, it is sometimes the simple observation of a dedicated amateur tending their tiny piece of the Earth, as in the case of the farmer and the beautyberries, that points the way toward the gentlest and most holistic solutions.

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