

Wildfires: An Inherent Part of Our Ecosystem By Peggy Rudberg



Looking south from New Mexico State Road 518 toward burn scars from the Calf Canyon/Hermits Peak Fire. Photo taken just north of Holman, New Mexico, on Aug. 16, 2022.
*Photo courtesy Matthew.kowal - Own work, CC BY-SA 4.0,
<https://commons.wikimedia.org/w/index.php?curid=122401687>*

This past June I traveled to Mora County to see what the land and forest looked like after last year's Calf Canyon/Hermits Peak Fire of over 340,000 acres. I saw freestanding chimneys rising from charred foundations and bare tree profiles lining hilltops. But there were also lush meadows and healthy stands of trees. What I saw was consistent with large-scale fires. Fire severity varies throughout large burn areas resulting in a patchwork of green and black, creating different habitats. Less than 25 percent of the Calf Canyon/Hermits Peak Fire burned at high intensity and almost 50 percent was either low intensity or unburned. While the loss of familial homes in a deeply rooted community is truly heartbreaking, it is the effect of fire on nature I am investigating.

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SAVE THE DATE! Ask a Master Gardener

Master Gardeners will be in the Botanical Garden on **Monday, September 4 (Labor Day)**, to answer your gardening questions and discuss good gardening practices.

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More Words, Please

In my August "Note to Readers" I asked those who were game to send me up to three words or three two-word phrases that best described their experience gardening in Santa Fe County. My goal is to build a word cloud with your responses. I heard from a few readers but hope to hear from a few more of you before creating something for publication in the October issue.

Please send your responses to news.sfemg@gmail.com by Friday, Sept. 15, with Word Cloud in the subject line.

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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Here are the basics of wildfires. Wood burns at about 572° Fahrenheit. When wood reaches this flash point, it releases combustible gases that mix with oxygen and ignite. Where it goes from there depends on fuel, weather and geography.

To quote author and fire expert Stephen J. Pyne, “The Southwest is built to burn.” New Mexico has mountains and gorges, plains and plateaus – often with abrupt transitions full of remote dry pockets with little access. Our moisture comes in winter and late summer, leaving a long waterless spring with strong winds coming in March and April. Our monsoon cycles began around 9,000 years ago but are sporadic. Some years torrents of water flood the land; other years rain is scarce. Because of our aridity, deadfall and underbrush is slow to decay, leaving an abundance of fuel for lightning to spark into wildfires. New Mexico averages millions of lightning strikes per year.

Four hundred million years ago fire and plants began their co-evolution as plants developed adaptations to cycles of fire. Pyrophytes are fire-resistant plants or plants that depend on fire to propagate. Thick bark protects living tissue in low-intensity fires on trees like Douglas fir (*Pseudotsuga menziesii*). Plants such as manzanita (*Arctostaphylos* spp.) have lignotubers, underground organs that produce buds after an above-ground plant is destroyed. Fire stimulates and increases the germination of plants such as sumac (*Rhus* spp.) and wax currant (*Ribes cereum*) or melts the resin that seals the seeds inside the serotinous cones of many western pines. Grasses have evolved with rhizomes, underground roots that produce shoots after fire sweeps over the surface, killing the upper plant. Fire patterns evolve as plants vanish or appear, changing the biome. Humans also became an influence.

Preconquest Native Americans managed their environment with fire for at least 4,000 years, using frequent low-severity controlled burns for everything from driving animal herds and clearing travel pathways to cultivating oak orchards and maintaining prairie health. Native cultures that farmed used controlled burns to enrich the soil for agriculture and to kill weeds and pests. Organic burned materials temporarily improve soil quality by releasing nutrients to the soil. Wood ash contains calcium, magnesium, phosphorus and potassium, fundamental to plant growth but raising the pH level. Historical burn intervals ranged from years for grasses to centuries for boreal forests.

After a wildfire the pattern of change in the ecology of an area is called succession. Weedy annuals and plants that like ashy soil like fireweed (*Chamerion angustifolium*) are usually followed by grasses. Then larger shrubs appear such as sagebrush (*Artemisia* spp.), New Mexico Locust (*Robinia neomexicana*) or honey mesquite (*Prosopis glandulosa*) depending on the ecoregion. At higher elevations shoots spring up from the underground roots of aspens (*Populus* spp.) and willow (*Salix* spp). As organic material decomposes and builds up soil, the climax forest begins, allowing the former plant community to reestablish itself. As land cover and use is altered, which plants are reestablished changes.

Desert plants like saguaros (*Carnegiea gigantea*), which evolved in an environment where fire was rare, are easily killed and rarely resprout. It can take a hundred years for a desert landscape to reestablish vegetation while grassland will usually recover quickly. Recovery also depends on the severity and intensity of the fire.

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Fire ecology is still a young field, but researchers have found that wildfires result in increased diversity and improved forest habitat. The young burnt woodlands attract a profusion of new insects, new fungi, new plants and new animals. Beetles rush in, lay eggs, attract predators and birds, and so on up the food chain. Mora County will rebuild and nature will regenerate, but wildfires will continue to be an inherent part of our ecosystem.

References:

National Park Service Series: "[Wildland Fire – Learning in Depth.](#)"

Powell, Hugh. June 17, 2019. "[Old Flames: The Tangled History of Forest Fires, Wildlife and People.](#)" The Cornell Lab.

Pyne, Stephen J. "[The Southwest: A Fire Survey.](#)" The University of Arizona Press. 2016.



Photos courtesy Peggy Rudberg



A Message from SFEMG Board President Anne Rivas

The weather is cooling off and we're getting rain again. What a relief! I'm looking forward to fall and enjoying the signs that it's on its way. As much as I love gardening, I have to say that fall has always been my favorite season. While I love getting outside and putting my hands in the dirt after the winter, I come alive as the weather gets colder. I look forward to the last weeding of the season, to spreading compost and mulch, and to planning for next year. I still hope to deal with the Russian sage (*Salvia yangii*, previously known as *Perovskia atriplicifolia*), plant some cold-weather grasses and make some new pathways using gravel saved when we replaced our roof last summer.

Fall is a good time to plant bulbs, some perennials, shrubs and trees. I'm already looking through catalogs to see what I might want to add to my landscape. I've spent the summer watching butterflies and hummingbirds visiting the pot of Purple Coneflower (*Echinacea purpurea*). I will leave the seed heads through the winter for the birds, and because they're pretty to look at.

In my lower garden the Santa Fe Maximilian's Sunflower (*Helianthus maximiliana* 'Santa Fe') is preparing to bloom. The Bee Balm (*Monarda fistulosa*) had a few flowers that are fading now, and the White Prairie Clover (*Dalea candida*) bloomed for the first time. The Spanish Blue Flax (*Linum narbonense*) bloomed for a month and a half this spring and is covered with seeds now. Since this is the second year for this garden, I am thrilled with how well it has done. Some plants that I thought were gone forever have come back from the root this summer and made it through the extremely hot weather with some extra water. Two of the Missouri Evening Primrose (*Oenothera macrocarpa*) have resurfaced, along with Ironweed (*Vernonia lettermanii*) and Dotted Blazing Star (*Liatris punctata*).

Golden Spur Columbine (*Aquilegia chrysantha*), Redbirds in a Tree (*Scrophularia macrantha*), Black-eyed Susan (*Rudbeckia hirta*), and Coral Bells (*Heuchera sanguinea*), planted last year in containers, came up again this year. Arizona Honeysuckle (*Lonicera arizonica*), planted last year, and Major Wheeler honeysuckle (*Lonicera sempervirens* 'Major Wheeler'), planted in 2021, are thriving in containers.

All in all, it has been a good summer even though the weather was cold to start with and then turned beastly hot overnight. The cooler weather and occasional rain are more than welcome to stay for a while.



Abert's Creeping Zinnia (*Sanvitalia abertii* A. Gray)

By Kathy Haq



Photo courtesy Pam Wolfe

Abert's Creeping Zinnia (*Sanvitalia abertii*) is a low-growing annual herb that typically appears on the banks of the arroyo that crosses our property in response to the annual monsoon rains. Reaching only about a foot tall, the plant's deep green leaves and bright yellow flowers with their widely spaced petals are attractive to both humans and pollinators. Also known as Abert's *Sanvitalia* and Abert's Creeping Zinnia, this plant gets its name from the *Sanvitali* family of Parma, Italy, and the American explorer and topographer James William Abert (1820-1897), who led an expedition to the Southwest in 1845.

Native to the southwestern United States and Mexico, it is found in Arizona, California, New Mexico, Nevada and Texas. According to Allred's "Flora Neomexicana III," there are five species of *Sanvitalia* in the New World; *Sanvitalia abertii* A. Gray, is the only one native to New Mexico. A member of the Aster (Asteraceae) family, the plant is listed as "rare, threatened or endangered" in California but is commonplace in other settings where grown. It's found on dry slopes, scrubland and in Piñon-Juniper Woodland.

The Diné or Navajo people used this plant medicinally to treat a variety of ailments. The "[Native American Ethnobotany Database](#)" shows that it was used to increase perspiration, treat skin sores and canker sores, headaches, fever, menstrual pain, colds, sore throats and even snake bites.

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Landscape use: This plant does well along walkways and in rock gardens. It is also used in container gardening and hanging baskets.

Planting and care: Sow seeds on the soil surface before the last spring frost. Plants should be widely spaced to give the roots room to grow.

Propagation: This plant is best propagated from seed.

Plant type: Annual herb from a taproot

Bloom time: August-September

Size: Up to about 1 foot tall

Sun: Full sun

Soil: Well-drained

Elevation: 3,500-8,000 feet

Water: Low to very low

References:

“Flora Neomexicana III: An Illustrated Identification Manual,” 2nd ed. by Kelly W. Allred and Eugene M. Jercinovic. Illustrated by Robert DeWitt Ivey. Lulu, 2020.

California Native Plant Society, [Rare Plant Program](#).

Home Stratosphere.com, “[6 Different Types of Sanvitalia Flowers: *Sanvitalia albertii*.”](#)”

Littlefield, Larry J., and Pearl M. Burns. “Wildflowers of the Northern and Central Mountains of New Mexico.” University of New Mexico Press (2015).

[“Native American Ethnobotany Database”](#)

[“Southwest Desert Flora”](#)



Photo courtesy Kathy Haq

Backyard Bugs

Sand Wasp (*Ammophila* spp.)

Narrative by Pam Wolfe



Adult sand wasp nectaring on prairie coneflower (*Ratibida columnifera*) with a dozen flower beetles. Looking like the prototype for a Star Wars ground trooper, this species of *Ammophila* has reflective silver hairs on her thorax to protect her from the summer heat. Photo courtesy Kaitlin Haase

A cosmopolitan genus in the hunting wasp family (Sphecidae), *Ammophila* consists of over 200 species, with more than 60 in North America alone. *Ammophila* is Greek for “sand lover”; many species will dig their nests in sand. Solitary wasps, *Ammophila* spp. provision their offspring with a variety of prey items, but commonly a moth or sawfly larva will be placed in the nest, the egg laid on the larva, and the developing wasp larva will feed on the caterpillar. There are several generations per year.

This predator has its own predators. Birds, of course, the occasional assassin bug, and parasitic flies including “satellite flies” (*Senotainia vigilans*). The female fly will follow a wasp laden with a caterpillar and deposit live larvae at the mouth of the nest.

Bug Eric’s [Wasp Wednesday](#) featured *Ammophila* spp. for a month in 2010. Take four minutes to enjoy this [video](#) of a female provisioning her nest.

Calendar

Please read the fine print!

- Master Gardeners must complete 10 hours of continuing education (CE) by Nov. 30 and are encouraged to record CE credit hours in [Track It Forward](#) as soon as possible after completing the activity.
- If there is a dollar sign, there is a fee.
- **Many of these courses require pre-registration.**
- The acronym "phc" means Master Gardeners can earn 1 credit hour of continuing education for each hour attended.
- If there are other opportunities, suggestions, or questions please send them to Stephanie Deutsch: deutsch.stephanie@gmail.com

7:30-8:30 p.m. Friday, Sept. 8

["Nighttime Mothing"](#)

Santa Fe Botanical Garden / \$ / 1 CE

8:30-10:30 a.m. Thursday, Sept. 14

[Garden Conversations: Christie Collins discusses "Pollinator Diversity in the Garden"](#)

Santa Fe Botanical Garden / \$ / 2 CE

7-8:30 p.m. Thursday, Sept. 14

["Water Conservation at Home"](#)

Pajarito Environmental Education Center/ Live Stream Webinar + In Person / Free / 1.5 CE

11:30 a.m.-2:30 p.m. Friday, Sept. 15

[Scott Black Lecture and Lunch: "Pollinators and Climate Change"](#)

Scott is the executive director the Xerces Society for Invertebrate Conservation

Santa Fe Botanical Garden / \$ / 2 CE

8:30-10:30 a.m. Saturdays, Sept. 16 and 23

["Sustainable Gardening"](#)

New York Botanical Garden / \$ / 4 CE total (2 per class)

6:30-7:30 p.m. Tuesday, Sept. 19

[Santa Fe Cactus and Succulent Club Monthly Meeting](#)

Free and open to the public / 1 CE

3-4 p.m. Wednesday, Sept. 20

["Container Gardening: Raised Beds & Potted Plants \(indoors & out!\)"](#)

With John Garlisch, Bernalillo County Agriculture and Natural Resources Agent

NMSU Ready, Set, GROW! webinar series / Free / 1 CE

11 a.m.-Noon Thursday, Sept. 21

["Fall Gardening for Pollinators: Creating a Resilient Garden for All Seasons"](#)

The Xerces Society for Invertebrate Conservation / Free / 1 CE

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Free Online Courses Available On Demand From the Smithsonian's "Let's Talk Gardens" Video Library

["Making Homes for Native Bees – A Chat with Dr. Holly Walker"](#) / 1 CE

["Creating Beautiful Landscapes for Pollinator and Wildlife Habitats:
Smithsonian Gardens to Your Front Yard"](#) / 1 CE



Let's Grow is a **free public education series** for home gardeners and the garden-curious who want to learn about soil, compost, native plants, creating habitat for pollinators and more! Mark your calendars! No registration required.

SEPTEMBER

**1-3 p.m. Saturday, September 30 | Save Seeds & Contribute to the Resiliency of Santa Fe Gardens
Under the Exhibit Hall portal, Santa Fe County Cooperative Extension Campus, 3229 Rodeo Road**

Learn the basics of harvesting, processing and storing a variety of seeds, and experience hands-on demonstrations with materials covering basic seed-saving methods for vegetables, herbs and flowers.

Presented by Santa Fe Seed Stewards and Master Gardeners Diane Pratt and Susie Sonflieth.

In case you missed it ...

If you didn't make it to the Aug. 5 Garden Party celebrating the 20-year partnership between the Master Gardeners and the Randall Davey Audubon Center & Sanctuary, you might want to make your way to the top of Canyon Road in the coming weeks. The Wildlife Native Plant Garden is brimming with life, including a profuse showing of Cowpen daisy (*Verbena encelioides*), Rocky Mountain Bee Plant (*Cleome serrulata*) and wax currant (*Ribes cereum*). The setting is alive with pollinators including hummingbirds and other birds that stop at this site to feed. – Kathy Haq



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. The articles were published in 2023 unless otherwise indicated. **Note that some of these sources may have paywalls or advertisements.**

["The late-summer perennial garden"](#) by Emeritus Master Gardener Laurie McGrath, *HOME/Santa Fe New Mexican* (Aug. 6)

["How Indigenous Techniques Saved a Community From Wildfire"](#) by Ian Austen, *The New York Times* (Aug. 27)

["The Benefits of Deep Mulching"](#) by Royce Hale, farm education coordinator, Denver Botanic Gardens (Aug. 23)

["10 Perennials You Should Cut Back Every Fall \(And 5 to Let Be\)"](#) by Lisa Meyers McClintick, *Birds & Blooms* (Aug. 23)

["Is Beekeeping Wrong?"](#) by Sam Knight, *The New Yorker* (Aug. 21)

["All Ears"](#) by Lois Ellen Frank and Walter Whitewater, *Santa Fe New Mexican* (Aug. 18)

["Lavender is a fragrant, low-effort addition to your garden – if you plant it correctly"](#) by Alice Vincent, *The Guardian* (Aug. 18)

["Should I deadhead yarrow? Gardening experts share their knowhow for more blooms"](#) by Sarah Warwick, *Homes & Gardens* (Aug. 18)

["The power of plants and how they are changing the way we eat and live"](#) by Megan Borders, University of New Mexico press release (Aug. 17)

["An invasive hornet that hunts honeybees is spotted in the U.S. for the first time"](#) by Bill Chappell, *NPR* (Aug. 17)

["Landscape Design: 10 Tips for a Fire-Safe Garden"](#) by Barbara Peck, *Gardenista* (Aug. 15)

["Looking for the best plant care app for your collection? Here are our favorites"](#) by Stacey Nguyen, *HappySprout.com* (Aug. 9)

["Citizen Science Leads to Discovery of New Wasp Species on Garden Grounds"](#) by Fort Worth Botanic Garden staff (Aug. 3)

["NMSU to launch program to train high school teachers on agriculture, sustainability"](#) by Carlos Carrillo López, NMSU press release (Aug. 1)

["NMSU part of \\$20 million grant to prepare Hispanic students for agricultural careers"](#) by Carlos Carrillo López, NMSU press release (July 27)

The Garden Journal Radio Show



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

September 2: Slow Food Santa Fe Outloud Edition

Slow Food Santa Fe's Lissa Johnson and Nina Rosenberg interview Mat Ladegaard, owner of Ground Stone Farm in Nambé, and grower Jared Hagood, founder of Lineage Seeds, two participants [in Slow Food Santa Fe's upcoming annual Farm Tour](#) on Wednesday, Sept. 6.

September 9: SFEMG Edition

Alexa Bradford talks with Carl Beal, center manager for the Randall Davey Audubon Center & Sanctuary, and Master Gardeners Project Lead Colleen Madrid, about Santa Fe's historic bird sanctuary and the unique 20-year Audubon Center/Master Gardeners partnership that supports the Sanctuary's gardens and native plants for wildlife.

September 16: Food, Farms and Friends

Join guest host Kayleigh Warren of Tewa Women United and producer Carrie Core for another "A Seat at the Table" segment of Food, Farms and Friends. TWU Wellness Coordinator Pilar Trujillo and Reproductive Justice Program Manager Carmella Quam will discuss "Land as Body, Food as Medicine."

September 23: Santa Fe County Cooperative Extension Service Edition

Extension Office Director Tom Dominguez talks with Alexa Bradford about upcoming events and new initiatives. See more at: <https://santafeextension.nmsu.edu/index.html>

September 30: The Giant Veggie Gardener Edition

Host Alexa Bradford talks with Jannine Cabossel, "The Tomato Lady," about what to plan for in the vegetable garden in October. See Jannine's blog at [Giant Veggie Gardener](#).

You can find past episodes of "The Garden Journal" [here](#).



We are here to help!

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

You can pose your questions online [here](#).

We'll do some research and get back to you.