



# Sandoval Extension Master Gardener Newsletter

<http://sandovalmastergardeners.org/>



Sandoval County

New Mexico State University • Cooperative Extension Service • U.S. Department of Agriculture

Steve M. Lucero,  
County Program  
Director

Rachel Zweig  
County Extension  
Agent

Sandoval County  
Extension  
PO Box 400  
Bernalillo, NM 87004

Physical Address:  
1500 Idalia Rd, Bldg D  
Administration  
Room 1049  
Bernalillo NM 87004

Ph: 505-867-2582  
Email: [Sandoval@NMSU.edu](mailto:Sandoval@NMSU.edu)

NMSU and the U.S.  
Department of  
Agriculture cooperating.

**SEMG Newsletter  
Submissions  
Deadline: 25<sup>th</sup> each mo.**

Please submit news,  
articles, events and  
photographs to:  
[newsletter@sandovalmastergardeners.org](mailto:newsletter@sandovalmastergardeners.org)

Editor:  
Kate Shadock

February

## Meg Buerkel Hunn, Advisory Council Chair

It's February, so we've gotta talk LOVE, right?!

A friend of ours who moved to Taos decades ago is trying to live in a way that communicates LOVE for the world, LOVE for his neighbors, LOVE for the land. So, he's got this goal in mind: 25-75-100, that by 2025, 75% of what he eats will come from within 100 miles of his home (he still loves chocolates and Italian wine!). LOVE for him means a smaller 'footprint,' support for neighbor farmers, care for the land. He's on his way... his garden provides some food for his family - it grows Swiss chard really, really well. He found the only problem was that he doesn't really like the taste of Swiss chard. Now he is also on a mission to train his taste buds to enjoy - perhaps even learn to LOVE Swiss chard.



*Photo: Pine in the Jemez By : Meg Buerkel Hunn*

That got me thinking. Having lived east of the Mississippi from birth until 2018, I had certain ideas of what constitutes 'beauty' and 'bounty' in a place. I moved here and instantly fell deeply in LOVE with New Mexico: the climate, the terrain, the people, the culture... then the 'honeymoon' ended - and the sun scorched the greens away, drought hardened the ground and withered leaves, and there were no daffodils or tomatoes in our yard. My daughter, who was four when we moved here said, "It's all brown, everything is brown, the houses are brown, the ground is brown, it's all brown." She, too, was accustomed to lush green grass under tall leafy trees and the colorful Victorian homes of our old neighborhood.

Some of us East-Coast transplants have added chemicals and water-thirsty plants and expanses of grass to alter our high desert into a land that mimics the east coast definition of beauty and bounty. This comes at great cost.

I wonder how we can collectively transform our eyes and hearts (and taste buds) to better LOVE and see and enjoy the natural landscapes, plants, and foods that grow here? This collective transformation falls under our mission statement to educate and serve our communities in sustainable high desert gardening practices.

My friend up in Taos is trying out new recipes for his excess amounts of Swiss chard, he's putting it in casseroles, disguising it in soups, hiding it in smoothies. Little bits here and there... and he's finding ways to eat it - sometimes even enjoy it!

Likewise, we can help transform what constitutes beauty and bounty for the people here in Sandoval County, New Mexico. We can plant small and large gardens that highlight wise watering practices and native plants. We can nurture pollinator plants. We can help children plant seeds and taste produce straight from the garden. We can support local farmers and growers. We can educate and inform those around us in sustainable high desert gardening practices.



*Photo: Bosque Trees by Meg Buerkel Hunn*

As for me and my household... These years have helped us see great beauty in the landscapes that surround us, and all those different browns have embedded themselves deep into our hearts. We are trying to grow food to feed us and to share with our neighbors, human and nonhuman. I cannot report great success in this endeavor yet, but we shall keep learning, experimenting, and trying - while following the science-based knowledge from NMSU and considering all the other lives with whom we share this place.

The honeymoon may be over, but a deep and abiding LOVE for here has developed. We are here for good.

*~ Meg*

**“To plant a garden is to believe in tomorrow.”**

**~ Audrey Hepburn**

## Down & Dirty with Rachel-Sandoval County Extension Agent

A recent "[Wait Wait ... Don't Tell Me!](#)" episode made fun of a report that said digging holes is relaxing. I took offense to their jibes. Digging holes and pitchforking mulch are two of the most relaxing activities for me, especially when it is in the mid-forties to mid-fifties and cloudy. (If you have chainsaw work, ask me when it's hot, humid, and sunny.) Most of us have experienced the free therapy gardening can provide – fresh air, sun, being one with the earth, nurturing our "offspring," and meditative motions all contribute. But as I dug (*pun intended*) into the digging-holes-is-relaxing report, I realized there is more to the story.



Ahhhhh....How relaxing.

Photo: R. Zweig

*Mycobacterium vaccae* is a bacterium found in the soil. When we stir up the soil, we inhale and ingest it. This bacterium could be partly responsible for the therapeutic effect of being in the dirt. *Mycobacterium vaccae* can cause the release of serotonin, which, *inter alia*, can decrease depression and anxiety. Mice fed *M. vaccae* exhibited lower anxiety and were able to complete a maze twice as fast as control mice. Cancer patients whose chemotherapy was coupled with *M. vaccae* injections didn't live longer than cancer patients who had chemotherapy alone, but they reported higher quality of life. And the benefits of *M. vaccae* could extend beyond mental health. Residents of the Long'o region of Uganda exhibited a stronger response to a

tuberculosis vaccine than people in other parts of Uganda and the world. The locals claimed that their mud could heal all manner of ailments. *M. vaccae* that was isolated was first isolated in the 1970s.

Stories of the medicinal properties of nature are widespread in indigenous culture. In Zulu, the word for medicine and tree is the same. In much of Africa, people say that women who live in villages near baobab trees will have more children. This may sound like an old wives' tale until you realize that the baobab fruit is chock full of nutrients, and better nutrition can increase fertility. Many traditional medicines and remedies are being lost, but in one sense, modern medicine isn't too far away. Several antibiotics and other medicines are derived from soil microbes. And, a Ugandan research, Grace Nambatya Kayeyune, is studying traditional medicines to determine which ones have scientific merit. One day soon, perhaps doctors will give us a prescription to go for a walk in the woods, scoop up some dirt, stick our faces in it, and take long, deep breaths. As for me, I'll keep on digging those holes. {[Reference citations on page 12](#)}

**This month for something different—plant trivia:** Israeli researchers have successfully grown fruit-bearing date palms from 2000-year-old date palm seeds from the Dead Sea area. The Dead Sea area's preservative properties and low UV radiation are thought to contribute to the long-term viability of the seeds.

Last month's puzzler: A man was looking at a picture and says, "Brother or sister, I have none, but this man's father is my father's son." Who is the person in the picture?

Last month's answer: The man's son

*"In the spring, at the end of the day you should smell like dirt."*

~ Margaret Attwood

## February Garden Checklist

1. Check garden centers for sales on pots, spring bulbs, tools and garden soil – too early for plants
2. Direct sow radishes, carrots and beets
3. Start seeds indoors for tomatoes, peppers, herbs – Sow some extra for the **SEMG Plant Sale April 30**.
4. Order roses, deciduous fruit trees
5. Leave any establishes roses alone – still too early to prune in Sandoval County

*Source: Month-By-Month Gardening: Arizona, Nevada & New Mexico*

## Public Training Opportunities

### *Ready, Set, Grow*

The second online seminar is on **February 15th at 3:00pm on Pruning Fruit Trees and Nut Trees**, presented by Richard Heerma, NMSU Extension Pecan specialist. Details on the webinars and how to register are on the website below. You need to register for each online seminar you want to attend in order to get the Zoom passcode. These are free sessions. [Register separately for each session at https://desertblooms.nmsu.edu/grow.html](https://desertblooms.nmsu.edu/grow.html)

The March presentation is Mar. 15, 2023 **Seed Propagation, Transplanting, & Seed Storage** with Danise Coon, Senior Research Specialist, NMSU Chile Pepper Institute

### *Gardening With The Masters – Meadowlark Senior Center*

Upcoming, in-person, classes, held at Meadowlark Senior Center at 7pm the 4<sup>th</sup> Thursday of the month. These classes are live and not recorded. We encourage you to join us in person, so your individual questions get answered.

February 28	Wine Making For the Home Gardener	Suzanne Bollenbach, Master Gardener
March 28	Everyone Can Grow Tomatoes	Sam Thompson, Master Gardener

### *Pre-recorded Classes*

Courtesy of COVID we adapted some of our in-person classes to Zoom, recorded them and they are available at <https://sandovalmastergardeners.org/gardening-classes/gardening-with-the-masters-online/>

# Placitas Garden Tour Donates \$1500 in December to SEMG

Sandra Liakus, SEMG 2018, Co-chair of the Placitas Garden Tour SEMG Project,  
 President of the Placitas Garden Tour, Inc.

The Placitas Garden Tour, Inc. donated \$1500 dollars to Sandoval Extension Master Gardeners (SEMG) in December for their member volunteer participation and the resulting success of the 6<sup>th</sup> Annual Placitas Garden Tour, which took place on Sunday September 11, 2022.

Thanks to the dedicated volunteer help of over 50 SEMG volunteers at the Tour and the continued support of the County Extension Master Gardener program, the Placitas Garden Tour was able to donate back to the Master Gardener program in support of their garden education and outreach to Sandoval County residents and beyond.



Photo: S. Liakus



Photo: M. Stoy

In addition to putting on an annual tour of exceptional gardens, the Placitas Garden Tour donates a portion of its annual ticketing proceeds to its participating volunteer organizations. The Placitas Garden Tour looks forward to a continued good relationship with SEMG in the future.

**The 2023 Placitas Garden Tour is scheduled for Sunday September 10.**



Image by NinilKime – Frepik

## SEMG In The News

### Rio Rancho Observer- January 30, 2023

## Sandoval Master Gardeners Celebrate 2022 Accomplishments.

By [Kevin Hendricks](#) | [Observer Staff Writer](#) | Jan 30, 2023



Representatives from the Sandoval Extension Master Gardeners were on hand at the Jan. 25 Sandoval County Commission meeting to share some of the group's accomplishments in 2022.

Advisory Council Chair Meg Buerkle Hunn and Sandoval County Agriculture and Extension Agent Rachel Zweig gave a presentation during the meeting to let the commissioners and the public know what the program does and boast at some of its accomplishments last year.

The Sandoval Extension Master Gardeners are trained by New Mexico State University horticultural specialists and instructors under the guidance of Sandoval County Cooperative Extension Service. SEMG is a volunteer organization committed to providing better gardening techniques to the community with the latest, most practical horticultural information available. The program began in 1995. There are 11 counties in New Mexico and the Navajo Nation Extension Service with active Master Gardener programs.

"The Master Gardeners is a completely volunteer organization, and the mission is to serve Sandoval County residents and sustainable gardening in the high desert," Zweig said. "It's gardening both for food and also ornamental."

New Mexico State University is an equal opportunity/affirmative action employer and educator.

The nonprofit program grew 40,000 pounds of produce in 2022 that was donated to food banks in Sandoval County and racked up over 11,000 hours of volunteer work.

“In 2022, we had 175 Master Gardeners, and I want to report and celebrate that we accomplished 11,232 hours of volunteer work in Sandoval County,” Hunn said. “When you translate that using the federal rate for volunteer work, that’s \$336,428 worth of volunteer work that our gardeners have done in this county.”

Hunn then showed off an oversized check for that amount to the commissioners and the public.



Courtesy photo.

The Seed2Need donation garden in Corrales.

The Master Gardeners also host several instructional classes, including raised-bed gardening and cooking. In 2023, Gardening with the Masters, a long-standing public education effort that had been remote since the pandemic, returns to an in-person class. These classes are led by Master Gardeners and are held at the Meadowlark Senior Center from 7-8:30 p.m. on the fourth Tuesday of every month.

“This is really important what you guys do,” District 5 Commissioner Joshua Jones said. “My great-grandmother gave me a plant when I was younger, and I think she thought it was important for me to learn how to grow things. However, I did kill that plant in short order. So I just want to recognize how important the work that you guys are doing and especially the volunteer hours that you guys put in. You know, I think it’s greatly appreciated, so thank you.”

## Over The Garden Wall: Diet for a Hotter Climate: Five Plants That Could Help Feed the World

Over the course of human history, scientists believe that humans have cultivated more than 6,000 different plant species. But over time, farmers gravitated toward planting those with the largest yields. Today, just three crops – rice, wheat and corn – provide nearly half of the world’s calories.

That reliance on a small number of crops has made agriculture vulnerable to pests, plant-borne diseases and soil erosion, which thrive on monoculture – the practice of growing only one crop at a time. It has also meant losing out on the resilience other crops show in surviving drought and other natural disasters.

As the impacts of the climate crisis become starker, farmers across the world are rediscovering ancient crops and developing new hybrids that might prove more hardy in the face of drought or epidemics, while also offering important nutrients.

“You hear all the statistics like, ‘We’ve lost 90% of our varieties’. It’s only recently that I realized the greatest sadness isn’t that we’ve lost that diversity. It’s that we don’t even know that we’ve lost that diversity,” says Chris Smith, founder of the [Utopian Seed Project](#).

Here’s a look at five crops, beyond rice, wheat and corn, that farmers across the world are now growing in hopes of feeding the planet as it warms:

### **Amaranth: the plant that survived colonization**



*Photo: The Amaranth Institute*

From leaf to seed, the entirety of the amaranth plant is edible. Standing up to eight feet tall, amaranth stalks are topped off with red, orange or green seed-filled plumes. Across Africa and Asia, amaranth has long been eaten as a vegetable – whereas Indigenous Americans also ate the plant’s seed: a pseudocereal like buckwheat or quinoa.

While amaranth leaves can be sautéed or cooked into a stir-fry, the seed is commonly toasted and then eaten with honey or milk. A complete protein with all nine essential amino acids, amaranth is a reliable source of vitamins and antioxidants.

In the Americas, Spanish colonizers banned the Aztecs and Maya from growing amaranth when they arrived on the continent. However, the plant continued to grow as a weed and many farmers saved amaranth seeds, passing them down for generations, until their descendants were allowed to grow it again.

Today, Indigenous farmers in Guatemala, Mexico and the US [are collaborating to grow](#) this drought-resistant crop. Like fonio, an African grain, amaranth is not a new crop, but one that is experiencing a resurgence as communities adapt to the climate crisis. “Everything that’s new was old once,” said Matthew Blair, a professor at Tennessee State University and co-president of [the Amaranth Institute](#). Amaranth has found its way into European kitchens, with Ukraine coming in as the crop’s largest producer on the continent.

New Mexico State University is an equal opportunity/affirmative action employer and educator.

**Fonio: the drought-resistant traditional grain**

For thousands of years, farmers across west Africa have cultivated [fonio](#) – a kind of millet that tastes like a slightly nuttier couscous or quinoa. Historically, fonio is considered to be Africa’s oldest cultivated cereal and was regarded by some as the [food of chiefs and kings](#). In countries such as Senegal, Burkina Faso and Mali, fonio would be served on holy days, like at weddings and during the month of Ramadan.



Photo: Healthline.com

Today, attention is increasingly focused on fonio [for its resilience and health benefits](#). As the climate continues to change, fonio’s drought resistance and ability to grow in poor soil has made it a standout crop in water-scarce regions. It also has important nutritional value as a low glycemic, gluten-free grain – making it a useful source of amino acids for people with diabetes or gluten intolerance.

While Europeans once called fonio “hungry rice,” European companies are now manufacturing their own fonio. The Italian company Obà [Food](#) helped introduce fonio to the EU in December 2018. And in the US, the Senegalese chef Pierre Thiam sources fonio from the aid organization SOS Sahel for his brand Yolélé, also the name of his cookbook celebrating west African cuisine.

**Cowpeas: the fully edible plant**

Photo: HealthBenefitsTimes

In the 1940s, more than 5 million acres of cowpeas were grown in the US – the majority, as their name suggests, for hay to feed livestock. But long before cowpeas – also called southern peas or black-eyed peas – came to the Americas, they were grown for human consumption in west Africa. Although cowpea production has declined in the US in recent decades, the crop is hugely important in much of Africa. Nigeria is the world’s largest cowpea producer.

As scientists look for alternative crops, Blair said it was important to identify ones where the entire plant is edible. Although historically people have mostly eaten cowpeas’ seeds, the leaves and pods are also a reliable source of protein.

Because cowpeas are highly drought tolerant, they’re also a good candidate as the climate changes. At Tennessee State University, Blair is part of a team studying the introduction of cowpeas to Latin America, as an alternative to beans, like pinto and black beans, with similar flavor profiles that may soon become more difficult to grow.

**Taro: adapting the tropical crop for colder climes**

In the tropics of south-east Asia and Polynesia, taro has long been grown as a root vegetable, not unlike the potato. But as rising temperatures threaten cultivation of the crop in its natural habitat, farmers in the continental US are trying to adapt the tropical perennial to grow as a temperate annual, because it cannot survive the cold of US winters.



Photo: Foodprint.org

At the Utopian Seed Project in North Carolina, founder Chris Smith and his team have been experimenting with tropical crops, looking for ways to help the plants survive the winter. Today, they’re growing eight varieties of taro including ones sourced from Korea, the Philippines, Hawaii, China and Puerto Rico.

New Mexico State University is an equal opportunity/affirmative action employer and educator.

“We want to introduce taro because we truly believe that that will give us a more secure food system,” Smith says. “But the beautiful byproduct is that that also allows us to engage with foods that are traditionally from either Indigenous or peasant farming communities. And I think it really gives those traditionally underserved populations an opportunity to engage with the food system that they don’t usually get.”

Like fonio, amaranth and cowpeas, taro isn’t a new crop – it’s just new to the US food system. Which is why the Utopian Seed Project isn’t just learning how to grow taro, but also teaching people how to cook it. “These crops are just foods that are embedded in cultures around the world in a way that they’re not embedded here,” Smith said. “It takes work to build that community and desire for that crop.”

### **Kernza: the crop bred for the climate crisis**

While many alternative crops are just plants that were grown somewhere else in the world generations ago, others have been cultivated specifically to withstand climate change.

In the 1980s, researchers at the Pennsylvania-based Rodale Institute identified a wheat-like grass called intermediate wheatgrass as a perennial cereal crop that could be developed as a substitute for annual grains like wheat. The goal was to minimize the environmental impacts of grain production.



*Photo: StarTribune.com*

In 2019, the Kansas-based Land Institute, a non-profit research organization focused on sustainable agriculture, introduced Kernza, a cereal crop developed from intermediate wheatgrass and trademarked to ensure farmers know they’ve bought seeds from the official breeding program. Although researchers are still working to improve the grain’s yield, farmers in Minnesota, Kansas and Montana are today growing nearly 4,000 acres of Kernza.

“Growers immediately understand the benefits of perennials on their landscapes,” said Tessa Peters, director of crop stewardship at the Land Institute, “and for those working in grain-producing areas, Kernza is very appealing.”

**“I like gardening – it’s a place where I find myself  
when I need to lose myself.”**

~ Alice Sebold

## HELP WANTED #1

### Education Committee – Videographer/Film Editor

For the 2022/2023 SEMG business year we will be filming guest lectures on advanced training topics. To record these sessions we are seeking members with experience and/or interest in videography and film editing. For more information please contact John Thompson, via his contact information in the member directory.

## HELP WANTED #2

We still have need of volunteers to cover the **Helpline** this is online, from the comfort of your own home. Each week of coverage earns 10 hours of Outreach credit. For more information contact Penny Lindgren or Sandra Liakus via their email or phone numbers in the member roster.

## HELP WANTED #3 Co-Chair Needed

Project is Sandoval County Administrative Building Plant Watering/Maintenance

- Backup for watering schedule
- Assistance analyzing plant problems
- Help resolve plant issues in the building
- Annual repotting coordination

## HELP WANTED #4 Co-Chair Needed

SANDOVAL SEED SHARE PROJECT

- Seek seed donations from large companies.
- Analyze seeds for viability in Sandoval County
- Assist in packaging and distributing seeds



## Down & Dirty with Rachel-Sandoval County Extension Agent

References for article on page three

### Sources:

American Society for Microbiology. (2010) Can bacteria make you smarter?, EurekAlert! AAAS.

Amoroso M., Langgartner D., Lowry C.A., Reber S.O. (2021) Rapidly Growing Mycobacterium Species: The Long and Winding Road from Tuberculosis Vaccines to Potent Stress-Resilience Agents. *International Journal of Molecular Sciences* 22:12938.

Kim S.-O., Son S.Y., Kim M.J., Lee C.H., Park S.-A. (2022) Physiological Responses of Adults during Soil-mixing Activities Based on the Presence of Soil Microorganisms: A Metabolomics Approach. *Journal of the American Society for Horticultural Science* 147:135-144. DOI: 10.21273/jashs05146-21.

Lowry C.A., Hollis J.H., de Vries A., Pan B., Brunet L.R., Hunt J.R., Paton J.F., van Kampen E., Knight D.M., Evans A.K., Rook G.A., Lightman S.L. (2007) Identification of an immune-responsive mesolimbocortical serotonergic system: potential role in regulation of emotional behavior. *Neuroscience* 146:756-72. DOI: 10.1016/j.neuroscience.2007.01.067.

Mbaria J., Ogada M. (2016) *The Big Conservation Lie: The Untold Story of Wildlife Conservation in Kenya* Lens & Pens Publishing.

O'Brien M.E., Anderson H., Kaukel E., O'Byrne K., Pawlicki M., Von Pawel J., Reck M. (2004) SRL172 (killed Mycobacterium vaccae) in addition to standard chemotherapy improves quality of life without affecting survival, in patients with advanced non-small-cell lung cancer: phase III results. *Ann Oncol* 15:906-14. DOI: 10.1093/annonc/mdh220.

