



Seed ball by Herder3 [CC BY-SA 3.0](https://commons.wikimedia.org/wiki/File:Seed_ball.jpg) via Wikimedia Commons

Restoration Army: Reports from the Front By Eugenia Parry

"... even despair can work for you."¹

Pain leads to action. Seed collection and storage are national pastimes. The Bureau of Land Management's seed warehouse system is nationwide. Ancient methods for disseminating seed over large tracts are being revived and perfected. Seed balls — millions are needed and a kid can make them — encase seeds, water and a nutrient in clay, which feeds and protects the seeds from wind and predators.

At the Society for Ecological Restoration's 2022 Native Plant Materials Virtual Conference in January 25 fierce devotees spent two days offering ways to repair a national catastrophe. We know that wildfires, hurricanes, tornadoes and biblical floods linked to climate change are killing people and devastating real estate. As dire, but less publicized and harder to contemplate, are what the beauties of our North American continent have become: forests reduced to ash, prairies obliterated, seeds rotting in swamps. The loss is enormous, but not beyond repair.

The speakers' expertise — practical in experimental energy, spiritual, because of the tremendous scope of the task — washed over 400 virtual attendees like sunshine. Our land is suffering. So is our population. Presenter Tom Kaye from the Institute of Applied Ecology at Oregon State University talked about "*Solastalgia*" — Latin *sōlācium* (comfort) and Greek *algia* (pain) — and the fact that poor

In this issue ...

Restoration Army: Reports From the Front	1
2022: The Year of Soil Building	4
A Message from the SFEMG President	5
Backyard Bugs: Gall Wasps	6
Featured Native Plant: Heath Aster (<i>Symphyotrichum ericoides</i>)	7
Calendar	9
New & Noteworthy	10
The Garden Journal Radio Show	11

TRACK IT FORWARD

Master Gardeners and Interns:

Remember to log your volunteer hours in Track It Forward, which you can link to from the SFEMG members-only web page. It's easier if you do it as soon as you have volunteered. Hats off to Tom Dominguez and Kathy Brechner for restoring this capability for SFEMG members. In 2019, prior to COVID-19, SFEMG members volunteered more than 12,000 hours of labor, education and outreach to the Santa Fe community. That's really something, considering the value of a volunteer hour topped \$28 in 2021, according to the Do Good Institute.

Required hours for 2022

Continuing Education (CE) – 10 hours
Operational Support (OS) – 14 hours
Public Education (PE) – 6 hours

Our Mission

Santa Fe Extension Master Gardeners is a nonprofit volunteer organization whose mission is to learn, teach and promote locally sustainable gardening through reliable, current research-based practices.
sfemg.org

SFEMG is one of more than a dozen county-based Master Gardener programs run under the auspices of New Mexico State University's College of Agricultural, Consumer and Environmental Sciences.
aces.nmsu.edu

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environments can make us sick. The word alludes to heartfelt longing for birds singing in the woods, ancient stands and vast grasslands that once inspired and sustained us, all irradiated by madness.

To know a bee's anatomy is to understand the scale of restorative work that bees do. Olivia Carril, a biologist with Native Bee Services, outlined this in a stunning "Bees-in-Your-Backyard" talk. In another showstopper, Douglas Tallamy, a professor in the Department of Entomology and Wildlife Biology at the University of Delaware, celebrated oak trees as "nature's best hope." Everybody should plant at least one, but Tallamy recommends going further by planting several together. It's well-known that trees communicate via their root systems; in a drying universe, oaks hold humidity. During its lifetime, one tree might produce three million acorns, rich in fats and protein, a lifeline to countless species, visible and invisible. Oaks and jays have been pals for millennia. The bird buries some 4,500 acorns a season and only remembers where it hid a quarter of them, a nice savings account for other creatures.

Don't rake up your oak-leaf litter, Tallamy warns. There's a food factory under there! Don't worry about the scores of caterpillar species chewing your oak leaves. Stand back 10 feet. In essence: do nothing. Trust the birds to handle it.

Wisdom flowed. Jesse Mike, a forester with the Navaho Nation Department of Fish and Wildlife/Navaho Natural Heritage Program, explained how First Nations like the Navaho have begun projects using their ancient knowledge to propagate arid lands, but also diplomacy to guide their landowners toward repairing over-grazed tracts. The involvement of the tribes is so serious that some are even exchanging plants' scientific names for older native terms.

Each day closed with a panel of small commercial growers, a sampling of the army at the heart of this enterprise. Ten dedicated farmers spoke of rising costs and losses, triumphs with grasses, failures with forbs. But they're keeping on. Restoration means living with uncertainty. Like the weather.

¹Wistawa Szymborska, *Poems New and Collected*, translated from the Polish, New York, Harcourt, Inc., 1998, p.73.

For more information, see:

[Society for Ecological Restoration](#)

[Bureau of Land Management National Seed Strategy](#)



"The soil is the great connector of lives, the source and destination of all. It is the healer and restorer and resurrector, by which disease passes into health, age into youth, death into life. Without proper care for it we can have no community, because without proper care for it we can have no life."

— Wendell Berry from his 1977 classic, *The Unsettling of America: Culture and Agriculture*



Tom Dominguez in the SFEMG Demonstration Herb Garden
Photo by Katie Butler

2022: The Year of Soil Building

A year of soil building. SFEMG President Wendy Wilson and I have decided to designate 2022 the year in which we bring awareness to gardeners the importance of soil building and educate folks on how to get that accomplished. Where else to focus our efforts but with the basis of all plant life, soil. Not dirt but soil. I read somewhere that dirt is what you get under your fingernails and soil is what you plant into and from which all sustenance is derived. How true. Whether you are growing flowers for esthetic value or vegetables for consumption you must grasp the essential knowledge of building up soil and soil properties.

I will begin this effort by talking about a few basic principles that will help you get on your way to a successful start at gaining knowledge in terms of understanding soil building and soil health. One of the most limiting factors in terms of plant growth and gardening in New Mexico is the absence of organic matter. In most instances if you improve the content of organic matter in your soils you improve the ability for it to sustain plant life, thrive and produce healthy fruit whether it is a flower, nut, fruit or vegetable.

Organic matter comes in many different forms but for the most part consists of decomposing plant-based matter that when added to the soil decomposes further, improving the soil texture to help it retain water and feed beneficial microbes. All of these are essential for root and plant growth.

What is “soil organic matter?” It’s usually mix of decomposing organic matter, stabilized organic matter, living organisms and fresh materials like manures and compost. Soil organic matter can be divided into active and passive fractions. The active fraction contains living organisms, organisms that have died and fresh material that can serve as food for living organisms (recent manures, plant material, compost, dead organisms). Soil organisms play a key role in recycling nutrients into forms that plants can use.

The passive fraction is composed of carbon compounds that are hard to decompose. These include humic substances and fulvic acids, glomalin and other organic compounds. These substances help improve the qualities of soil that we equate with a good soil for a farm or garden; collectively, they can be referred to as humus.

Throughout the year — in future newsletters, workshops and online classes — we will share more information about soil building and composting. We’ll provide more information about soil sampling and testing in a future newsletter. I hope that many Master Gardeners and interns can share the enthusiasm of building up our soils by joining the SFEMG’s Santa Fe Composting Action Team (SCAT). I for one plan on playing a more active role in this project by participating in their meetings, leading workshops and presentations and recruiting volunteers.

Happy Gardening!

Tom

A Message from SFEMG Board President Wendy Wilson



I don't want to admit I have a problem, but since November I've acquired at least 15 new gardening books. Some I find after watching a webinar, some are new books by landscape designers I want to emulate, some are "suggestions" after I've ordered another book. Then, the plant and seed catalogs start to arrive. Some before Christmas. It's too much.

This year the Santa Fe Extension Master Gardeners (SFEMG) are your source for gardening information and inspiration. We work in collaboration with several gardens around town including the Randall Davey Audubon Center & Sanctuary on Upper Canyon Road and the Garden at El Zaguán at the Santa Fe Historic Foundation site in the heart of Canyon Road. Each of these gardens has excellent examples of how native, xeric and water-wise plants can be paired with historic, beloved old-fashion favorites. These gardens have new plant identification signs to help you decide what would be good in your gardens.

The Harvey Cornell Rose Park at the corner of Galisteo Street and Cordova Road is a collaboration among the Santa Fe Rose Society, the city of Santa Fe and the SFEMG. This year, the public is invited to join us for three instructional sessions: Rose Pruning Clinic from 9-11:30 a.m. on Saturday, April 9; Deadheading Roses from 9 a.m.-noon on Saturday, July 9; and Weeding, Winter Prep and a Garden Summary from 9 a.m.-noon on Saturday, Aug. 20. Additional educational and community days will be listed on the SFEMG public calendar.

The SFEMG also supports Demonstration Gardens at the County Fair Grounds. These gardens are open for the public to peruse anytime the County Extension Office is open. The herb and vegetable gardens have perennial (come up every year) and annual (one-season plants) displays. By visiting these gardens over the course of the growing season and speaking with our Master Gardeners, you can learn when and how to plant, cultivate, harvest and use vegetables and herbs.

The cactus garden has a vast array of cacti that thrive in our region. Stop by during the blooming season, mid-to-late May. You will be dazzled by the display of blooming cactus!

The Santa Fe Compost Action Team (SCAT) has a demonstration area that features several different methods of composting. Our organizational theme for 2022 is "The Year of Soil Building," and creating compost is the first step to building healthy, productive soil.

Finally, there are a new series of xeric, native and water-wise gardens at the County Extension Office. Our Santa Fe Native Plant Project (SNaPP) group has reclaimed the construction area on the west side of the office. There are examples of water catchment in above-ground cisterns, swales to slow water for better absorption and a selection of plants that secure the soil, clean the water and feed the pollinators and birds. On the south and east side of the office, SNaPP has planted pollinator gardens in conjunction with the Xerces Society.

Santa Fe Extension Master Gardeners are always available to answer your gardening questions. You can pose your gardening questions online at Ask a Master Gardener (AAMG) via our website: sfemg.org. During the growing season we will have many community days with knowledgeable Master Gardeners and interns available to answer your questions. Additionally, there will be staffed AAMG tables at: Reunity Resources, the Santa Fe Farmer's Market at the Railyard and the Market Del Sur at Presbyterian Santa Fe Medical Center (which reopens in July), and the Eldorado Farmers' Market. All available dates, times and locations will be posted on the SFEMG calendar in April.

We look forward to growing with you this season.

Wendy

Backyard Bugs

Gall Wasps (family Cypinidae)

By Pam Wolfe

In addition to the news of the world that arrives daily in my inbox there is a collection of updates from the last 24 hours from [iNaturalist](#). My filters are Hymenoptera and New Mexico. For the past two months the new photos have been almost exclusively from the tribe [Cynipini](#) - oak gall wasps. Images are not of the wasps themselves but the galls that form on leaves and twigs to feed and protect the developing larvae.



Peppermint candy? No, gall of *Atrusca capronae* on *Quercus turbinella* (scrub oak).
Photo by Liz Makings via SEINet Portal Network ([CC BY-SA](#))

Gall production is complex and not well understood. The gall is a growth of the plant's own tissue, likely stimulated by secretions deployed at egg laying or from the developing larva. Galls come in a stunning array of [shapes, sizes and textures](#).

There are at least 600 species of gall wasps in North America; most are found on oaks or roses. Some species have an annual life cycle and produce a single gall, while others have two generations, two gall types, and require up to three years to complete a cycle. Gall wasps are parasitic, but in most cases no appreciable harm is done to the host plant. There are numerous parasitoids (hyper parasites) and inquilines (other insects that feed on the gall tissue) that can change the appearance of the gall and destroy the larvae.



Heath Aster (*Symphotrichum ericoides*) By Deborah Madison

One of my favorite fall flowers is an aster — not the robust purple one that is always so plentiful – but the smaller white one known by its common name, heath daisy or heath aster or by its scientific name, *Symphotrichum ericoides*. Heath asters go by other names, too, such as snow flurry, calico, white aster, prairie aster, and frost aster. It's also called Farewell to Summer. Regardless of the name, here they bloom in late fall.

There are 17 species of *Symphotrichum* listed in *Flora Neomexicana*.



Photo courtesy of Ries Lindley, SEINet

S. ericoides is native in most of the lower 48 states and Canada — a pretty big area. In any case, it's happy where I live, in Galisteo, where I find it every October in the creek bed, which is ever drier. And this year I noticed for the first time that it has formed colonies around people's homes, especially where there was moisture and soil. Among the goldenrods that begin to bloom before the heath asters, are hundreds if not thousands of these delicate, small, white blossoms with golden centers. They cling to branches and make a flurry of white. The leaves are alternate, larger at the bottom, and the blooms are small and many, only 1/2 inch across.

Native Americans once used heath aster in sweat baths. A wide [variety of insects are attracted](#) to the flowers, including various species of butterflies and many bees, wasps, flies, moths, beetles and plant bugs. This fall, which was warm, honeybees went to the asters as well as the hummingbird feeders for food.

Landscape use and Propagation: Like all asters (and other members of the Asteraceae family, such as dandelion), their seed is wind borne, but they also have rhizomatous roots, which aid in their spreading habit. Unlike the large purple asters, which are always visible in my garden, I can never find a trace of the heath asters in the winter. With that in mind I have picked a few seeds (the brown stems snap easily) in hope of introducing them to my garden in a very casual way. While I have gotten a few plants to grow I would love to have the problem of having way too many. Still, a little voice

Continued on Page 8

Continued from Page 7

is telling me to be careful what you ask for. According to the [USDA](#), the variety can become weedy in disturbed areas. They also come back even stronger after a fire which, sadly, is something to consider today. Another member of this family, the Jerusalem artichoke, absolutely took over an area for many years.

Plant type: herbaceous perennial

Bloom time: late summer, early fall

Size: 2 to 3 feet tall, 1.5 feet wide

Sun: full sun to part shade

Soil: This plant is at ease with different soils and habitats: pastures, sunny or semi-sunny areas, dry or moist areas, sandy, gravelly and rocky soils, disturbed soils, dunes, shores, prairies, and roadsides.

Water: very low

USDA zones: 3-10

Reference:

Flora Neomexicana III: An illustrated identification Manual, 2nd ed, Kelly W. Allred, Eugene M. Jercinovic, Robert DeWitt Ivey. Lulu, 2020



Symphyotrichum sp. on the roadside in Galisteo
Photo by Pam Wolfe

Calendar

Note: Santa Fe Community College requires proof of vaccination for all in-person classes. For more information visit sfcc.edu/covid. For a list of current SFCC Continuing Education "Home and Garden" courses, see pages 12-13 in the [spring schedule](#). \$ means there is a fee. The acronym "phc" means Master Gardeners can earn 1 credit hour of Continuing Education for each hour attended.

Feb. 10-11 at Embassy Suites by Hilton Albuquerque
[Think Trees: An Urban Tree Care Conference — Healthy Arborist, Healthy Trees, Thriving Communities](#)
1 CE phc / \$

Feb. 8 at Santa Fe Community College
[A Rose by Any Name is Easy to Grow](#)
2 CE / \$

Feb. 12 online through Santa Fe Community College
[Simple Greywater Systems](#)
3 CE / \$

Feb. 13 at Santa Fe Community College
Introduction to Farming with Water (four-hour course offered on three different dates)
[Feb. 13](#) / [March 26](#) / [May 7](#)
4 CE / \$

Feb. 15 at the Santa Fe Community College
[Gardening Good Enough To Eat](#)
2 CE / \$

Feb. 22 at the Santa Fe Community College
[Garden Superstars](#)
2 CE / \$

March 1-3 (three-day online event)
[Best Practices for Pollinators Summit](#)
Pollinator Friendly Alliance and the Xerces Society
1 CE phc / \$

March 1 at Santa Fe Community College
[Right Plant, Right Place](#)
2 CE / \$



Botanical Gardens World Tour (online)

The Smithsonian Institution

Feb. 13 - [Betty Ford Alpine Gardens and Western Australia Botanic Garden](#)

Feb. 20 - [Chenshan Botanical Gardens and Huntsville Botanical Garden](#)

Feb. 27 - [Innisfree and Fairchild Tropical Garden](#)

1 CE phc / \$

New & Noteworthy

Have you recently read a gardening-related article or book, visited a horticultural website or blog, listened to a podcast, or seen a nature show or documentary you think other gardeners would enjoy or find useful? Send a link to the newsletter (news.sfemg@gmail.com) and we'll try to include the information in the next issue. **Note that some of these sources may have paywalls.**

[“Words for around here: Gardening terms for new Santa Fe gardeners”](#) by Laurie McGrath, shared with permission from *HOME/Santa Fe New Mexican* (January 2022)

[“Falling, shedding, holding on: The cycle of leaves”](#) by Laurie McGrath, shared with permission from *HOME/Santa Fe New Mexican* (November 2021)

[“Acequias Brace for a Future of Water Scarcity”](#) by Paula García, *Green Fire Times* (January-February 2022 issue, page 16)

[“This map may make you feel better about the state of the planet: Here’s where nature is, in fact, healing”](#) by Benji Jones, *Vox* (Jan. 21, 2022)

[“Charles Dowding’s three tips for soil care and no-dig gardening”](#) by Charles Dowding, *House & Garden* (Jan. 17, 2022)

[“A 250-year-old walnut tree was chopped down in Ohio. A Brother and sister were hit with felony charges”](#) by Julian Mark, *The Washington Post* (Jan. 14, 2022)

[“The gardening trends to look out for in 2022”](#) by Clare Foster, *House & Garden* (Jan. 7, 2022)

[“Over 5,000 Foods Are at Risk of Going Extinct — Here’s Why That Matters”](#) a review of Dan Saladino’s book, “Eating to Extinction: The World’s Rarest Foods and Why We Need to Save Them,” by Bridget Shirvell, *Martha Stewart Living* (Jan. 7, 2022)

[“10 New Year’s Resolutions for the Gardener”](#) by Kier Holmes, *Gardenista* (Jan. 3, 2022)

[“Forty Facts About Irises: Beautiful Flowers and Useful Plants”](#) by Linda Crampton, *Owlcation.com* (Jan. 3, 2022)

[“The Old Man and the Tree”](#) by Jonny Diamond with photographs by David Degner, *Smithsonian Magazine* (January 2022)

[“The Guerilla Gardeners of TikTok”](#) by Becca Inglis, *Mic* (Dec. 24, 2021)

[“Here’s What the Future of the American Garden Looks Like”](#) by Tracey Minkin, *Veranda* (Dec. 16, 2021)

[“\(Human\) Waste Not, Want Not”](#) by Susan V. Fisk, Soil Science Society of America (Dec. 13, 2021)

[“Required Reading: The View From Federal Twist”](#) by Kendra Wilson, *Gardenista* (Nov. 23, 2021)

[“A potato named Doug may be the largest ever unearthed,”](#) *CBS News* (Nov. 4, 2021)

The Garden Journal Radio Show



**Every Saturday
10 to 10:30 a.m. on KSFR 101.1 FM**

February 5: Slow Food Santa Fe Edition

Hosts Lissa Johnson and Nina Rosenberg talk with Pam Roy, executive director and co-founder of the New Mexico Food & Agriculture Policy Council, about the current legislative session.

February 12: SFEMG Edition

Carolyn Donnelly, water operations supervisor in the U.S. Bureau Of Reclamation's Albuquerque Area Office, joins host Christine Salem to discuss the workings of the federal water system in New Mexico. This program is the fifth in a series on the New Mexico's water crisis.

February 19: Soil Stories Edition

Carrie Core presents another guest engaged in creating heathy soil.

February 26: Home Grown New Mexico Edition

Jannine Cabossel, "The Tomato Lady", shares tips and techniques for backyard vegetable gardening. See more at [Giant Veggie Gardener](#).

Schedule subject to change.
To listen to previous broadcasts, click [here](#).



We are here to help!

If you have a gardening question,
Santa Fe Extension Master Gardeners
are available to help.

Just go to sfemg.org and pose your
question. Someone will get back to you.