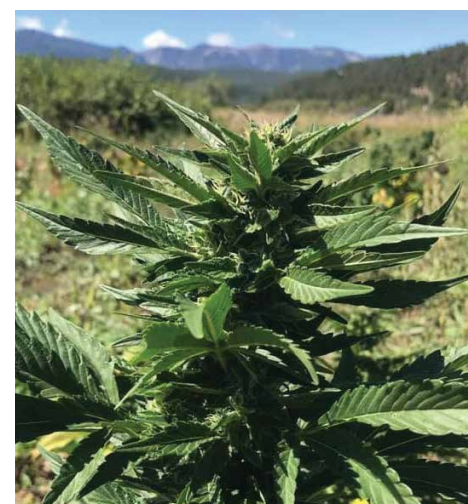
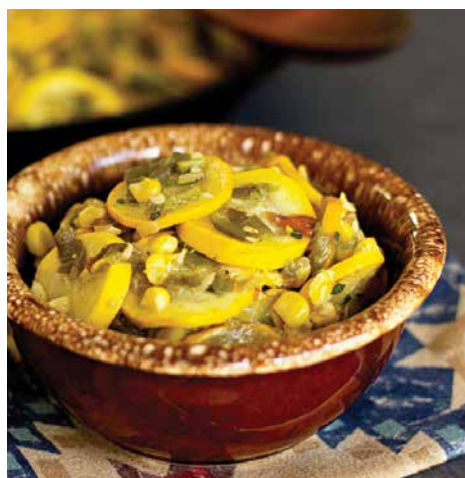


GREEN FIRE TIMES

News & Views from the Sustainable Southwest



WHAT'S ON YOUR PLATE? IS IT NEW MEXICO GROWN?

VOLUME 13 NUMBER 5

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THIS EDITION OF GFT WAS A COLLABORATION WITH FARM TO TABLE; THE NM FOOD & AGRICULTURE POLICY COUNCIL; ESHIP RÍO GRANDE, FORWARD CITIES; AND THE RURAL COALITION.

COVER NEW MEXICO AGRICULTURAL PRODUCTS AT THE SANTA FE FARMERS' MARKET: FRUIT, BOWL OF CALABACITAS, SAGE/FLOWER ARRANGEMENT, CHURRO SHEEP, CHILE POWDER, PIÑON NUTS, DYED WOOL, HEIRLOOM CORN, GARLIC, HERBAL TINCTURES, SQUASH AND POTATOES, HEMP. PHOTOS © SETH ROFFMAN. SHEEP PHOTO: SHEPHERD'S LAMB (CHAMA) © LARA MANZANARES

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Storytelling is at the heart of community health. *GFT* shares stories of hope and is an archive for community action. In each issue, a small, dedicated staff and a multitude of contributors offer articles documenting projects supporting sustainability—community, culture, environment and regional economy.

Green Fire Times is now operated by an LLC owned by a nonprofit educational organization (Est. 1973, swlearningcenters.org). Obviously, it is very challenging to continue to produce a free, quality, independent publication. We are seeking financial support to help us institute a new business model and formalize a mentorship program for writers, aspiring journalists and documentarians. We also need funding to make our archive more accessible and to upgrade *GFT* online. Please consider a tax-deductible donation. Checks may be made out to Southwest Learning Centers, Inc. (with a notation 'for *GFT*') and sent to: P.O. Box 8627, Santa Fe, N.M. 87504-8627.

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GREEN FIRE TIMES

News & Views from the Sustainable Southwest

IT'S A TIME OF CHANGE

BY JAIME CHÁVEZ

In 1992, Thomas Banyacya delivered the Hopi message of peace to “the great House of Mica on the eastern shore, where nations come together to solve world problems without war.” Banyacya was one of four messengers selected by Hopi elders in 1948 to warn the world of doom if people didn’t choose to return to Masaw’s original instructions describing the “true path of life,” which depicted a figure at the beginning and the end with a planting stick and corn. These prophecies were made public after the nuclear destruction at Hiroshima and Nagasaki.

Today, as our environment is in collapse, New Mexico continues to be an energy colony dependent on oil, gas, coal and uranium. The pandemic, along with the climate crisis, has revealed inherent weaknesses within our social and natural systems, causing fear and social unrest as we continue to react to these conditions. Equity, social justice and basic democratic freedoms are at the very center of a new chapter of the civil rights movement.



Blue corn, pinto beans, fava beans, chile and lavender from northern New Mexico

In the Southwest, we have a beautiful Indigenous seed culture that is still our way of life. However, our food culture, food security and food sovereignty are under threat by chemical agriculture and genetically engineered (GE) crops. We need to protect and preserve them from the onslaught of corporate greed and bottom-line profit margins. We need to grow clean food from our ancient seeds, support small farmers and ranchers to build and revitalize our agricultural economy with regenerative agriculture to heal the soil.

To' e'í' iins', Agua es Vida, Water is Life. Water is the lifeblood of our communities. We need to protect and bless her, the spirit of the water. We must preserve and protect our *acequia* culture! We must protect our children from the scourge of childhood hunger, with better nutrients so they can think well in the classroom.

Climate change, drought and the pandemic have forced us to think out of the box, to become visionary and prophetic if we want humankind to survive. We're all in this together and we must act quickly and boldly. The contributions within this edition of *Green Fire Times* are from a regional network of agricultural practitioners, public policy advocates and food systems innovators. They call for a new paradigm that includes a redesign of our food economy, not business as usual! ■

Jaime Chávez, from Atrisco, N.M., is on the governing board of the N.M. Food and Agriculture Policy Council. He also is National Field Organizer for the Rural Coalition and the National Latino Farmers and Ranchers Trade Association.

THE NM FOOD & AGRICULTURE POLICY COUNCIL CELEBRATES 20 YEARS

BY **HELGA GARCÍA-GARZA**

The New Mexico Food & Agriculture Policy Council (NMFAPC) is celebrating 20 years of working to develop and advocate for policies that are helping establish more comprehensive food and farming systems for our state. We advocate for specific policy recommendations and alternatives at local, state and national levels. The council's mission is to strengthen food and farm economies and advance keeping food grown, raised and processed in N.M. We strive to enhance the health and wellness of people and communities and to sustain natural resources.

The NMFAPC is composed of groups and individuals working collectively through an educational approach. The council works to build a network of like-minded organizations and coalitions to fulfill the goal of racial and social equity with food, farming and ranching systems. The council's members hold each other accountable to these values as we work to address gender, racial, social and economic equity issues that affect our communities and those we represent.

As we celebrate our victories and lessons learned through these years, we embrace the challenging work ahead as we look to the coming decades. In order to do policy work that reflects the needs and creates a common vision for a healthy and equitable food system in N.M., we need everyone's participation. We invite you to join us to envision our future. Find us at www.nmfoodpolicy.org. ■

Helga García-Garza is executive director of the Agri-Cultura Network, a community-driven model building N.M.'s small farm economy through sustainable and regenerative food justice. She is also chair of the NMFAPC.

Richard Moore speaks at the 2020 N.M. Food & Farms Day at the state capitol, as Agri-Cultura Network accepts the Sowing Change Award. © Seth Roffman



BUILDING THE POLICY PATH

BY **PAM ROY**

It was a beautiful summer September harvest day. I walked in from the garden and barn to start the workday. I remember the exact moment when I got the call. The phone rang and it was my friend and colleague, Hugh, in Massachusetts. He had helped establish a program for immigrant and refugee farmers by partnering them with local farmers who wanted to share their land for food production. That morning, the United States Department of Agriculture (USDA), a new funding partner in the project, brought its delegation from Washington, DC, to see how the program was going. There was much excitement around the visit and this new federal program.

Everyone had shown up at the farm. They were greeted by the wife and partner of the farm operation. But she was frantic and in tears. Her husband was the pilot of the American Airlines plane that flew into the twin towers that day, 20 years ago, Sept. 11. He was also a farmer who was excited about starting a program to create new beginnings for farmers and their families. He and his wife saw it as the next generation of farming and new approaches for local markets that could spawn other ideas.

Why this story now and what does it have to do with the New Mexico Food & Agriculture Policy Council (NMFAPC)? Twenty years ago, the Policy Council was established by a broad-based group of people who were interested in seeing our local food system and agriculture respond to the needs of our communities and be as vibrant as possible. We realized that “policy” is in everything, and if we were going to learn, assess and recommend ways to strengthen our food and agriculture systems in N.M., we needed to see the whole picture from the view of many.

The NMFAPC is a statewide coalition of individuals, organizations and agencies whose mission is to advocate for food systems which strengthen our food and farm economies. It achieves this through advocacy, education and policy work. Through this process, we strive to enhance the health and wellness of N.M.'s people and communities, and to sustain natural resources.

The council's members comprise a network of organizations and coalitions striving to fulfill the goal of racial and social equity within food, farming and ranching systems. The members hold each other accountable to these values and work collaboratively to address equity (gender, racial, social and economic) issues that affect our communities and those we represent.

The NMFAPC is now one of the longest ongoing food policy councils in the country, working on and advocating for programs that didn't exist 20 years ago. The policy council participated in the beginnings of the N.M. Grown Program for School Meals, advocating for state and federal funding as well as a permanent home for the program in the N.M. Public Education Department so that N.M.'s students can eat N.M.-grown fruits and vegetables. At the same time, we worked to change federal laws so all school lunches have twice the fruits and vegetables. Now the council is advocating for the same program across all generational nutrition and meal programs so that our seniors and little ones can eat local.



At the federal levels we were deeply involved in the beginnings of the Supplemental Nutrition Assistance Program (SNAP) “Double Up Food Bucks,” which became a grant program, the USDA’s Gus Nutrition Incentive Program, that N.M. now benefits from. The N.M. Farmers’ Marketing Association has applied and been awarded twice. Through this grant, millions of dollars of N.M.-grown food is purchased with SNAP, and N.M.’s farmers benefit directly through sales at grocery stores, farmers’ markets and roadside stands.

We did early research and outreach in N.M. to learn about the gaps people had in being able to access a full variety of foods in



Above: Helga Garza with squash blossoms © Jaime Chávez
N.M. Food & Agriculture Policy Council meeting, 2019. © Seth Roffman

rural and underserved communities where food retail was minimal or non-existent. This work led to the Policy Council participating in national discussions, research and policy recommendations that created the Healthy Food Financing Initiative (HFFI) at the federal level that is available for N.M. Then, in 2021, we supported the work of La Semilla Food Center, which introduced cutting-edge legislation to create a state HFFI program that could draw on the federal investment to benefit a wide variety of food and farm programs, especially those led by BIPOC (Black, Indigenous and People of Color).

There are countless policies and programs that the Policy Council has helped get off the ground and many it has supported over the years, including farm-to-school, farmers’ market promotion programs, beginning farmer and rancher programs, soil health and conservation programs, and more. They now provide millions of dollars to communities to support food and agriculture in N.M. and across the country.

I write this as a reflection, a commemoration and tribute to people who have had an idea, a vision, courage, and set many paths forward in the wake of a tragic event that shook the world to its core. Twenty years ago, the NMFAPC set a path to bring people of many walks of life together in N.M., bring ideas forward, deliberate, learn to trust, and build a united voice and further a collective path. There’s much to look forward to as we take on the next 20 years. Please join us. ■



Susan Wilger, Helga Garza, Pam Roy

Pam Roy is coordinator of the NM Food & Agriculture Policy Council and executive director of Farm to Table. [HTTPS://NMFAPC.COM](https://nmfapc.com), [HTTPS://WWW.FARMTOTABLENM.ORG](https://www.farmtotablenm.org)

WHAT’S ON YOUR PLATE? IS IT NEW MEXICO GROWN?

BY HELEN HENRY

In New Mexico, farming and ranching are the third-largest economic sector, and yet 97 percent of the food grown in the state leaves the state. There are a number of reasons for this—stable markets elsewhere, a lack of in-state processing facilities, and not enough infrastructure to support in-state purchasing. In some cases, food grown here is sent away to be processed and then brought back for retailers to sell.

At the same time, institutional settings such as schools and senior centers provide meals that are required to include fruits and vegetables. For close to two decades there has been a focus in New Mexico, as well as across the country, to integrate locally grown produce into meal programs. It has been no small task, as institutions do not routinely buy food produced locally, often because of complicated procurement processes or lack of access to local producers. Organizations like Farm to Table, the N.M. School Nutrition Association and many other partners have worked to overcome these challenges so that farmers and institutions can adapt to local options. These connections have become even more critical in the light of the pandemic, as many people in the state are facing food insecurity and lack access to nutritionally healthy food.



New Mexico produce
© Seth Roffman

Strengthening connections among locally grown food, reducing hunger and sustainable farming

The good news is that these scenarios are being addressed through an initiative called New Mexico Grown, started by the N.M. Food & Agriculture Policy

Council and implemented by the N.M. Public Education Department (NMPED) since 2014. Through informed policy work, a broad base of collaboration throughout the local food system, and particularly through the work of state agencies, this program continues to grow.

What began modestly as a program to bring fresh fruits and vegetables to K-12 schools, administered by NMPED and funded through legislative appropriations, has expanded to include senior centers and early childhood education centers. The heart of N.M. Grown is to support food service directors and others with direct purchasing power so they can work with growers who have been certified to meet safe food-handling standards. The result is a greater availability of fresh, healthy local food for children and seniors in their communities.

Interagency Task Force

This past year, state agencies formed an Interagency Task Force to support N.M. Grown programs across agencies, with shared resources and standardized processes. The goals of the program include reducing the carbon footprint of meals, supporting local economies, and creating relationships between people who grow food and those who eat it, especially children. Research has shown how healthy eating habits acquired in childhood often last a lifetime.

N.M. Grown is now coming of age, after 20 years of dedicated effort and successful policy work. The Office of the Governor has made food insecurity a priority, and there is now a full-time position dedicated to strengthening connections among locally grown food, reducing hunger and sustainable farming. The larger state strategic plan includes expanding N.M. Grown and creating greater coordination across sectors. This will include, among other things, a website, branding and media outreach, launching this fall.

For more information about N.M. Grown, email NMGROWN@STATE.NM.US. ■

Helen Henry works on administration and communications for Farm to Table and the NMFAPC. WWW.FARMTOTABLENM.ORG



New Mexico food products for sale at the Farmhouse Café in Taos. © Seth Roffman

N.M. FOOD, HUNGER AND FARM STEERING COMMITTEE

The Food, Hunger and Farm Steering Committee is an outcome of bills (HB207 and SB377) passed in the 2021 New Mexico legislative session. The committee is developing a five-year strategic plan with tangible goals for the state's food systems. The plan is intended to measurably reduce hunger, provide equitable access to nutritious, culturally meaningful foods, and honor the wisdom of land-based traditions by strengthening intersections among food, hunger and agriculture. Goals include:

- **Community Food Programs:** Integrate and innovate hunger relief and nutrition security efforts so resources can be optimized
- **New Mexico Grown:** Invest in N.M.'s producers through expansion of farm-to-institution programs to better represent N.M.'s diverse communities. Establish N.M. Grown as a vehicle for sustainable market development
- **Supply Chain:** Inventory and measurably improve food supply infrastructure to address gaps, weak linkages and regulatory road-blocks
- **Budget:** Work with the Legislature and other partners to create a sustainable financial model that supports the steering committee's mission

Four working groups have been meeting weekly as part of an open process. The steering committee's representation includes nonprofits, nutrition providers, legislative representatives, farmers and farmer-serving organizations, emergency food services and tribal organizations and communities. To increase community engagement, the committee will institute a nomination process for Tribal representatives and farmers, send monthly updates to legislators and community partners, hold virtual town halls and launch an anonymous feedback survey.

The draft recommendations and proposed budget items will be released in November. The initiative is being guided by the Office of the Governor; the Human Services and Agriculture departments; and Kendal Chávez, formerly of Farm to Table N.M., who works for the state's Public Education Department. To learn more, email KENDAL.CHAVEZ2@STATE.NM.US.

N.M. Economic Development Department Assistance

If the infrastructure supply chain can be rebuilt for small and mid-size producers, it can benefit economic development in N.M. Early this year, N.M. Economic Development Department Cabinet Secretary Alicia J. Keyes announced that the NMEDD will continue economic assistance through the Local Economic Development Act (LEDA) to expand year-round manufacturing and boost purchases of agricultural products from N.M. ranchers and growers. "We understand the importance of locally grown food, now more than ever," Keyes said. "Investing in local agriculture will not only create jobs; it will make our communities safer and healthier. We will continue to seek out opportunities with partners to boost locally grown food."

New Mexico and Community Food Projects

BY MARK WINNE

In 2001, for those who had been working tirelessly for fair prices for family farmers, the near total absence of Santa Fe's lower-income shoppers at the renowned Santa Fe Farmers' Market was disturbing. Yes, the farmers benefited from the market's food prices, even though many still relied on food stamps to get by. But at the same time, the higher prices motivated the city's more marginalized consumers to shop at Walmart.

This desire for both producer and consumer equity drove market organizers like Pam Roy, Stanley Crawford, Sarah Grant and Esther Kovari to find solutions. But they faced a major conundrum: Fair prices for struggling farmers could not be achieved by selling "cheap food" to lower-income families. Pam and her cohorts had partially breached that wall in the mid-1990s by convincing the New Mexico Legislature to allocate \$42,300 to match \$87,000 in federal funds from the WIC/Farmers' Market Nutrition Program, which benefited both farmers and low-income families. The results were encouraging but the overall impact was small. They needed to "go big" which, in N.M., meant leveraging the power and the purse of public policy. That's where USDA's Community Food Projects Competitive Grant Program (CFP), now celebrating its 25th anniversary, came in.

"CFP became the launching pad for all our community food initiatives," Roy, now executive director of the non-profit Farm to Table, told me. "With a 3-year, \$300,000 CFP grant in 2001, we planted the food system seed in state government and it's never stopped growing!" One could say it took two seeds that would fuse into one to grow food-system thinking throughout New Mexico: one to promote food security for all residents—a particular challenge in a state with one of the highest food insecurity rates in the country—and one to support local farmers. In the words of CFP's founding legislation, funded projects will "meet the food needs of low-income people... increase the self-reliance of communities and promote comprehensive responses to food, farm and nutrition issues." Farm to Table and the dozens of organizations that coalesced around this holistic approach would eventually fulfill all three objectives.

The NMFAPC became the tip of the spear for tackling the state's food inequities and engaging policymakers.

Since its inception in 1996 as part of that year's federal farm bill, 14 CFP grants totaling

nearly \$3 million have been received by N.M. food and farm organizations. Stretching from Taos to Las Cruces, these funds have supported food-related economic development, the establishment of a co-op supermarket and youth farming activities, to name a few. Sized to meet the specific food needs of their respective communities, grant amounts have ranged from \$25,000 to \$400,000. In all cases, the grants and ensuing projects are tailored to what the community says it wants and needs.

For the newly organized Farm to Table organization, which grew out of work with the state's farmers and farmers' markets, CFP was their first

Farm to Table mobilized communities, organizations and state agencies to expand government's role in food system work.

non-federal funds, a requirement that could be met by in-kind support provided by many participating organizations. The other was more philosophical: CFP grants should be a "one-time infusion" of federal funds designed to catalyze long-term responses that would not require additional federal funds (applicants could apply for funds for new projects, but not funds to operate projects that had already received CFP grants). Raising the non-federal match can be a lighter lift when there are many hands from several participating organizations—even if your only "contribution" is a desk and a chair. But how do you solve complex problems like systemic food insecurity with only one federal grant?

For Farm to Table, the answer came by mobilizing communities, organizations and even state agencies to expand government's role in food system work. With its "one-time infusion," Farm to Table and its emerging coalition partners went on to launch dozens of ships for which the New Mexico Legislature was often the first port of call. One of their first successful projects was the formation of the New Mexico Food & Agriculture Policy Council (NMFAPC) that would become the tip of the spear for tackling the state's food inequities and engaging the state's policymakers. As the years went on and its legislative campaigns became more effective, the NMFAPC would eventually secure hundreds of thousands of state dollars annually for initiatives such as farm-to-school and produce

For the 2019-2020 school year, almost \$1.2 million was spent by 57 N.M. school districts purchasing food from N.M. farmers.

incentive programs for WIC and SNAP participants and lower-income senior citizens. Farm to Table also used some of its CFP funds to organize Santa Fe's Southside Farmers' Market ("Del Sur Market") that provides a more accessible location for lower-income families to shop. Today, that market is sponsored by the Presbyterian Hospital and offers three different produce incentive programs to area residents.

Similarly, CFP funds were set aside to develop a pilot farm-to-school program—one of the first in the country—within the Santa Fe school district. The pilot took root, and now the district spends over \$70,000 per year of its own funds (as well as a smaller amount of state funds) on locally produced food.

Looking back on 20 years of work one afternoon over lunch, Pam Roy began to add up the total output of projects, policies and funds that could be attributed, even indirectly, to CFP. The tally soon exceeded the back of the envelope she was using. For the 2019-2020 school year, almost \$1.2 million was spent by 57 N.M. school districts purchasing food from N.M. farmers. That food was served to 171,000 students statewide. Of those funds, about one-third came from the state government coffers and the rest from local school food service budgets. Additionally, tens of thousands of N.M. WIC, senior and SNAP participants received hundreds of thousands of dollars in state and federal funds each year to purchase produce at farmers' markets.

While the amount of funding has varied over the years—with steady increases from year-to-year being the norm—Roy's ballpark estimate for two decades of work since the first CFP grant was well into the tens of millions of dollars. "CFP's multiplier effect has been massive!" she concluded. ■

Mark Winne is a Santa Fe-based writer and food systems consultant. WIN5M@AOL.COM.

2021 USDA FARM TO SCHOOL GRANTEES IN NEW MEXICO

Thanks to the Farm to School Act of 2021, U.S. Department of Agriculture (USDA) Farm to School grants will bring about \$191,000 into central and northern New Mexico, a critical funding stream to help increase healthy eating and support local food production and procurement. The awardees include:

Peñasco Independent School District – \$49,956

The Peñasco Independent School District has planted a garden on a 1.5-acre plot next to a school. The focus is on vegetables and grains native to the area (often originally cultivated by Picuris Pueblo and Spanish settlers). Most seeds come from local farms due to the specific growing conditions of New Mexico's mountainous landscape (7,500-ft. elevation) and its short growing season.

The garden is integrated into school curricula so that K-12 students are able to work on and learn about planting, growing and harvesting. Lessons include the 400-year history of Spanish/Picuris cooperation. Following harvest are cooking lessons using *hornos* (adobe ovens). All of the food will be given to students and families, which is important, since the closest grocery stores (sources of fresh foods) are 45 minutes away. By partnering with local farmers who have experience with education, the school district also teaches marketing practices needed to open and maintain a local farmers' market.

Santa Fe Indian School – \$49,995

Santa Fe Indian School is completing activities required to develop a school plan and increase its capacity to implement farm-to-school programming, including developing partnerships and obtaining products from local growers/producers, identifying goals and objectives for agriculture on campus and school gardening projects, and increasing awareness and education within the school community regarding farm-to-school principles, with a special focus on Southwest Native American culturally rooted foods and farming practices.

One Generation's Indigenous Farm Hub (Corrales) – \$90,876

The Tide's Center's One Generation's Indigenous Farm Hub is a new farm that includes a community education space. The project is creating a network of farmers and families that will strengthen local, sustainable food systems, provide access to healthy foods, build prosperity for farmers and local communities, reclaim land, and help reconnect Indigenous communities' bond between language and culture to agricultural practices.

One Generation is collaborating with two K-12 public charter schools—Native American Community Academy and Albuquerque Sign Language Academy—to engage diverse, low-income and hearing-impaired students in bilingual agricultural education. Students have opportunities to sample their own farm-grown food once a week during school lunch and in produce boxes sent home with them whenever the farm produces a surplus. The program helps students access healthy foods and develop healthy eating habits; grow their understanding and appreciation of local food sources and sustainability; deepen their interest in agriculture; and gain language, culture, academic and social-emotional skills.

The Indigenous Farm Hub also offers a Community Supported Agriculture (CSA) program. This is like a discounted subscription to in-season produce. Participants provide funding to the farmer in exchange for produce. Items vary according to the season. CSA shares can be picked up on Saturdays from 9 a.m. to 12 p.m. in Corrales, and in Albuquerque's Old Town on Sundays from 3 to 5 p.m. Other pickup options are also available.

Food Insecurity in Households with School-Age Children in the Chama Valley

A study funded by the New Mexico Foundation and the Rural Resources Group

BY **MARÍA VARELA**

Undertaken in the summer of 2020, this study on childhood hunger is a cautionary tale about reliance on county-wide data to represent real indices of poverty, hunger and economic status of Frontier Rural Areas (sparsely populated regions with fewer than six people per square mile, isolated from population centers and services). New Mexico, primarily a rural state, is populated with a large number of Frontier Rural Areas. This study found that hunger in Chama Valley Independent Schools (CVIS) households (in northern Río Arriba County) is almost 50 percent higher than the food insecurity statistics previously reported.

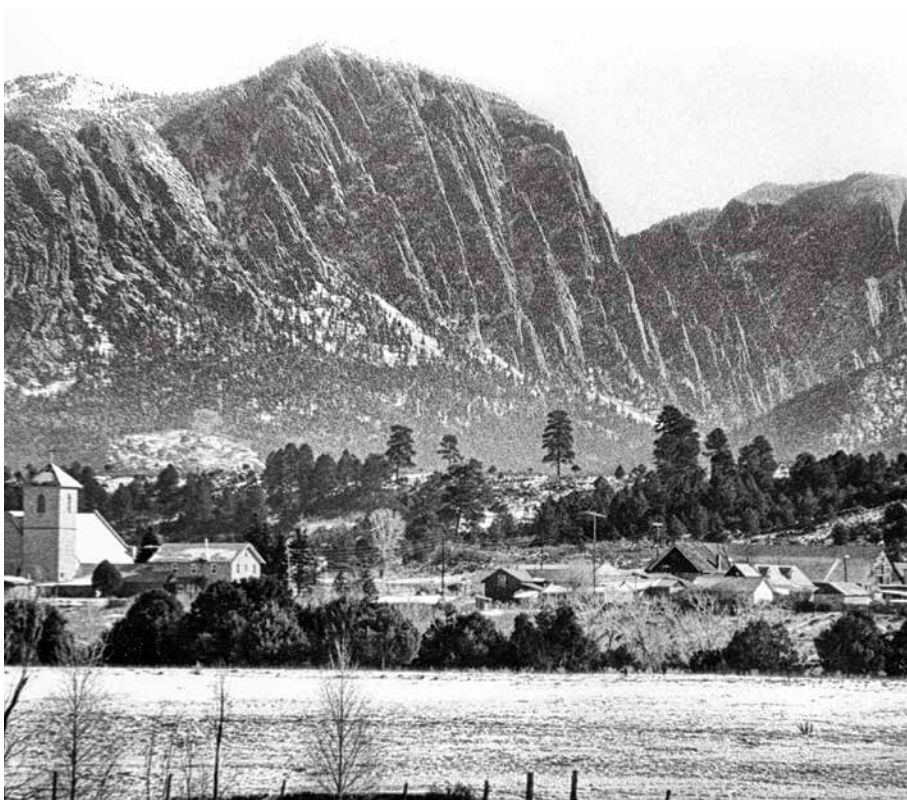
How Much Hunger?

The households were surveyed over the summer and into the fall of 2020. The CVIS survey was conducted by telephone, as past experiences with mail-in or online surveys had resulted in low participation. Also important was phrasing the questions in an accessible and understandable way. As CVIS staff had experience with administering telephone surveys to CVIS households, their contribution resulted in frank responses. In all, 37 open-ended and yes-or-no questions, including employment status, family profiles, availability of food, usage of various food benefit programs, etc., were developed.

The 111 households surveyed totaled 209 students or 54 percent of the entire CVIS student body (384). Of these students, 49 resided in households experiencing severe food hardships (not enough food available for all weekdays and weekends) and 13 in households with serious food hardships (not enough food available for weekends). The 62 students experiencing hunger issues represent 30 percent of the students within 111 households. If these same percentages were extrapolated to the total CVIS student population for 2020, 115 students (30 percent) would be facing food insecurity. This level of food hardship would have a significant impact on health and academic performance.

The study found that in 2020, there were marked increases in the percentages of households participating in food support programs, including food stamps (SNAP), N.M. PED EBT cards, commodities, food boxes and cash or food from family and friends. More than half of SNAP households also receiving food donations still reported severe or week-long food insecurity during the summer and fall. Fully half of surveyed households receiving commodities/food boxes reported severe or week-long food insecurity. Despite the important contribution of food support programs, there is substantial remaining severe or weeklong food insecurity among surveyed households participating in these programs.

The pandemic weakened an already fragile economy in Río Arriba County. Some businesses will never reopen. UNM's Bureau of Business and Economic Research (BBER) has projected that it may be sometime in 2023 or 2024 when state employment levels approach pre-pandemic figures. However, BBER's report notes that economic recovery will likely



Brazos Peaks, Chama Valley, N.M. © Maria Varela

reach sparsely populated frontier rural areas later than the rest of the state. This crisis in food insecurity in families with school-age children may persist into 2025-26.

Food insecurity has a direct impact on student academic performance and the health of young people.

The CVIS study on food insecurity was completed before Congress passed the American Rescue Plan Act (ARP Act). There is no doubt that the provisions in the Act will decrease food insecurity and benefit

low-to-moderate-income households with the cash payments and expanded child tax credit program. There are also provisions in the ARA Act that include rental assistance, mortgage assistance, expansion of the WIC program for pregnant women and infants, lowering health insurance payments, aid to small businesses and less expensive internet. Many of these benefits are available in a short window of time and information on how to access them is not easily available, especially to isolated rural populations. But nearly all these programs require internet capacity and enough bandwidth to handle applications and the instructions to apply. These challenges can result in the loss of hundreds of thousands of ARA Act dollars for rural households.

Frontier Areas are no stranger to “boom-and-bust” economies. When a boom goes bust, left in its wake is a weakened business sector, unemployment, significant inequality and endemic poverty. The “boom” of federal monies into the CVIS area will no doubt provide very real assistance to low-to-moderate income families. But when the “boom” ends, will hundreds of thousands of dollars be left on the table? Will the infusion of federal monies result in permanent improvements to Frontier Area households? Will food insecurity be defeated? ■

Maria Varela, community organizer, writer, photographer and occasional visiting professor, helped land grant activists start agricultural and artisanal cooperatives and community health clinics in northern N.M. In 1990 Varela was awarded a MacArthur fellowship for helping Mexican American and Native American weavers and sheep growers preserve their pastoral cultures and economies.

CONTRIBUTORS TO THE SURVEY

A **New Mexico Foundation** grant supported the surveyors.

David Henkel and Jose Rivera helped hatch the project.

Susan Wilger of the Southwest Center for Health Innovation, which was the fiscal sponsor.

Anthony Casados, CVIS Superintendent, recruited surveyors from his staff.

Betty Ulibarri, CVIS Nutritionist and School Health Coordinator, provided information on student and community food issues and assisted in determining the project’s scope.

Paula Martínez, CVIS Special Education coordinator, collaborated on the design of the questions and conducted the survey.

Christen Lara, Health Information Systems branch manager at Colorado Department of Public Health and Environment, provided a statistician’s eye on the design and analysis of the survey.

Harvey Licht, who took time away from saving Rural Hospitals, helped analyze Survey Monkey data.

Amy Karon, editor and writer, helped edit the results of the survey.

Frances Varela provided The Varela Group’s Survey Monkey access.

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LETTER TO IRRIGATORS

AUG. 16, 2021

DEAR IRRIGATORS,

The staff at the District is very grateful for the cooperation and support we have received from all of you for recognizing the water shortage situation and pulling together to help us manage, at times, the meager supplies. We've done well under the circumstances, and we thank you for doing your part. As you are all aware, in late June, the 2021 water situation was looking to be of short supply, but early and sustained monsoon rains that began in late June and continued until early August allowed for several full irrigations... The rains also allowed the District to reserve some of its San Juan-Chama water supplies that we are now using to keep the river up while we wait for another shot of monsoon moisture due this week. We are all quite grateful for this gift, allowing us to sustain the middle valley for most of the irrigation season!

We are doing our part to help manage this historic drought in the entire Río Grande basin.

The last block of stored water was released on Aug. 15, so we are now totally reliant on forecasted moisture to recharge the system and allow for at least one more

full irrigation for those needing it. Beyond that, it's anyone's guess on how long the monsoon rains will persist, but weather experts are predicting a warmer and drier-than-normal fall and early winter. It looks probable that we may have to go into a brief period of prior and paramount rights-only operations during September if the mainstem Río Grande flows drop below 250 cfs at the Embudo gauge. If that occurs, it is unlikely that there will be much in the way of return flows to work with unless there are rain showers freshening river flows.

Adding to these conditions is the accrued N.M. debit to the [1939] Río Grande Compact that is designed to apportion water between Colorado, New Mexico and irrigation districts below Caballo Dam—one in New Mexico, one in Texas, and a treaty allocation to México. The cycle of water supply over the past several years has created persistently low reservoir supplies at Elephant Butte that limits storage at El Vado Dam, the District's only reservoir for supplemental water that is critical in supplying farm fields and the river after the runoff recedes, normally in late June or early July. New Mexico remains in debt at 96,800 acre-feet, and the staff at the N.M. Interstate Stream Commission has informed us that, unless more rains occur, deliveries to Elephant Butte are still less than the required amount for 2021. That means that we may still add more debt this year despite shortening the

Near the headwaters of the Río Grande, north of San Luis, Colo., May 2021. © Seth Roffman



Our priority is to manage available water for productive agriculture and assist farmers with efficient on-farm water use.

irrigation season and operating more tightly than normal. However, if we had not taken these conservation actions, the debit would be much higher.

MRGCD's board of directors will decide the end date of the 2021 irrigation season in order to minimize the deficit and to show the Río Grande Compact Commission that we are doing our part to help manage this historic drought in the entire Río Grande basin. [Editor's note: After two hours of comments from farmers, the board voted to shut off the water a month early, on Oct. 1. This could potentially cause people to lose their farms.] The District will rapidly inform irrigators who may be planning to plant seed for winter crops, that supplies are very limited and it may be difficult to get everyone water even in September, but we will do what we can with what water we have. But the bottom line is: As long as N.M. is in debit to the Río Grande Compact, the District will struggle to meet summer demands without access to El Vado Reservoir storage. There will likely be severe summer shortages if there is a below-average snowpack supply and limited monsoon rains.

A look ahead to the winter and spring: The National Weather Service is indicating that the Southwest is heading into a La Niña weather pattern that usually means a warmer and drier climate. It may be similar to last year's winter, with the exception that last year did not have good monsoons preceding it, which this year does. We received about a 65 percent supply of native water during the runoff and a similar percentage from the San Juan-Chama allocation.

Please use this information in planning your cropping pattern and farm operation for the remainder of this season, particularly those of you planning to plant winter crops, and in your plans for the 2022 season. The District is taking a number of actions that includes grants that may assist farmers in managing on-farm water use and other agricultural services. Our number one priority is to manage available water that provides for productive agriculture, and to assist farmers with efficient on-farm water use to maintain or improve high-quality crop yields, even in light of long-term drought. To achieve this, the District must assist in meeting annual Compact delivery requirements and remain compliant under the federal Endangered Species Act.

**SINCERELY,
MIKE A. HAMMAN, PE**

CHIEF ENGINEER/CEO
MIDDLE RÍO GRANDE
CONSERVANCY DISTRICT

For more information about the MRGCD and its programs, call 505-247-0234 or visit www.mrgcd.com.

Mike A. Hamman is the chief Engineer / CEO of the Middle Rio Grande Conservancy District, based in Albuquerque. Prior to the MRGCD, he was area manager for the U.S. Bureau of Reclamation, and a regional water planner for the New Mexico Interstate Stream Commission.

THE N.M. INTERSTATE STREAM COMMISSION'S 50-YEAR WATER PLAN

The New Mexico Acequia Association (NMAA) is one of many non-profit organization stakeholders currently engaged in work on the state's 50-Year Water Plan, led by the New Mexico Interstate Stream Commission (ISC).

The plan is a directive from Gov. Michelle Lujan Grisham to prepare for New Mexico's water future. It is centered around three pillars: stewardship, equity and sustainability. The implementation is broken down into four phases: Phase 1: Planning Approach Coordination (completed in February); Phase 2: Leap Ahead Analysis, an assessment of current and future water resource conditions and risks (90 percent complete as of July 1); Phase III: Outreach, Resilience Assessment(s) and Creation of Strategies to Achieve Resilience (in progress); and Phase IV: Produce, Review and Finalize Plan (to be completed by March 30, 2022).

The ISC recently launched a 50-Year Water Plan website (WWW.OSE.STATE.NM.US/PLANNING/50YWP/), which provides information on upcoming events, opportunities for public participation, data and recommendations. The ISC recently hosted webinars to discuss the many impacts climate change is having on the state. The commission will also be seeking public input on the Leap Ahead Analysis, a scientific report describing climate change impacts to water resources in New Mexico, prepared by a team of climate and water resources scientists convened by the New Mexico Bureau of Geology and Mineral Resources. The report is a separate document from the 50-Year Water Plan and it will inform the plan.

NEW MEXICO REGIONAL CONSERVATION PARTNERSHIP PROGRAM

Agricultural producers in New Mexico have an opportunity to enroll in the USDA's Conservation Stewardship Program (CSP) and the Environmental Quality Incentives Program (EQIP) through several projects.

The funding is intended for locally driven, public-private partnerships that improve the nation's water quality, combat drought, enhance soil health, support wildlife habitat and protect agricultural viability. The Regional Resources Partnership Program (RCCP) with the National Fish and Wildlife Foundation (NFWF) funds projects along the Pecos River and eligible watersheds. The RCCP project with the East Río Arriba Soil and Water Conservation District is designed to improve forest health, native plant conditions, protect habitat for at-risk species, and improve soil health in the San Juan-Río Chama watersheds. The project with the New Mexico Association of Conservation Districts focuses on working with ranchers statewide who operate on private and federal land and utilize the land in their grazing rotation.

Producers can apply by visiting their local NRCS field office. For more information, visit the RCCP page or the New Mexico CSP webpage: WWW.NRCS.USDA.GOV/WPS/PORTAL/NRCS/MAIN/NM/PROGRAMS/FINANCIAL/CSP/

AGRICULTURAL WORK FORCE DEVELOPMENT INTERNSHIP FUNDING

New Mexico-based agricultural businesses may apply for internship funding through the N.M. Department of Agriculture (NMDA) Agricultural Workforce Development (AWD) Program. The program's goal is to create opportunities for young and beginning farmers and ranchers, including students, to gain work experience that can turn into careers and thus support the state's agricultural future. The program provides incentives to businesses to hire interns.

An "agricultural business" is defined in the N.M. Agricultural Workforce Development Program Act as business of a food or agricultural nature, including agriculture production or processing. Examples include—but are not limited to—farms and ranches; facilities where raw agricultural commodities are processed into finished products, and food and beverage manufacturing.

New Mexico Secretary of Agriculture Jeff Witte said it's imperative to train the next generation of agriculturists in this state. "New Mexico has the second-highest average age of producers in the U.S. at 59.8, according to the most recent census," said Witte.

NMDA will reimburse a business up to 50 percent of the actual cost to employ the intern(s), not to exceed \$5,000 per intern. A business may hire up to three interns in one year and the internship must be at least 130 hours. The application period opened Aug. 2 and will continue until funds are fully allocated or by Dec. 7. The funds must be fully expended by June 15, 2022.

All payments will be made on a cost-reimbursable basis following the end of the internship. The business is required to pay at least minimum wage and must carry workers' compensation insurance. Interns must be at least 18 years of age. Each business is responsible for finding interns to employ. For more information, call 575-646-2642, email AWD@NMDA@NMSU.EDU or visit WWW.NMDA.NMSU.EDU/AGRICULTURAL-WORKFORCE-DEVELOPMENT-PROGRAM.

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A collage of images by Zeke Peña from La Semilla Food Center's Farm Bill zine, Food, Land and Us (see pg. 18).

GROWING FOOD HUBS THROUGHOUT NEW MEXICO

BY ERIN ORTIGOZA AND DAVID SUNDBERG

Think about this for a moment: How and where do you access your food? Grocery stores, online, restaurants, convenience stores, workplace cafeteria, CSAs or farmers' markets? Take the image of that place and the food you get there and walk out the back door. Where do they get their food? See how far back up the line you can follow your food. Can you trace it all the way to the field where it grew? If you can't, you probably aren't getting fresh, local food.

A handful of organizations and businesses in New Mexico—food hubs—are working to change that. A food hub is “a business or organization that actively manages the aggregation, distribution and/or marketing of food products—primarily from local and regional producers—to strengthen their ability to satisfy wholesale, retail and institutional demand.” (Wallace Center at Winrock International) Food hubs are critical for suppliers to be able to sell to different markets, like schools, hospitals and retailers; and for value-added producers, foodservice directors and individual consumers to have more options and locations to buy local foods. Food hubs also make it possible for emergency food programs such as food banks to get fresh, nutritious food.

Food hubs get local food from the field to your plate. So, why aren't there more of them? Making food hubs work takes a lot of planning, hard work and tenacity. Common motivations that people who work for food hubs have include a passion to provide delicious, fresh food for their communities and a recognition that we need to support farmers and a local food economy.

Below are excerpts of conversations with a few people working for or developing food hubs in New Mexico. These people are committed to supporting farmers, ranchers and local food producers with fair market pricing for their products. Thanks to their dedication, more New Mexicans have better access to healthy food produced by their neighbors—food that is hundreds, if not thousands, of miles closer to home. We can enjoy this food, knowing that it nourishes our bodies and our lands and supports our economy.

You can find how to engage with your local food economy through farmers' markets, Community Supported Agriculture (CSAs) and food hubs. Be deliberate about your food choices and how you access them. If you find yourself in a food desert, think about starting a hub in your community so you and your neighbors have better access to better food. Communication is essential for transforming an idea into action. We all grow stronger when we're well-nourished.

MOGRO—SLIDING SCALE CSA AND EMERGENCY FOOD ACCESS

MoGro began in 2011 as a mobile grocery store—a semi-trailer custom-outfitted with refrigeration and shelves that drove directly to tribal communities to provide better access to fresh produce and other products. In 2016, due to logistical challenges and to improve its intended impact, MoGro shifted to a CSA-inspired model. This allowed the project to work with a larger network of small-scale, local farmers to aggregate and distribute many more fruits and vegetables.

Currently, a powerhouse team of passionate, dedicated people pack bags with seasonal produce and staples that are delivered throughout northern N.M. and from Albuquerque to the Navajo Nation. In 2020, MoGro distributed 230,000 pounds of local produce and N.M.-made products, and also helped partner organizations such as Presbyterian Community Health and Three Sisters Kitchen access more locally sourced foods.

Customers order bags weekly online and may add products such as tamales, eggs, cheese and beans. The bags are delivered to central locations staffed by MoGro Champions who help people understand the benefits of healthy eating, learn new recipes and build a sense of community. The cost of a MoGro bag is \$20 for those who can afford it and only \$12 for essential workers who don't get essential pay and those who can't afford full price. It's just \$6 for people paying with EBT. This tiered structure subsidizes the cost for those who have the least access to fresh, healthy food.

Tina Whitegeese (Santa Clara/Pojoaque Pueblos), Community Outreach Coordinator

Q: How did you get involved with MoGro?

A: I was looking for something that would impact Native people in a positive way. MoGro was looking for a champion to help distribute food at the Indian Hospital. Fruits and vegetables are a part of healthy living but, unfortunately, a lot of Native people don't get enough. We sometimes think about cheaper, faster, more convenient, and not everybody has access, time or resources to grow their own or get fresh food. Many health afflictions—diabetes, heart problems, obesity—get treated with medications, but I like the idea of food as medicine. I really connect with people talking about food, especially the more exotic ones and how to use them.

Q: How do you see MoGro being most impactful in the communities you serve?

A: We provide access to people who may not otherwise get all this variety of fresh food. We work with small farmers and Native farmers who have more food than they're able to use or trade with neighbors. They feel good about selling their products to people who really want and need it.

Q: How do you purchase food from Native farmers while respecting that food is not traditionally viewed as a commodity?

A: It doesn't feel right to charge for something you have bountiful amounts of. I don't think that's a strictly Native concept; I think it's a concept of community. A lot of Native farmers don't see themselves as commercial farmers; the way their food gets shared is not a cash transaction. We approach them with the idea that if they have enough extra for us to be able to buy and share with others, having people eat their food is healthier and better than from some large commercial enterprise.

Q: What barriers does MoGro encounter in getting food from local farmers out to the community?

A: Government regulations around food safety. It can be hard for smaller farmers to get the certifications needed to sell their food. Access is also a challenge. People can't get to fresh fruits and vegetables in their own communities, so it's important that we have our distributions where they're most needed. But we have limited points and times. Variety is a challenge as well. Some weeks and through the winter, all local farmers have is lettuce, so we have to source from outside to get the products our customers want. The higher cost of local foods is also difficult. We provide our fresh fruit and vegetable bags to SNAP recipients at a low cost, so it's difficult to be sustainable when we're spending more on products.

Q: Where does MoGro excel?

A: Consistency. We're always in the same place week after week, so word gets out and people get to know us. Through social media postings, people know to stop by even if they haven't ordered ahead. We reach out to people who are on food assistance and make sure they have access. Everyone at MoGro has a sincere intent to keep their community healthy with unprocessed fruits and vegetables.

Q: What helps you and MoGro be successful?

A: Funding. Refrigerated trucks, staffing and food all cost money, so it helps support all the work. Relationships are also important. Knowing, as a MoGro Food Champion, whom to talk to, and establishing a level of trust that extends, for example, from every patient at the Indian Hospital up through the doctors.

Q: Where would you like to see MoGro in the future?

A: We'd like to get more customers who can afford a full-price bag to help support the price-reduced ones.

Q: What is your one wish for something that would help MoGro?

A: For more people to recognize how important this type of program is and how it makes such a difference for people to have access to fresh fruits and vegetables. I want more people to know that it impacts their neighbors, their patients, whomever, and see that it is a solution. ■

If you are interested in getting a MoGro bag, call 505-216-8611, email INFO@MOGRO.NET or visit www.mogro.net.



MoGro delivery

NEW MEXICO HARVEST

New Mexico Harvest (NMH) was founded as Beneficial Farms in 1994. It operated as a traditional CSA, aggregating produce from local and regional farms for distribution to customers. In 2019, Thomas Swendson bought Beneficial from Steve Warshawer and rebranded it with the plan of expanding the CSA and developing a wholesale sales and distribution element.

Through the pandemic, NMH saw a 500-percent growth in CSA shares as people struggled to access food. Members place customizable weekly orders online from extensive lists of produce, meat, dairy, grain, cheese, bread, spices, beverages, sauces and more. NMH then either orders from farmers who bring their products to the aggregation and storage warehouse or will pick up products from the farm in refrigerated trucks. All products are labeled with dates, origin and produce safety certification information to meet federal traceability rules before being packaged for delivery. Three trucks deliver around Albuquerque, Santa Fe, Turquoise Trail, Los Alamos, and soon, Taos. In addition to the CSA distribution model, which currently makes up the bulk of sales, NMH is growing a wholesale business aggregating bulk produce purchases for restaurants, grocery stores and institutions. These new outlets will help farmers access more and larger markets and allow New Mexicans more opportunities to enjoy the state's bounties.

Kyle Malone, Wholesale and Marketing Manager, N.M. Harvest

Q: What is NMH's primary goal and what are you doing to achieve it?

A: We work for the farmers and CSA members to make local food mainstream. New Mexico exports something like 95 percent of the food we produce, and imports around 97 percent of the food we eat, so there's a lot of room for improvement. We have weekly conversations with farmers to talk quantities, price-points, quality, food safety, and how we can make their lives easier. For our members, we've created Standard Operating Practices (SOPs) to ensure fresh food makes it to their door within 24 to 48 hours of harvest, and the value-added foods (salsa, bread, cheese, etc.) are not only made in N.M. but use N.M.-grown and raised products.

Q: NMH earned GAP (Good Agricultural Practices) certification this spring. What was the process like and how does it help your operations?

A: Michael Venticinque from N.M. Farmers Marketing Association helped us develop our SOPs to make certain our produce is safe, fresh and traceable back to the field, which is required by the federal government to be able to sell to larger markets. We spend a lot of time cleaning and sanitizing everything, from the trucks to the delivery bags. This certification lets us sell to hospitals and schools and grocery stores.

Q: You've had an exciting year of expansion; can you identify some of the agencies or programs that have helped you achieve that growth?

A: The N.M. Farmers Marketing Association has been a great resource. Michael got us talking about getting GAP-certified, gave us many resources and did the certification. The N.M. Economic Development Department with JTIP (Job Training Initiative Program) will pay for half of the wages for six months for new hires. Also, the LEDA (Local Economic Development Act) grants help manufacturers expand, since one of the things we do is food manufacturing. The Regional Food Systems Partnerships Value Chain group has been great.

Q: What are some of the things that have hindered your growth?



Kyle Malone, wholesale and marketing manager, New Mexico Harvest, Albuquerque

A: There are things that could be working better, like inventory management and our online marketplace. We're working on them, but it's very expensive to buy new technologies. There's a lot of paperwork for bringing farmers on board and for GAP certification. It's necessary, but it would be fantastic if we could reduce the amount of time it takes.

Q: What are some of N.M Harvest's goals and dreams?

A: We want to develop the wholesale side and see more local food for everybody from Roadrunner Food Bank to Whole Foods. We want to build stronger relationships with farmers. Part of that is offering them more services like packaging and marketing. Another near-term goal is to expand our trucking network and go all-electric; we want to be environmentally sustainable, and the technology is getting there for us to reduce our carbon footprint.

Q: If you had one wish for something to magically help NMH grow, what would it be?

A: Besides a million bucks, my wish would be for consumers to understand the importance of the local food system and being self-sufficient. They need to know that we as New Mexicans can take care of and support ourselves. ■

For more information, visit [HTTPS://WWW.NEWMEXICOHARVEST.COM/](https://www.newmexicoharvest.com/).

TABLE TOP FOOD HUB – TUCUMCARI

A food hub in Tucumcari, a small city of about 5,300 in eastern New Mexico with only one grocery store, is still a dream. David White has been working on this dream for years. David's story, one he shares generously and honestly, is different from others in this article. In 2014, David was released on parole. He was incarcerated for eight-and-a-half years after struggling with drugs and alcohol throughout his adult life. While in the Department of Corrections, David was placed in work camps where he learned and eventually taught other inmates about agriculture in the prison-sponsored horticulture and aquaculture programs. He had big plans to start a ministry using food production as a vehicle for growth and sustainability when he landed in Tucumcari.

Q: Why agriculture and how did you get started?

A: I had this vision for a place where people could learn to be whole and healthy in a supportive, Christian environment before I went to prison. While there, I found focus in growing food. I went to City Council and Economic Development Corporation meetings to present the idea of getting more food growing around Tucumcari, both in greenhouses and in fields. I met Bob Hockaday, who was working on converting an old ethanol plant into an alternative fuel production facility. He knew that greenhouses use CO₂, a byproduct of the process, and we recognized that and other common benefits from our plans. After a lot of conversations, I decided it was time to stop talking and start doing. I started throwing hundred-dollar bills at a greenhouse on the plant property and began growing food. I was eventually able to get a microloan from FSA (Farm Service Agency) and start growing in the adjacent field as well.

Q: How did the idea of a food hub originate?

A: I knew that I'd need a mechanism to move that much lettuce, fish and whatever I and others produced. I met a few other like-minded individuals, and we started working on the idea of Table Top Food Co-Op. It took over two years to create bylaws and get officially recognized. We started a beginning farmer/rancher mentor program, of which I was the first graduate. Meanwhile, on a rainy day when I couldn't get into the field, I stopped by La Casa Verde Floral and Nursery to talk to the owner about participating in the co-op. He said he was planning on closing the business and I realized immediately it would be a great retail outlet for fresh food, so I ended up getting another FSA loan and buying it.

Q: Where does the food hub stand today? Where do you see it a year from now?

A: We have our third cohort in the Table Top Food Co-op beginning farmer/rancher program. I got on the N.M. Grown approved vendor list and am selling fresh produce out of La Casa Verde to the public, three schools, two restaurants and nearby food co-ops; plus, I just got approved to accept SNAP and Double-Up Food Bucks. There are four or five other farmers working on farm safety plans so they can start selling to markets as well. In a year, I'd like to have at least one refrigerated truck on the road making deliveries, have an e-store, a CSA and access to retail outlets to give producers more markets for their products.

Q: If you could wish for one thing to help grow this dream, what would it be?

A: A commercial kitchen—fresh food is highly perishable. We need someplace to process and preserve this food so we can make year-round sales.

Q: What helped you most to get to where you are?

A: As much as I hate giving the DOC credit for anything, without the time I spent in prison, I never would have gotten my education, never would have moved forward with my dreams and visions. I slowed down and cultivated the soil of my heart and mind. I also had the right connections in the community at the right times—coaching, cheerleading and encouraging me.

Q: What has held you back?

A: The DOC. I'm probably a couple years behind because of the work and accountability requirements they have. The USDA—they talk a big game about helping the underprivileged, then hand out stacks of paperwork that are discouraging to get through. ■

Erin Ortigoza is local director of ESHIP Río Grande and co-owner Ancient Waters Farm in Española. 505-301-8083, EORTIGOZA@FOWARDCITIES.ORG

David Sundberg is co-chair of the Santa Fe Food Policy Council. Contact him for more food hub information. DAVIDSUNDBERGNM@GMAIL.COM



David White has been working to establish a food hub in Tucumcari.

ELEVATE N.M. AGRICULTURE \$5 AT A TIME

Campaign seeks to bolster state's agriculture industry and economy

The New Mexico Department of Agriculture and its NEW MEXICO-Taste the Tradition®/Grown with Tradition® logo program have launched the “Elevate New Mexico Agriculture \$5 at a Time” campaign to support N.M. agriculture and small business.

The campaign encourages New Mexicans to support locally grown and made products by increasing spending by at least \$5 on locally grown and -made products every week. The campaign includes social media promotions and contests, as well as a website,

ElevateNMAg.com, featuring recipes, videos and a growing list of New Mexico producers.

“It's especially important to encourage New Mexicans to take the challenge at a time when so many businesses are trying to recover from the effects of the pandemic,” said N.M. Agriculture Secretary Jeff Witte. “Purchasing locally grown and -made agricultural products gives consumers confidence in product quality and freshness. I encourage everyone to look for local products, taste the tradition, and help grow our local economy in your own community.”

Over 150 retailers in New Mexico are taking part in the campaign, including both chain grocery stores and independently-owned food businesses. Locally grown and -made products such as salsa, pecans, dry mixes, sauces, wine, flowers, honey, beef and jam with the logo may be found at retailers throughout the state.

Practicing Good Agriculture in New Mexico

BY ERIN ORTIGOZA

Michael Venticinque, value chain coordinator with the New Mexico Farmers' Marketing Association (NMFMA) recalls driving around in 2018, making connections with farmers and colleagues with a big-picture question. "How might we work together in the food value chain to make small- and mid-scale agriculture more profitable so folks can make a living by continuing agricultural traditions?"

Venticinque's previous work as the Southwest regional produce supervisor for Lowe's Pay and Save gave him a unique lens on the ins and outs of food retail, aggregation and distribution, and he found a calling in applying this work to help farmers in the N.M. food system.



Corn growing in Tucumcari, N.M.

Venticinque sees an emerging collective momentum as food hubs throughout the state build capacity, gain food safety certification and provide accessible training for growers. With food safety practices baked into every step of the regional food value chain, he says that local products can be aggregated into larger, wholesale and institutional markets such as schools, senior centers, early childhood centers and grocery stores.

Good Agriculture

Value chain work yielded a great deal of success in 2018, realizing additional regional food sales for N.M. growers of \$1.2 million. It also illuminated inequities for smaller farmers. It was specifically through connecting farmers with local retail outlets in places like Las Cruces and Hatch that Venticinque saw how smaller-scale farmers throughout the state were challenged in accessing local retail to increase their market options, with a major barrier being food safety certification.

Larger farms typically have more capacity to pursue the USDA food safety certification known as "Good Agricultural Practices" or GAP. This refers to a voluntary audit that verifies that fruits and vegetables are safely produced, packed, handled and stored to minimize risks of microbial hazards. While many larger-scale farms have attained this

Local products can be aggregated into larger, wholesale and institutional markets

certification, which is often required to access wholesale retailer markets, small farmers are never going to catch up if there aren't in-roads and on-ramps tailored to their needs. Farmers and ranchers of all sizes in N.M. have been practicing good agriculture for generations. New Mexico-grown food is delicious, nutritious and brings the unique energy of our natural and cultural environments to families' plates. Local growers understand the tastes and needs of their communities and prosper when New Mexicans have better access to their harvests.

Agri-cultura Network and N.M. Harvest were the first N.M. food hubs to gain GAP certification.

For farms to increase sales and move food further into the community, there is the need for recordkeeping, traceability and a shared commitment to food safety protocols that are informed by and tailored to the state's diversity of growers.

GAP is one option to open doors for farms, but it does not work for all. To even the playing field and create equitable access to wholesale markets for small/mid-scale farmers, additional avenues are needed that elevate the farmers' wisdom and lived experience.

New Mexico Tiered Food Safety Trainings

In 2019, NMFMA's gears shifted from sale-oriented assistance to food safety capacity building in order to expand farmers' sales and platforms. As a more accessible alternative to GAP, Tier 1 and Tier 2 trainings were developed in coordination with the Public Education Department's farm-to-school program and with farmers as a "N.M. Grown" pathway.

Venticinque and a team of trainers work with farmers to explore food safety and help them go back to their farms with a critical eye, evaluating things such as previous land use, water quality, soil health, and pre- and post-harvest handling. The trainings also support completion of a Farm Risk Assessment Plan customized to each farmer and their unique farm. It acts as each farm's operations manual to ensure continuous improvement and implementation of food safety practices.

Upon completion of the trainings, farmers are eligible to apply to be on the statewide approved supplier list that wholesale and institutional food service professionals can access for efficiencies in local purchasing. Over the last several years, the list has grown exponentially.

The vision Venticinque shares involves helping food hubs gain GAP certification, supporting growers in getting training and implementing safety practices. That way, food safety is baked into every step of the regional food value chain and local products can flow into larger wholesale and institutional markets for the benefit of the people they serve and to benefit the state's agricultural economy.

Ecosystem Building and GAP Certified Food Hubs

Ecosystem building in our food community is similar to the value chain work that has become well established in N.M. Ecosystems are networks of connected people, programs, places, and in many cases, policies that ultimately support entrepreneurial vitality in a given geographic region. The ESHIP Communities program was developed as a community-driven approach for building entrepreneurial ecosystems that elevate inclusion, relationships, collaboration and social capital across networks of entrepreneurs and those who support them. In N.M., ESHIP Río Grande is working with community partners to support cohesion in the food and agricultural ecosystem.

In early 2021, ESHIP Río Grande and NMFMA partnered to support food hubs interested in pursuing GAP certification as well as providing NMFMA member scholarships for the organization's affiliated growers. This project is ongoing through 2021 and offers:

- Financial support for food hubs to attain membership in the USDA Fresh Systems Good Agricultural Practices (GAP) Group
- Support to help cover GAP audit costs
- NMFMA membership provides free access to Tier 1 and Tier

2 Food Safety training, customized farm safety plan development and implementation assistance, and support in applying to the N.M. Grown approved supplier list

In March 2021, two N.M. food hubs became the first to gain GAP certification. Agri-cultura Network and N.M. Harvest forged a path demonstrating the unique ways that GAP food hubs can serve as anchors in regional wholesale and institutional markets.

Food hubs are not new to N.M. Throughout the last decade, several businesses and organizations have led the way, managing aggregation, distribution and/or marketing of regional products to achieve mission-driven goals centered around food accessibility, trust and equity, and supporting agricultural business viability. That foundational work has led us to where we are seeing opportunities for networking *amongst* food hubs—a network of food networks grounded

ESHIP Río Grande and NMFMA are working with community partners to support cohesion in the food and agricultural ecosystem.



New Mexico Farmers' Marketing Association Tiered Food Safety Trainings in Belen

in relationships and food safety. This stage of collaboration and capacity building at an ecosystem level is aimed to support existing grower networks and offer on-ramps to wholesale buyers for new growers, and increase equitable access to N.M. Grown produce for all New Mexicans.

ESHIP Río Grande is a supporting partner in the Regional Food System Partnership grant. This three-year USDA funding is shepherded by NMFMA. It is engaging food hubs and food/farm support organizations all over the state through a “collective impact” process—a container for developing a unique, intentional way of sharing information for solving a complex problem. In our work in the N.M. food community, attention is placed on the following goals and outcomes:

- **Cultivate a supportive and resilient local food value chain coordination ecosystem.**
- **New Mexico becomes a model for value chain coordination.**
- **Generate new, and expand existing, local food value chains.**
- **Communities increase belief in their own power to create change. Broad geographic implementation and issues of equity are addressed.**
- **Generate cohesive marketing and promotion for local food and expand access points for local food purchases by low-income New Mexicans.**
- **Increase food security and improve food quality in vulnerable communities.**



Michael Venticinque with Ralph Vigil in Pecos, N.M. spinach field



Countless people have advanced this cause but there is much to be done. In order to maximize the effectiveness of programs like these, additional stakeholders will be required. Should this work call to you and align with practices you are already implementing, please reach out. Email MICHAELFVENTICINQUE@GMAIL.COM to learn more about the resources that NMFMA offers, and get involved in the Value Chain work in New Mexico You can contact me to learn more about ecosystem building and ESHIP Río Grande. EORTIGOZA@FORWARDCITIES.ORG



NEW MEXICO SUPPLY CHAIN HEROES

BY LISSA JOHNSON AND NINA ROSENBERG

At the beginning of the pandemic in March 2020, weaknesses in food supply chains quickly became apparent. When the supply chain is national or international and highly centralized, just one break can cause the entire system to slow or stop. In New Mexico we are fortunate to have a resilient regional food system. Between local farmers' markets (which implemented COVID-safe protocols), La Montañita Co-op Food Market, and CSAs (Community Supported Agriculture), it was relatively easy to find fresh, seasonal produce. However, the national food products were often difficult to find.

This situation inspired Slow Food Santa Fe to create a webinar series on “*Getting to know our food system: from grower to eater and everything in between.*” Our webinar,

“*Nobody cares about supply chains ‘til they break!*” featured panelists Thomas Swendson from N.M. Harvest, Michael Venticinque from the N.M. Farmers' Marketing Association and Jennifer Knapp from La Montañita.

At the beginning of the pandemic, these panelists—with their colleagues and teams—quickly redirected food intended for restaurants and schools to senior centers and others in need. Pre-COVID, the co-op delivered 50 percent of its produce to restaurants. As Jennifer Knapp put it, “We were quick to unite our forces.” She described being on the phone with Venticinque early on. “I’ve got a thousand pounds of lettuce; where is it going to go?”

Venticinque talked about N.M. rapidly becoming one of the nation’s leaders in GAP-certified food hubs and in the introduction of food safety training to small farmers. GAP stands for Good Agricultural Practices. It is a U.S. Department of Agriculture program that assures the safety of produce consumers purchase. Venticinque sees food safety as one of the most important enablers supporting local supply chains. New Mexico has several regional food hubs collecting and moving local food throughout the state. New Mexico Harvest and Agri-Cultura Network are already GAP-certified. Others working toward certification include Desert Spoon, Southwest N.M. Food Hub and San Juan College Harvest Food Hub.

Swendson talked about local food subscription services, including various CSA models. He said that the U.S. food system is designed around “go big or go home,” putting small-scale farmers at a disadvantage. By pre-selling food, the CSA gives farmers an idea of how much to grow, provides a more reliable income stream, and therefore helps stabilize the local supply chain. CSAs flourished during the pandemic as many people chose to have their food delivered.

Venticinque said that more than 90 percent of food grown in N.M. goes out of state, and that more than 90 percent purchased here comes from outside the state. One of his goals is to increase by 10 percent the food grown in N.M. staying in the state. That would have a huge impact on farmers and job creation.

Knapp spoke about the importance of eating locally and seasonally, especially given the many talented farmers here. Seasonal eating can inspire new appreciation of particular crops that may have a brief but memorable appearance in our food landscape, rather than eating, for example, peaches throughout the year that come from distant continents.

The panel highlighted other reasons to support the local food supply chain: quality. How fresh do you want your food? Does it matter if your fruits and vegetables were picked within 12 to 48 hours of your purchase, versus a week or more before? Does it matter how many people have handled your food by the time it

We are fortunate to have a resilient regional food system.

gets to your plate? Much food distributed to grocery stores and restaurants goes to waste. With fresher food, there is less waste.

Beyond keeping farmers supported and food on the table during a global pandemic, strengthening local food systems is a way of investing in ourselves and our communities. ■

Lissa Johnson and Nina Rosenberg are Executive Board members of Slow Food Santa Fe. Recordings of the food system conversations and information about SFSF are available at WWW.SLOWFOODSANTAFE.ORG.

LA SEMILLA FOOD CENTER, ANTHONY, N.M.

La Semilla Food Center (LSFC) is located in Anthony, N.M., in the heart of the Paso del Norte region, which includes southern New Mexico and the El Paso-Ciudad Juárez border. Through its farm and educational programs, such as teaching youth and families to grow and cook food, LSFC fosters connections among food, health and local economies. The center is helping build a healthy, self-reliant, fair and sustainable food system that prioritizes community and environmental health.



La Semilla's farmer fellows and staff assess crops at the community farm.
© Michelle E. Carreon

This year marks La Semilla's inaugural Farmer Fellowship, an opportunity for local beginning farmers to learn agroecological food production through



Al Woody, a Diné artist, in front of his mural at Bowie High School, El Paso, TX. © Michelle E. Carreon

immersive farming during a six-month paid apprenticeship. Designed as a cohort system, the fellowship is fostering a broader community of desert farmers.

Another recent project was the creation of murals inspired by community members' stories. One is by El Paso-based artist Christin Apodaca. Covering two sides of a shipping container at LSFC, the mural depicts local food, native plants and pollinators. It will be unveiled later this year. Local Diné artist Al Woody created a mural at Bowie High School in El Paso, depicting local foodways and culture.

“Food, Land and Us: A Look at the Farm Bill from the Paso del Norte Region”

LSFC has released a “zine,” a print and online work featuring text and images illustrating the contemporary impact of the U.S. Farm Bill. A year in the making, *“Food, Land and Us: A Look at the Farm Bill from the Paso del Norte Region”* is a collaboration between La Semilla staff co-authors Rubi Orozco Santos and V. Quevedo, and illustrator Zeke Peña. After extensive research, they included histories, voices and imagery from the region.

“Food, Land and Us,” through a story set in Vado, N.M., reviews U.S. agriculture policy with a perspective that includes tales of “stolen land, labor, and inequities many communities face today.” It is a call to action for communities to transform agricultural food systems on their own terms. The zine aims to make the Farm Bill accessible as a potential tool for people who want to claim a seat at the table to shape agriculture policy.

A recording of the virtual release event that took place in August with the zine’s creators and other panelists is accessible on La Semilla’s Facebook page and YouTube channel. Digital and print versions of the zine may be accessed at the food center’s website. To learn more about La Semilla’s work, projects and events, visit WWW.LASEMILLAFOODCENTER.ORG. ■

VISITING THE ESPAÑOLA FARMERS’ MARKET

BY **SABRA MOORE**

During the COVID-19 pandemic, customers and farmers continued to come together to celebrate locally grown food in a safe environment at the Española Farmers’ Market. Last season we had to forgo our fiestas, but this year, Don Bernardo y los Ultimas’ are back each Market Monday morning with fiddle and guitar music. We will host our traditional fiestas on Labor Day, Sept. 6, with free chile roasting, and our 21st annual Biggest Vegetable and Best Poem Contest on Oct. 11, Indigenous Peoples Day.

We continue to encourage safe practices—mask wearing, maintaining social distance—but the market is returning to its normal energy. We are hosting several groups that provide health information. We have a free weekly children’s book exchange and distribute over 1,000 books each season. We also are collaborating with Tewa Women United and New Moon Lodge to cultivate native, organic crops in the back fields. When customers come to the market, in addition to the vendor booths with fresh fruits and vegetables, they are greeted by fields of sunflowers, amaranth and blue corn. There is also a wildflower garden at the entrance.

A nexus for the agricultural economy of the region

The market is entering its 27th season. It serves as a nexus for the agricultural economy of the region. It is located on three acres at 1105 N. Railroad Ave.

It is open on Mondays, 10 a.m. to 3 p.m., from June 7 through Oct. 25. We have a rostrum of 110 farm families who participate as harvest allows. We often host 25 growers at the height of the season.

Last summer, the growers earned more than \$185,000 in sales of fresh vegetables, benefiting the economy and the physical and cultural health of our community. The market



Xochitl Romero from Chimayó with her herbs and teas. © Sabra Moore

has many programs that help low-income customers shop. Seniors and mothers are able to use WIC coupons. Last year, people eligible for EBT/SNAP used wooden tokens to purchase \$14,954 in healthy fruits and vegetables, and we doubled that through the DUFB program for additional purchases totaling \$13,140. Thanks to those programs, the market purchased \$28,098 of food from the growers that was distributed to eligible community members.

Visitors include customers who shop weekly, tourists, college students, young mothers and their families, and school children on class tours. The growers come from many northern N.M. locations: Chile, Chamita, Abiquiú, Velarde, Tierra Azul, Alcalde,



Luis Manuel Ojeda and Guadalupe Cintora, from Española, with chile and squash. © Sabra Moore

Chimayó, Santa Cruz, Sombrillo, La Mesilla, Española, Peñasco, Santa Clara, Chama, Dixon, Hernandez, Nambé, Embudo, etc.

Our customers know they are buying the freshest local fruits and vegetables at fair prices. Visitors can find the expected: melons, apples, squash of every variety, greens, corn, chile, onions, beets, turnips, herbs, peas, beans, etc.—and the unexpected—*quelites* and other wild greens in season, medicinal herbs such as *osha*, grass-fed lamb, heirloom varieties of squash, *chicos*, *horno* bread, *pastelitos*, *cota* tea, local honey, handmade soap and native salves. Some growers plant with heirloom seeds that represent five generations of selection.

Many of the growers sell their produce in all the regional markets but say they make better daily sales at the Española market due to its smaller size and local clientele. The money made stays in the local communities and is spent at the feed store, equipment supply store, grocery store, etc. By giving local farmers a viable outlet for their products, Española Farmers' Market allows them to stay



in the valley, maintain the traditional *acequias* and preserve farmland. Some of our growers are retired teachers or military veterans who have returned to farming after retirement; others are young farmers or chefs. Come visit us!

Sabra Moore is an artist who has managed the Española Farmers Market for over 20 years.

HONORING THE LIFE OF GABRIEL ESTRADA

BY PAULA GARCÍA



Gabriel Estrada at the state capitol

One of our most devoted acequia leaders, *el estimado* Gabriel Estrada, known to most as Gabe, recently passed away. A staunch defender of the historic water rights of the acequias along the Río de las Gallinas, Estrada had been involved in litigation to protect agricultural water rights since the 1950s. Along with his fellow *acequeros*, he had been anticipating a long-awaited decision in a water rights adjudication lawsuit that has been ongoing for decades. He was one of the founders of the Río de las Gallinas Acequia Association, which shaped the acequias' legal defense.

Gabe Estrada was a spirited and frequent speaker at acequia events, often sharing his lifetime of experience about ranching, water rights and stewardship of watersheds. He was one of the longest-running elected officials in New Mexico, with over 50 years of service as a supervisor for the Tierras y Montes Soil and Water Conservation District (SWCD). He was a lifelong advocate of the historic land and water rights of the families of northern New Mexico and would often give public

testimony in favor of keeping access to public lands for traditional uses such as grazing, forest harvesting and thinning. He and his brother, Mike Estrada, were companions in the busy world of acequia meetings, court hearings, legislative committees and SWCD meetings.

One story from my own family reflected his relationship with my great-grandfather, Samuel García. At the time, Gabe worked at the *venta* (livestock auction) in Las Vegas, New Mexico, which was still open and serving a thriving small-scale ranching community in San Miguel, Mora and Guadalupe counties. Although Gabe was much younger than he was, my grandpa Samuel would take Gabe an apple and tell him, "*aquí truje una manzana para el maestro*" (Here I bring an apple for the teacher.) For his many years of dedication to ranching, Gabe was a *maestro* (teacher or mentor) to many involved in agriculture and advocacy for farmers and ranchers.

The New Mexico Acequia Association (NMAA) honored him at Acequia Day at the State Capitol in 2019, when he gave a speech in the rotunda. He and his wife, Ernestine, participated in the festivities, including a march with colorful blue banners representing the sacredness of water. He continued to be an active and dedicated rancher until his last days. In late July, he had an accident when he was baling hay. Like other ranchers of the region, he was likely rushing to beat the afternoon monsoon rains. He did not survive the injury, but there is no doubt that he was in his glory with the abundant hay from this summer's generous rains. He left us the way we knew him, a hard worker who was determined to continue ranching.

His memory will serve as an inspiration to those who hope to continue their ancestral way of life and to be good stewards of the land and water. He leaves a proud legacy in his family and loved ones, including numerous grandchildren and great-grandchildren. NMAA sends our most heartfelt condolences to the family and loved ones of Gabe Estrada, an icon of the acequia community in New Mexico.



Con respeto,
Paula García

Paula García is executive director of the New Mexico Acequia Association.
[HTTPS://LASACEQUIAS.ORG](https://lasacequias.org)

THE 2021 REGENERATE CONFERENCE: WEAVING WATER, LAND, AND PEOPLE

It's Crucial to Convene, Interact and Weave After a Year of Separation

BY ARIELLE QUINTANA AND SAM HINKLE

It may feel like, in the last year-and-a-half, we more often connected via virtual avenues than paved or dirt ones, measuring speed in megabytes per second rather than miles per hour. The year 2020 and a significant portion of 2021 were characterized by isolation and separation—physically, politically and emotionally.

Separation is not unfamiliar in Western communities where agriculture remains a fraught environmental topic. Parties that have the tools, expertise and position to help each other manage land more sustainably—like ranchers, farmers, conservationists and government agency personnel—have instead often been at odds with each other. This conflict continues to damage our climate, the health of western

This year, REGENERATE will embody a season of learning across the country rather than a distinct conference.



Top: Panel discussion, 2019 REGENERATE Conference. Bottom: Soil health presentation by agroecologist Nicole Masters to New Agrarian mentors and apprentices. © Alex Isbonogofsky

landscapes and the quality of relationships between people who call the West their home.

These issues are exacerbated by demographic challenges. According to the 2017 U.S. Agricultural Census, the average age of ranchers and farmers is 58. Fewer and fewer young people are electing to enter or remain in agricultural production. This removes the means of agricultural land succession, separating the immense land-based knowledge of a rapidly aging generation from the generation that needs to learn it in order to sustainably take on management of some 790 million acres of working land in the continental U.S. Additionally, despite a wealth of production knowledge, the valuable experience of Black, Indigenous and other People of Color (BIPOC) has been isolated and separated from agriculture—95 percent of agricultural producers in this country are White.

There has perhaps never been a better time for us to start *weaving*. Weaving is the intricate process of making a complex story, pattern, or integrated whole from multiple, distinct elements. The practice of weaving holds deep significance, as we are reminded through the stories of Black slaves braiding rice and seeds in their hair when forced to undertake the Middle Passage journey, or by the knotted yucca cords used to signal the start of the Pueblo Revolt. Weaving is a means of survival, resistance and subsistence for cultures worldwide since time immemorial. Each of us weave in our daily lives as well—when we collaborate with partners; when we identify and solve problems on our ranches and farms; when we develop symbiotic relationships with the plants and animals around us; when we share our story with new friends; when we listen and have conversations with neighbors—weaving is a celebration and expression of our identities and our relationships to one another, and it is a celebration needed now.

That is why the American Grassfed Association, Holistic Management International and Quivira Coalition chose to focus their joint 2021 REGENERATE Conference on the many interpretations of *Weaving Water, Land, and People*. After more than a year of isolation, the three conference partners felt a need to focus this year's conference on interconnectedness.

Understanding and recognizing how water, land and people—the core elements of regenerative agriculture and land stewardship—are woven together and connected is imperative. This year's conference will take a holistic approach to these elements that is grounded in several fundamental ideas: *water* is life; *land* includes terrestrial, aquatic and atmospheric systems and all the relationships within them; and *people* re-

Water, land and people are the core elements of regenerative agriculture and land stewardship.

fers to those who regenerate our lands and food systems at varying scales and times, past, present and future. In addition to topics like soil health and water rights, the conference partners intend this year to center marginalized peoples, weaving in the often isolated and ignored perspectives of those who have long practiced regenerative agriculture and land stewardship.

Of course, with the pandemic rearing its head once more, the conference partners' desire to convene will remain flexible in order to quickly adapt to changing public health recommendations. In prior years, the conference took place over several days at a hotel in Albuquerque. This year, REGENERATE will embody a season of learning across the country rather than a distinct

conference. It will be held as a hybrid event, providing platforms for both in-person and virtual engagement. Starting in September, the conference will host educational field days for in-person attendees at ranches and properties from California to Georgia. Then, during the week of Oct. 25-29, REGENERATE will offer numerous virtual workshops regarding topics like compost use on dry rangeland, conservation easements and water rights, and tips for land succession. Finally, REGENERATE will culminate Nov. 3-5 with a two-day collection of plenary and roundtable sessions hosted in Albuquerque (location TBD) and streamed virtually.

As the situation surrounding COVID-19 continues to evolve, so does this flexible conference. Registration information and the most current updates can be found on the Quivira Coalition's website (www.quiviracoalition.org). While the means by which we convene and the media we use to engage may be affected by the pandemic, the spirit of this conference remains unchanged. The conference hosts are committed to finding meaningful ways to convene and engage with people at REGENERATE 2021. There is no better time to start *weaving*, and the conference partners hope you will register to contribute your unique experience to the tapestry. ■

Arielle Quintana is Education and Outreach project manager for the Quivira Coalition.

Sam Hinkle is Communications and Development director for the Quivira Coalition.

AGRICULTURE NONPROFIT ROOTED IN NEW MEXICO AWARDED \$460,000



The Quivira Coalition has received a \$460,000 award from the California-based Woka Foundation. Over the course of two years, the grant will support Quivira's mission to work as part of a coalition of ranchers, farmers, government agencies and land stewards to foster resilience on arid working lands.

The Santa Fe-based organization's work has grown to encompass much of the western U.S., with programs currently operating in Colorado and Montana and plans to expand into Oregon, Wyoming and the Dakotas. Quivira's efforts have helped establish N.M. as a thought leader in the realm of regenerative agriculture, especially as it pertains to ranching in the arid West.

Quivira's programs include a New Agrarian Apprenticeship program, which connects the next generation of agricultural leaders to the land-based knowledge of current regenerative practitioners; the Carbon Ranch Initiative, which focuses on deploying healthy soil practices on at least 10 percent of New Mexico's land; an Education and Outreach program that produces land stewardship workshops and open-source materials; a Land and Water program focused on collaborative restoration work, and a Tribal Land Stewardship Initiative, focused on supporting Indigenous-led stewardship efforts.

Quivira also collaborates with American Grassfed Association and Holistic Management International to host an annual REGENERATE conference in the fall. This year's conference, *Weaving Water, Land and People*, will offer educational field days across the country in September, a week of virtual workshops in October, and two days of plenary sessions in early November. For more information, visit WWW.QUIVIRACOACTION.ORG. ■

OP-ED: LAWRENCE GALLEGOS

FOOD DISTRIBUTION SYSTEMS IN OUR STATE NEED TO BE FIXED

COVID-related meatpacking closures stressed many ranchers to the breaking point. New Mexico should prepare now to avoid future catastrophes.

When COVID-19 spread among meat and poultry plant employees in several processing facilities in the Great Plains and Midwest last year, shortages were seen around the country. These hit especially hard in many of N.M.'s Native American and Hispanic rural communities, the very places where this meat was being raised. This cruel irony is a facet of the American food system we don't have to live with, and COVID-19 exposed that we need to fix it, and quickly.

I ranched for almost 30 years in southern Colorado and northern N.M., where I have friends that were hurt when these processing facilities shut their doors. A friend of mine changed his family's ranch operation from cow-calf to selling grass-fed freezer beef following the drought of 2002. By reducing the size of their herd, they could keep their land healthy despite the drought. Selling direct-to-consumer meant they could keep more of the profit from each animal, offsetting the reduction in numbers—a win for the land and the ranch family. They were initially doing well when the pandemic hit, seeing an uptick in sales as people avoided supermarkets. But then, almost overnight, the processing facility they had been using was booked out for months. They had agreements for several processing slots in the coming months, but when the processor decided to drop his USDA certification because he could make more as a custom processor, my friends were left out in the cold. The next available appointment at the nearest USDA-certified facility hundreds of miles away was more than a year in the future.

My friend and his family were able to keep ranching on a much smaller scale while working at other jobs, but if we don't change the way most meat and poultry is processed, in huge plants in only a few states, the next pandemic or disaster could cause many of our best family farmers and ranchers to go out of business entirely. The fact is, the vast majority of livestock raised in N.M. are sold to out-of-state buyers, and almost all the meat consumed here is imported from big processing plants far from N.M. This makes our farms, ranches and communities unnecessarily vulnerable to factors far outside of our control, like disease outbreaks at factories in Kansas, Iowa or Texas. This is the opposite of resilience, and it is totally avoidable. New Mexico needs more local meat-processing capacity, but new facilities require large amounts of capital to get up and running. Now, before the next crisis, is the time for our leaders to step up and make this key investment in a resilient food system. ■



Lawrence Gallegos is the N.M. field organizer for the Western Landowners Alliance.
[HTTPS://WESTERNLANDOWNERS.ORG](https://westernlandowners.org)



The only way to make a living without having to compromise his values was to change his business model.

which now includes door-to-door delivery in the greater Santa Fe and Albuquerque areas.

Tommy is also making significant strides toward building a stronger regional food system for northern N.M. Beyond work on his own operation and his family's farm, Tommy and his father, Anthony, are opening C4 Enterprises, which will be Tierra Amarilla's first USDA-inspected slaughter and processing facility. Originally meant to help Tommy expand his own business with the ability to produce value-added products like roast beef,

pastrami and all-natural uncured beef hot dogs, the Casados quickly realized that this also had the potential to reshape food production in the Chama Valley.

In order to be able to sell to consumers, livestock producers must have their animals slaughtered and processed at a USDA-inspected facility. New Mexico currently has so few of these facilities that producers who want to sell directly to consumers are forced to drive their animals to the southern part of the state or Colorado. COVID-19 further exacerbated the shortage of processing dates, with some small facilities being fully booked for up to a year out. If all goes well with the final steps of building the facility and obtaining permits, it will be up and running in late September. According to Tommy, "There's so much livestock raised in the area that it just makes sense that it would be processed here." Adding a USDA-inspected processing facility to the region will provide jobs for the community, create better market opportunities for local livestock producers, and provide more opportunities for N.M. families to purchase and eat locally, sustainably produced beef.

Tommy is also a mentor in the Quivira Coalition's New Agrarian apprenticeship program (QUIVIRACOALITION.ORG/NEWAGRARIAN), sharing his skills, knowledge and experience with two beginning-rancher apprentices he hired this year. As one of the few in his generation to come back to agriculture in his community, Tommy has a unique understanding of the importance of training and mentorship opportunities for the next generation. In addition to working with two apprentices, he involves his four children in all aspects of his business. It's all part of his vision to produce healthy, forage-raised N.M. beef for New Mexican families in a way that regenerates the land and the local economy.

The New Agrarian program partners with—and is actively seeking to bring in more—experienced ranchers and farmers who prioritize healthy soil, healthy animals and healthy communities. In other words, producers like Tommy, who have a vision for how intentional management practices can improve land health while producing healthy food. Apprentices in the program spend a full season building their skills and

Tierra Amarilla Rancher Invests in Community, Local Food and Future Producers

BY LEAH RICCI PHOTOS BY ESHA CHIOCCHIO

Tommy Casados grew up on his family's cow and hay farm in Tierra Amarilla and always knew that he wanted to return home after college. A seventh-generation New Mexican, he spent summers as a child up in the mountains fixing fences and checking on cows, riding the tractor during haying season, and pitching in on brandings in the spring. After some time away to pursue an education in Range Science at New Mexico State University (NMSU), and a career as a Rangeland Management Specialist for the National Resource Conservation Service (NRCS), Tommy returned to Tierra Amarilla in 2012. There, he and his wife, Jessica, started C4 Farms, a direct-to-consumer, 100-percent grass-fed and finished-beef operation. "I wanted to be able to raise my kids the way I was raised, and to come back and help my family... that's the one thing I wanted to do the same as everybody else—live here and still be a part of the family operation," Casados said.

A vision to produce forage-raised N.M. beef in a way that regenerates the land and the local economy.

They started with just 25 cows on 15 acres of pasture leased from family. The first year was a harsh lesson on the challenges and constraints of selling into the commercial market. After making a profit of only \$20 per cow, Tommy realized that the only way to make a living without having to compromise

his values was to change his business model. His focus now is on optimizing soil and pasture health and selling the highest quality product directly to N.M. families. Rather than relying on commercial inputs, C4 Farms uses an intensive rotational grazing system that allows perennial plants to thrive. They are increasing plant diversity, improving water storage capacity, sequestering carbon in their soils, and ultimately producing healthier, fatter animals. After a few years of selling directly to friends and neighbors and then at the farmers' market, C4 Farms recently switched to selling directly to consumers through its website (C4FARMS.GRAZECART.COM),

Above: Tommy Casados interacts with his steers daily as he rotates their grazing area. This close interaction allows him to stay aware of their health and creates a close bond with his animals.



developing deep connections to more experienced producers and their community. Of his two apprentices this year, one is now applying for a full-time position on a farm in Colorado, and the other fell so in love with the area that he's planning on staying in Tierra Amarilla to teach at the local high school.

What's next for C4 Farms? After their processing facility is up and running, Tommy has his eyes set on building a composting facility, so that all of the waste produced by the processing plant can be utilized to further improve soil health and production on their pastures. He says, "It would be such an easy and seemingly common sense way to get rid of the leftover stuff that we won't be able to do anything with... to have it go back onto our pastures and really fill that nutrient cycle in, and close the loop from beginning to end." ■



Leah Ricci is the New Agrarian Program Director at the Quivira Coalition. She leads Quivira's efforts to provide high quality, intergenerational learning opportunities for aspiring farmers and ranchers.

Above: Tony, Tommy and Anthony—three generations of Casados. Tommy is the fourth generation to raise cattle in Tierra Amarilla and named his ranch C4 to honor that legacy. Below: Tommy Casados, his wife and co-pilot, Jessica and their daughter, Anabel. All four of their children help make the ranch run smoothly.



A hybrid conference: field days in September, workshops online October 25-29, in-person convening in Albuquerque November 3-4, 2021
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GOOD EARTH FILM SERIES

Oct. 5, Reunity Resources, Santa Fe

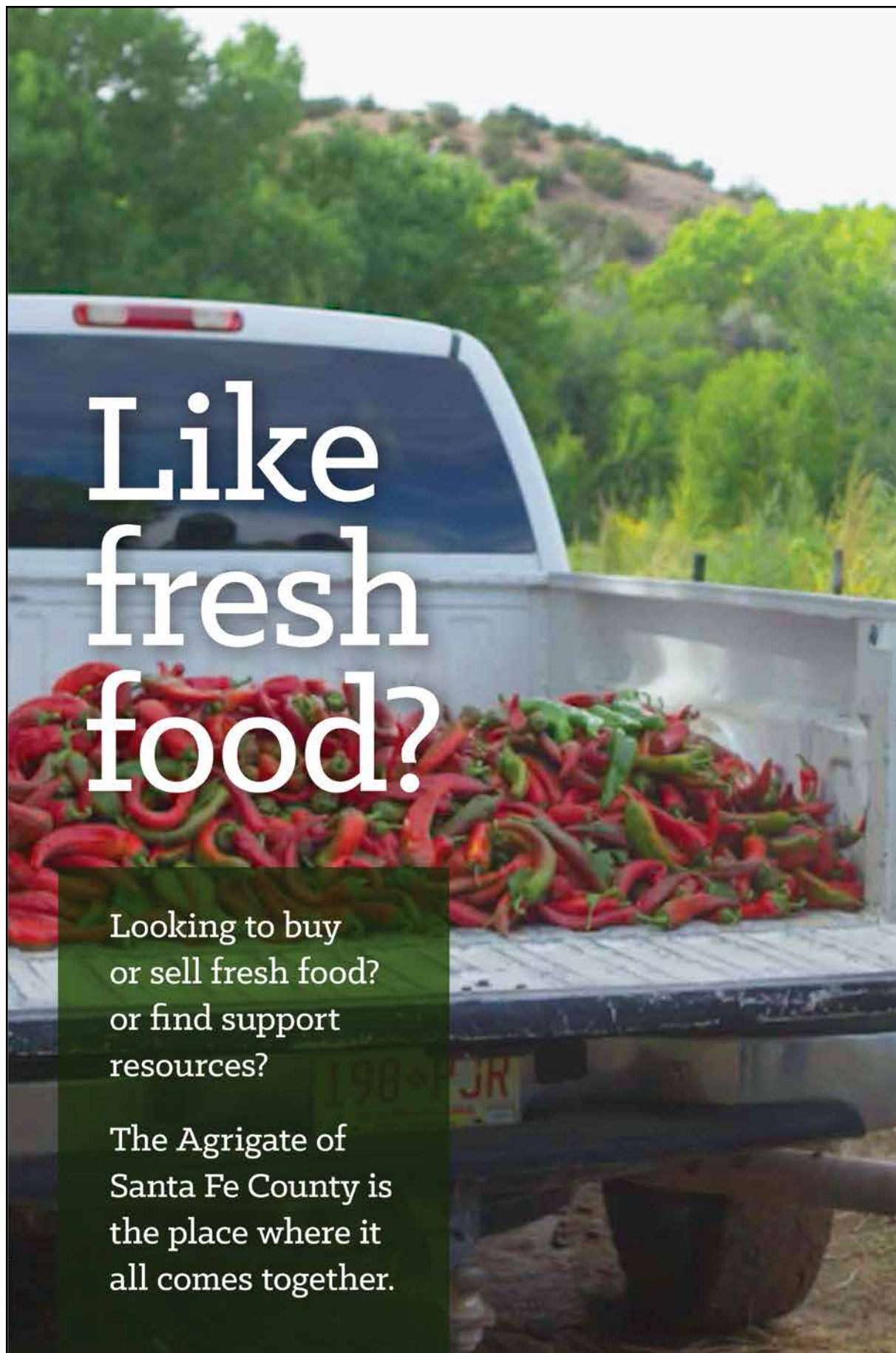
C4 Farms is featured in the Good Earth film series, which celebrates New Mexican agrarians who are revitalizing land through regenerative practices—building soil, sequestering carbon, reducing toxins and improving the health of people, plants and animals. The 8-part series, by photographer Esha Chiocchio and interviewer Mary-Charlotte Domandi, can be found at GOODEARTHMEDIA.COM.

The films will be screened on Oct. 5 at an outdoor movie night, complete with an organic farm stand and food truck. This will take place at Reunity Resources, 1829 San Ysidro Crossing in Santa Fe (Agua Fría). The farm stand will be open from 3–6 p.m.; Rose's Kitchen food truck will be open from 3–8 p.m. The films will start at 7, and a panel discussion with the featured farmers and filmmakers will start at 8. Suggested donation: \$5. GOODEARTHMEDIA.COM.

SOIL FOR WATER NETWORK

The Soil for Water Network is a community of land managers who are raising commercial livestock, trying or continuing regenerative land management practices such as no-till planting and rotational grazing, and monitoring changes in soils and vegetation. The program's peer-to-peer network shares information about how they use livestock as a soil-building tool. One common benefit is an increase in organic matter that helps the soil catch and hold more water.

The project, which is run by the National Center for Appropriate Technology (WWW.NCAT.ORG), a non-profit organization, is expanding into New Mexico and five other states. Membership is free and open to any land manager involved in commercial livestock agriculture. NCAT is working with the local Natural Resources Conservation Service and the New Mexico Healthy Soil Working Group to help land managers adapt regenerative practices to their own ranching and farming businesses. For more information, visit [HTTP://SOILFORWATER.ORG/NETWORK-ENROLLMENT/](http://SOILFORWATER.ORG/NETWORK-ENROLLMENT/)



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Solidifying the Invisible Waste as Part of the Food System

BY EVA STRICKER, PH.D.

Let's begin at the core. An apple core, to be specific. You've enjoyed a crisp, crunchy, sweet apple, and your digestive system is working to break down the sugar compounds to build structures for your cells and use the energy to drive your metabolism. Now what?

You could ask your neighbor if it's all right to feed the apple core to her backyard goat. Unlike us, goats and other ruminant animals such as cows and deer have four compartments in their stomachs, hosting diverse microorganisms that are able to digest plant parts that are indigestible to us. That's why goats are able to survive eating leaves and grasses, but we cannot. The microbes in ruminants' stomachs do not need air; they use a process to break down the sugar compounds, which releases gases such as methane and carbon dioxide. Ruminants then burp or fart these gases out into the atmosphere. However, much of the apple core was transformed into compounds that helped build the animal's body and drive its metabolism. This goat can help control weeds and eats grass on land unsuitable for crops, and you may even later enjoy some goat's milk cheese.

Alternatively, you could toss the apple core into your backyard worm bin or into a greenbucket compost. This provides crisp, crunchy, sweet food to millions more organisms to decompose. Just like you, worms and many microbial organisms use enzymes to break down the complex sugar compounds into building blocks for their cells and energy for their metabolism. Just like you, they also need water and oxygen, and they release carbon dioxide as a waste product. Despite the waste, much of that apple core was transformed into worm or microbial bodies that help create new carbon-rich compounds in the soil. Many of these compounds provide a slow-release fertilizer to your garden or crops, act as a sponge to absorb and hold precious rainfall, and help build soil structures called aggregates that can withstand erosional forces such as wind and water. All of this builds soil health.

Finally, you could toss the core into the garbage, right next to the plastic sticker you peeled off, a produce bag, a banana peel from breakfast, and a greasy pizza box. The garbage bag will be transported to a landfill, where it is smashed down with everyone else's; there will be no air flow to the microbes now trapped in the bag. So, instead of the microbes that function like those in the soil (using oxygen in the air to decompose the apple core and releasing carbon dioxide), different microbes will drive the decomposition process. These microbes, like those of the goat's stomach, do not use oxygen, and they release methane as invisible waste instead. The apple core releases methane gas and provides no benefits to a goat or to the soil.

A critical value is how to tie the food system to the fight against climate change.

The "circular economy" of food and waste can have major benefits to the food system.

So what are the comparative effects of disposing of the apple core by goat, worm bin, or dump? Aside from the benefits to the food system and soil health already mentioned, the carbon dioxide and



*Above: A farmer at Polk's Folly Farm in Cedar Crest, N.M. spreads compost as a soil amendment.
Below: Livestock are one potential pathway for decomposing food waste.*

methane released will combine with all the other gases in the atmosphere to help warm the Earth. Adding carbon dioxide gas to the atmosphere is like adding more quilts to a bed—the result is that we’re warmer at the bottom of the pile. Methane gas is like adding a sleeping bag to the bed—it is approximately 30 times warmer than carbon dioxide over a 100-year time scale. Note that methane breaks down to carbon dioxide in the atmosphere after about a decade and that carbon dioxide can last for thousands of years. Also note that some of the carbon dioxide in the atmosphere can be pulled out of the atmosphere by plants through photosynthesis—maybe even becoming a new apple.

This simple apple core demonstrates the complexity that must be considered in our decisions about food waste. The “food recovery hierarchy” provides a broad framework of the value of food, from the highest priority of feeding humans, down to feeding animals, producing compost, and finally to the lowest priority of sending food to the landfill. Of course, there are other important values, such as the social bonds of two neighbors watching a goat devour an apple core. An emerging and critical value is how to tie the food system to the fight against climate change, using the natural processes of photosynthesis and microbial decomposition to remove carbon dioxide from the atmosphere and sequester carbon in soil compounds. Luckily, food system solutions scale widely, from backyard composting to regional composting hubs that divert food waste from landfills.

Even without addressing the complexity of climate change, the “circular economy” of food and waste can have major benefits to the food system. While gardeners and farmers know that compost is a valuable slow-release fertilizer and source of beneficial microbes, research is ongoing about the beneficial effects of compost additions to degraded agricultural soils—both cropland and rangeland—to jump-start the carbon sequestration processes and build healthy soils. The four “healthy soil principles” provide a framework for why compost amendments are likely to help build soil health. Compost addition 1. “covers the soil;” 2. “increases biodiversity” (acting as a microbial inoculum); 3. “decreases disturbance” by reducing the need for external inputs (such as fertilizer); and 4. helps “maintain a living root” by promoting plant growth. These principles help food producers to protect the soil from erosion and feed the soil microbial community with carbon compounds from the plants, all while producing healthy food.

Together, the food recovery hierarchy and healthy soil principles may help us cut through the complexities around physical and invisible waste and get to the core values of a food system that creates meaningful livelihoods for producers, nutrition for consumers and a resilient, diverse and productive landscape for all.

Find more about Healthy Soil and Composting in drylands from our new workbooks:

[QUIVIRACOALITION.ORG/SOIL-HEALTH-WORKBOOK](https://quiviracoalition.org/soil-health-workbook)

and [QUIVIRACOALITION.ORG/RURAL-DRYLAND-COMPOSTING](https://quiviracoalition.org/rural-dryland-composting). ■

Eva Stricker, Ph.D., is director of the Quivira Coalition’s Carbon Ranch Initiative.

NEW MEXICO HAS MUCH TO GAIN BY BUILDING SOIL HEALTH



BY ISABELLE JENNICHES

Painting a sobering picture of New Mexico’s agricultural economy, two reports commissioned by the N.M. Healthy Soil Working Group, prepared by the nonprofit Crossroads Resource Center, present a compelling case for transitioning to a more local food system with soil health stewardship at its center.

The first report, *New Mexico Farm & Food Economy (2020)*, assembles publicly available data from the past 60 years—on agricultural income, production expenses and information on food-related sectors, personal income and health. It shows that commodity farming has created increasingly higher cash receipts, but due to a parallel increase in production expenses, there has been no gain in net cash income for farmers over the last decades. In fact, a staggering 70 percent of farms report a net loss, as the prevalent production system requires farmers to take on more and more debt. Sourced out of state, agrochemicals, petroleum products and agricultural inputs cost N.M. farmers \$10 billion each year. Chemically intensive farming practices lessen the nutritional value of food and contribute to greenhouse gas emissions, water pollution and soil degradation.

Manage a farm or ranch as part of the larger ecosystem to produce healthy, nutrient-dense, culturally relevant foods.

In an attempt to counterbalance this bleak picture of the status quo, the second report, *Building Soil Health in New Mexico (2021)*, presents soil health stewardship as an opportunity for farmers and ranchers to gain independence from costly inputs and become profitable. Drawing from 12 accounts representing a diverse cross-section of the state, the paper charts millennia-old traditions as well as new methodologies that center soil health, and analyzes their benefits that—as it turned out—go beyond monetary rewards.

The report says: “A steadfast core of ranchers and farmers have proven they can build soil health in N.M., one of the most challenging environments in the U.S. The state’s combination of arid weather, unpredictable rain and hot sunlight poses huge complications, but several farmers and ranchers have overcome them. In so doing, they carry forward soil health practices that have been pursued on these lands for thousands of years. Some proudly continue strong farm operations their forebears cultivated. Others try to repair damage inflicted by their own ancestors.” Each grower carved out unique strategies that suit their farm or ranch. Each has broken from the concept that natural resources, including soil, should be ‘mined’ until exhausted, preferring a strategy of building soil health so that other benefits will accrue.”

By favoring short, resilient food chains and in-state processing, these producers create an exponential impact on local economies.

United in their dedication to produce healthy, nutrient-dense, and culturally relevant foods, these producers manage their farm or ranch as part of

the larger ecosystem. They aim to mimic rather than control nature. They experiment while closely monitoring effects and constantly making adjustments. Their management strategies are guided by the universal soil health principles, which promote synergistic relationships among soil biology, plants and animals. Their application varies, depending on social, cultural and ecological context. Key methodologies include planned grazing, cover-cropping, crop rotation, no-till, composting, the use of soil inoculants, and more.

The most critical determinant for building soil health in N.M.'s arid environment is water availability, as soil micro- and macro-organisms depend on it. With dwindling rainfall, unpredictable snowpack and an ongoing multi-year drought—all signs of the worsening climate crisis—water supplies have become greatly uncertain. Healthy soil makes the most of scarce water resources by acting as a sponge, absorbing and storing rainwater for plant growth. Groundwater and aquifers are being recharged, runoff, erosion and evaporation are greatly reduced, and by filtering pollutants, healthy soil improves water quality. Healthy soil even has the potential to restore the small water cycle, which increases local rainfall.

Adding to the challenges are fickle markets and economic restraints. The growers interviewed developed a variety of responses in order to reduce their dependence on undifferentiated commodity markets. Accessing niche markets that fetch better prices, diversifying income streams, selling value-added products, collaborating with other producers, engaging in direct sales and building relationships with local communities are some of their strategies. By favoring short, resilient food chains and in-state processing, these producers create an exponential impact on local economies known as the multiplier effect.

Key methodologies include planned grazing, cover cropping, crop rotation, no-till, composting and the use of soil inoculants.

Improved soil health can boost profitability, as growers reduce input costs. Rather than purchasing hay, expensive chemical fertilizers and pesticides, they grow more on-farm forage, use cover crops to boost fertility, and foster beneficial insects to address pest issues. Beyond the monetary advantages, interviewees underscored ecological and social co-benefits: better crop and animal health, increased family happiness, higher abundance when conditions are favorable and greater resilience in times of hardship.

“Greater resilience means any given farm is more likely to be profitable, even in bad years. Still, for ranchers and farmers to enjoy sustained economic benefits from following soil health principles, society will



SOIL HEALTH PRINCIPLES

KEEP SOIL COVERED

In nature, bare soil is an anomaly. Cover is critical to protect soil from wind and water erosion, provide food and habitat for macro- and microorganisms, buffer soil temperature, cut down on evaporation and make the most out of scarce water resources. Protect the soil by growing a dense carpet of plants or with a layer of mulch.

MINIMIZE SOIL DISTURBANCE & EXTERNAL INPUTS

Avoid both physical and chemical disturbance as much as possible. Tillage destroys soil structure – including aggregates and pore spaces that allow water to infiltrate the soil – which leads to erosion. Synthetic fertilizers, herbicides, pesticides, and fungicides are harmful to life in the soil as well.

MAXIMIZE BIODIVERSITY

Diversity above ground is mirrored below. Each plant, insect or animal has something to offer. Together, they provide a varied diet for soil microorganisms, break disease cycles and create habitat. Nature does not know monocultures, instead diversity enhances ecosystem function and resiliency.

MAINTAIN LIVING ROOTS

Soil organisms cluster around roots that provide them with their basic food source: carbon. In turn, the soil biology fuels the plant nutrient cycle. Ensure roots are in the ground year-round by planting perennials or multi-species cover crops. Encourage a variety of warm and cool season grasses through planned grazing.

INTEGRATE ANIMALS

A healthy ecosystem provides habitat for animals large and small. Planned grazing is essential for soil health: mimicking migratory herds of ungulates, cattle are moved quickly through pastures, allowing adequate recovery time. Animals can be used to graze cover crops, beneficial insects find food and shelter in hedgerows or pollinator strips, and earthworms thrive in healthy soil.

KNOW YOUR CONTEXT

Every place has its own history, and unique strengths and vulnerabilities. Understanding the context of the land and its inhabitants is central to being a good caretaker and will inform how best to apply the soil health principles.

Spirit Farm in Vanderwagen, N.M. displays the Diné term for compost.





need to build both market mechanisms and public incentives that reward those who pursue soil health strategies,” the report concludes. Most producers depend heavily upon personal savings, outside jobs or grant support in order to keep their business going and invest in conservation

practices. These findings show that without community buy-in and support, farming and ranching is not just risky but, in many instances, unsustainable.

Supply chain disruptions during the pandemic have laid bare New Mexico’s shortcomings in terms of self-reliance—95 percent of our food is currently imported while we export 97 percent of products grown in the state—making the urgent case for increased local food production. New Mexicans need to support soil-health-building businesses that form the basis for a healthy, just and resilient food system. In addition to buying directly from local farmers and building community support, it is imperative to advocate for policy incentivizing soil health and to attract investment in a new, regenerative economy. ■

Isabelle Jenniches is co-founder of the N.M. Healthy Soil Working Group, an alliance of grassroots advocates. WWW.NMHEALTHYSOIL.ORG

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OP-ED: BEATA TSOSIE-PENA AND KAITLIN BRYON

BIOREMEDIATION AS A COLLABORATIVE SOLUTION TO ENVIRONMENTAL HEALTH

There is renewed energy in the resistance movement that is working to counter the continuing impacts of colonial violence. We must collectively push back on the culture of White supremacy that is empowered by social Darwinian theories of evolution like “survival of the fittest” and “only the strong will survive,” which uphold cis-hetero patriarchy, the dominant class, militarism and capitalism.

For Indigenous ways of knowing, survival has meant the complete opposite: modeling our societies after natural systems and maintaining humbleness in our rightful place within the order of our spiritual cosmologies and physical ecologies. This is rooted in an acceptance of humanity as part of a fragile symbiosis with our environment, and in the traditional roles of caregiving and holistic interaction with the Earth.

We have to constantly resist the culture of violence that seeks to disconnect us from our living lands, waters, air and non-human relatives. Regions of our beloved New Mexico are still being treated as sacrifice zones for militarism, nuclear weapons and rampant oil and gas extraction. Frontline communities, ecologies and grassroots land defenders have to live with the impacts every day.

Tewa Women United (TWU) is one of many organizations that provide education and build awareness and community capacity to address environmental violence and racism. TWU offers solutions that are responsive to issues we face as Indigenous peoples, issues that are also important to all who love these lands and are here as guests. Our true calling is to work toward healing and restoration of places that have been harmed and continue to suffer from toxicity.

We (Tsosie-Peña and Bryson) met in 2017 and found that we share an interest in holistic healing and bioremediation (the use of living materials to remediate toxic pollutants). This is a potent strategy for addressing land contamination and ecocide caused by anthropogenic activities. We collaborated on a multifaceted art project and gallery exhibition that demonstrated how mycoremediation (fungal remediation) can heal contaminated lands. Restoration and healing can be deeply integrated through community dialogues and artwork. At the Española Healing Foods Oasis, we presented hands-on workshops and created mycoremediation installations that engaged farmers and intergenerational community members.

This took place prior to a public hearing on plans to attempt to remediate hexavalent chromium, legacy waste from lands contaminated by Los Alamos National Laboratories’ (LANL). Communities for Clean Water (CCW) and TWU presented expert testimony to advocate for bioremediation to be included in cleanup strategies.

In our region and in other places where Indigenous peoples have been ignored, contaminated land, air and water often are a reflection of environmental racism. Remediating lands must be enacted in tandem with abolishing the systemic harm at its source.

If we look to some of our oldest non-human relatives, fungi (mushrooms), we can easily observe how survival through collaboration is enacted. The queendom of fungi has survived three mass extinctions, and over eons has learned how to metabolize and transform the Earth’s most complex chemistry into energy, habitat and fertility. Mycorrhizal



fungi live within plants via roots and connect multiple species through a vast underground network of mycelium. These organisms live in a symbiotic relationship with the plants, providing water, nutrients and minerals in exchange for excess carbon, which the plants absorb. This symbiosis is performed on a needs-basis: The plants and mycorrhizae coordinate and time exchanges with one another to extend resources to those most in need. When fungi are worked with for remediation, they apply these collaborative adaptation strategies and demonstrate the importance of helping each other survive.

Fungi are complex organisms estimated to include over five million (known) species. They have varied lifestyles and eating habits, depending on the ecology they are part of. Their varying lifestyles contribute to their diverse abilities for remediation and adaptation to adverse environments. Remediation is dependent on the type of fungi and the type of contaminant within the ecosystem. With bioremediation, we try to restore the balance of that system so that it is healthy and the soil life can come back. Fungi work in partnership with many members of soil life—bacteria, insects and plants—creating and closing nutrient cycles, which facilitate the environment's recovery. There are many forms of remediation, but all facilitate the development of life, supporting the optimal health of natural systems as a whole.

Regions of our beloved New Mexico are still being treated as sacrifice zones.

Concerns of water as an essential element can be addressed through underground cisterns and water conservation through Indigenous dryland farming technologies. Three forms of bioremediation using mushrooms are: mycosorption, translocation and metabolization and digestion of chemicals. These different forms are utilized depending on the contaminant of concern. Mycosorption and translocation are useful for heavy-metal sequestration and water filtration. Metabolization is possible with chemicals and aromatic hydrocarbons, as fungi can actually break down and digest these materials. Fungi can remediate:

- Heavy metals: arsenic, cadmium, cesium, chromium, lead, nickel, zinc, agrochemical fertilizers, sewage sludge and pesticides
- Polycyclic aromatic hydrocarbons: crude oil, asphalt chemicals, jet fuel, petroleum
- Modified aromatics: PCBs, pesticides, synthetic dyes

Historically, cleanup of toxic remediation at LANL and other sites has utilized conventional methods. When a spill or incident happens, the go-to strategy has been to remove the soil or water, transport the material somewhere else, and then take measures to slow down the migration of contaminants and continue to monitor

We want polluters to consider bioremediation as an alternative to current remediation strategies.

and sample. However, removing soil and water is yet another form of violence to the land and the fragile ecology of the high desert. We need a methodology of cleanup that aligns with Indigenous world views and systems of sustainability and caregiving, one that provides support to the entire ecology and is mindful of the health of land-based peoples. People's health is equal to the health of our environment. This requires community engagement and collaboration with impacted communities downstream. It must include equity and consideration of both Indigenous and Western science and technology. We advocate for this form of remediation while recognizing that to support nature's healing and restoration the harm needs to stop. We hold that intention alongside the ongoing work of liberation, advocacy



The Many Hands Project engaged community members in healing contaminated land with fungi grown into the shape of hands to be ceremonially buried. Photos by Kaitlin Bryon and Beata Tsosie-Peña

We need a methodology of cleanup that aligns with Indigenous world views and systems of sustainability and caregiving.

voices to advocate for these methods to be used on sites impacted from fracking, oil and gas extraction and spills—to regulatory agencies that are accountable to allottees, trust lands, land grants, private or public lands. We can support returning *Land Back to Native Peoples*. We can center Indigenous pregnant women/people and land-based families as the universal standard of protection for environmental toxic exposures. If they are protected, we all are. Tribal nations must enact their own environmental standards that are protective of those most vulnerable in their communities. By educating ourselves and voicing our opinions and concerns, we can start putting these methods into practice in our own backyards, communal spaces and gardens. This is survival through collaboration. This is how we collectively enact the positive changes so necessary for our communities.

Remediation should foster life, not destroy it. We do not want to spray “treated” polluted water on the land. We want remediation efforts to cultivate positive potentials of restoration. Bioremediation is an effective methodology that is cost-effective and maintains our philosophy of having love and reverence for Mother Earth and all her gifts—*Nang Ochuu Quidjo*.

With support from Communities for Clean Water, Cheyenne Antonio of The Red Nation, the Counselor Chapter and others, TWU’s Environmental Health and Justice Program hosted a series of lectures and workshops. Virtual lectures presented information about mycoremediation and mycology and discussed methodologies and practical strategies for solutions to land toxicity and environmental racism. (The Zoom workshop link is on the TWU website (<https://tewa-womenunited.org>), along with written resources).

The Many Hands Project

In the second part of the series, hands-on workshops for mushroom cultivation took place in Española (traditional Tewa territory), in Abiquiú (Aveshu Owingeh) with the Northern Youth Project, and in Dinéh Tah (Navajo Nation) at Counselor and Pueblo Pintado Chapter houses. The workshops we presented with Cheyenne Antonio focused on simple, scalable methods for growing fungi at home and how to work with these organisms. This inspired a community-driven, holistically managed, bioremediation project. The participants are growing fungi into the shape of hands. In October, the fully grown mushroom hands will be brought together and ceremonially buried at the fracking flowback spill site near Counselor in the Greater Chaco Canyon region.

If you are interested in donating to the workshops, supporting the design process or helping out, email KAITBRYSON@GMAIL.COM or BEATA@TEWAWOMENUNITED.ORG. ■



Beata Tsosie-Pena is from Santa Clara Pueblo and El Rito, N.M. She is program coordinator of Tewa Women United’s Environmental Health and Justice program.

Kaitlin Bryon is an artist and mycologist currently teaching at UCLA. She is a co-founder of the Submergence Collective.

and restorative justice.

Together, we can advocate for alternative forms of remediation and abolition at LANL and military sites.

We can use our

IAIA Thunderbirds Welcome Their Cousins, the Thunderbees

BY MELANIE KIRBY

Surrounded by Indigenous knowledge and lore, many of us in the Land of Enchantment recognize the connection to place and purpose that our ancestors instilled in us. This connection runs deep, like mycelium networks forming synapses to transfer surface information to the subterranean intelligence of roots and their cohabitants. It is linked with the lifelong recognition that water is life, and coupled with cosmic energy from our Zia sun, allows soil to cradle seeds that sprout into medicinal and fragrant blooms. These connections inspire reverence for the cyclical dance of pollination that allows the fuzzy, buzzy midwives of agriculture to nurture another season’s ecological investment, yielding fruit bursting with seeds.

In homage to these connections, the Institute of American Indian Arts (IAIA) Land-Grant program has initiated a campus-wide habitat and ecosystem restoration project and an apiary. An apiary is a sanctuary where honeybees reside. And so, the IAIA campus mascots, the Thunderbirds, now welcome their pollinator cousins, the ThunderBEES. These honeybees are distant relatives of the little-known North American native honeybee *Apis mellifera nearctica*, which was fossilized 14 million years ago and found in what is now Nevada. This ancestral Native American honeybee experienced a climatic catastrophe and went extinct in one of the ice ages. Then, as people from many nations came to settle across Turtle Island (North America), they brought some cousins of this ancient bee, which have now become the poster children of pollination.

Sadly, these modern-day honeybees, through monocropping and chemical agriculture, have been used and abused in large-scale, industrial agriculture. But their connection to the land and to each other inspires many to support healthier connections by keeping these bees, not for profit, but for pleasure and for rebuilding healthy relationships between land and people—for we are all interconnected, and can benefit from acknowledging relationships that have developed and endured over millennia among place, purpose and reciprocity.

The IAIA Land-Grant program provides agriculture education to N.M.’s 22 Native American communities and surrounding communities through culturally accepted outreach programs. With the pandemic, our “Zoomified” world became established, and the program was able to offer Junior Master Gardener courses and reach tribal youth and allies in N.M. and beyond. The program was also able to initiate a weekly webinar series: *“The 4 Directions Projections: Sharing Traditional and Contemporary Indigenous Knowledge to Nurture People, Revere Places and Promote Purposes,”* which features prominent Indigenous leaders from all over Turtle Island.

We can benefit from acknowledging relationships that have endured over millennia among place, purpose and reciprocity.

The program has also started habitat restoration activities to enhance biodiversity and support some of our plant and animal relatives. These efforts include collaborations with Partners for Fish and Wildlife (USFWS), the Xerces Society’s Santa Fe Pollinator Trail, Christ in the Desert Monastery on the Río Cha-



ma, the Not Forgotten Outreach Vet Corps Farm program in Taos, Santa Fe Indian School, UNM Health Careers, and Native Foodways summer camp.

Through these collaborations we can see the true benefits of bees and how they help bridge the natural world with our psyche-driven Anthropocene (human age). In early spring, several solitary bee nest blocks were placed throughout the campus orchard of apple, peach and pear trees. As the habitat restoration program develops, additional nest blocks will be placed along campus nature trails, along with bat nesting abodes and pollinator floral oases sites. Additionally, the honeybee apiary will be used for teaching, art projects and for sharing honey and other medicinal hive products. Another IAIA apiary has been established at Plants of the Southwest to help pollinate the nursery's plants, shrubs and trees.

The IAIA ThunderBEEES have been established utilizing locally acclimated bees. The entirety of the food gardens, orchard, greenhouse cultivars and floral oases are grown through organic approaches and through a pairing of permaculture-based Traditional Ecological Knowledge (TEK) and sustainable Western agricultural science. The IAIA Land-Grant program has been able to offer introductory beekeeping webinars through the IAIA Continuing Education portal and is looking forward to sharing the wonders of the diverse pollinator and plant relatives residing on campus. Check out the outreach page (WWW.IAIA.EDU/OUTREACH) for more info on the program.



To register for the 4 Directions Projections free webinar series, *Apitherapy: Honeybee Medicines for Human Health and Wellness and Wonders of (Bees)WAX*, and the greenhouse management course, visit WWW.IAIA.EDU/CECOURSES. Also available at no cost are recordings from the 2021 spring and summer episodes at: [HTTPS://IAIA.INSTRUCTURE.COM/COURSES/3997/PAGES/4-DIRECTIONS-PROJECTIONS](https://IAIA.INSTRUCTURE.COM/COURSES/3997/PAGES/4-DIRECTIONS-PROJECTIONS) ■

Melanie Kirby, an artist and scientist, serves as extension educator for the IAIA Land-Grant Program. She is also a professional beekeeper with Zia



Students work with bees at the Institute of American Indian Arts in Santa Fe.. Photos © Jason S. Orda, LALA

THE INDIGENOUS ART OF LIVING SUSTAINABLY

BY ALICE LOY

Norma Naranjo is founder of The Feasting Place, a well-known and beloved cooking school based out of her home in Ohkay Owingeh Pueblo. Together with her husband, Hutch, they grow corn, beans, squash, chicos, chile, salad greens, onions, herbs and more on their farm in Santa Clara Pueblo. People visit from far and wide to learn how to cook traditional Pueblo recipes and foods that reflect northern New Mexico's blending of cultures.

Naranjo's soon-to-be-released cookbook, *The Four Sisters*, follows the rhythm of the four seasons and details recipes that are common on Feast Days, at family celebrations and across generations. When I caught up with her, she was busily getting ready for harvest and planning fall celebrations on the pueblo and with community organizations in Santa Fe. She spared a few minutes to share her recollections of growing up on the pueblo and thoughts about the future of our farms and families.

AL: Would you share with us an early memory you have of being on the farm?

NMDA AND ALBUQUERQUE PARTNER ON POLLINATOR-FRIENDLY PROJECTS

Pollinators are facing serious trouble across the globe. From bees to bats and everything in between, these creatures play a critical role in creating healthy habitats for wildlife and humans alike.

Members of most of the United States-native bee families are found in New Mexico. To make Albuquerque a pollinator-friendly city and increase awareness of the benefit of pollinators, the N.M. Department of Agriculture (NMDA) is partnering with the city and Bernalillo County to launch several projects that will greatly enhance the diversity of plants necessary to support pollinators that play a vital role for the ecosystem. The partnership has launched the following projects:

- **ABQ BioPark Wildflower Area and Open Air Shelter at Tingley Beach:** This project will improve native pollinator habitat in the Middle Río Grande Bosque. It will provide opportunities for the public to learn about and protect pollinators such as bees, butterflies, hummingbirds and bats. A new exhibit is intended to inspire visitors to plant pollinator gardens and adopt pollinator-friendly practices.
- **City of Albuquerque Parks & Recreation's Xeric Park and Quigley Park:** This project includes the development of pollinator-friendly areas. The city and NMDA are collaborating to identify pollinator-friendly annual and perennial plants that flower in various seasons. Educational signs, websites and social media will promote homeowner uses of these plants.
- **Bernalillo County Parks, Recreation & Open Space Department:** New pollinator-friendly areas and diverse exhibits are being developed at the Hubbell Open Space, South Valley Multi-Purpose Center and Bachechi Open Space. The county is collaborating with NMDA to identify plants that attract pollinators during various seasons. Signs are being installed to promote uses of these plants in homeowners' yards and gardens.



An horno being readied for chico roasting. © Estevan Arellano

NN: Well, the earliest memory I remember is when I was eight years old, getting up early with my siblings and going to the garden to start hoeing the chile. My mother was a farmer, and when we were growing up, she taught us how to farm, how to irrigate from the *acequias* and hoe weeds. That was how we sustained ourselves and made enough money to buy school clothes.

We've been blessed to be able to educate the world about who we are as Native people, our traditions, our culture.

AL: Do you still farm on that same land?

No, after I married Hutch, who is from Santa Clara Pueblo, I have farmed with

him on his land; he has been farming since he was young himself, so we were both farmers at a young age. We try to grow every crop that we need to sustain ourselves throughout the winter, and in the fall, I'm drying or canning or putting up chile. Growing up on the pueblo with my four sisters and my brothers, my mother and grandparents taught us to grow things, how to cook what we grew and of course, how to bake in the *horno*.

AL: In your upcoming book, titled, *The Four Sisters*, you describe the sisters as corn, beans, squash and chile. What kinds of corn do you grow?

NN: We grow a lot of chicos—in fact a lot of people on the pueblo know us for our chicos. That’s the small corn that is grown specifically here in northern New Mexico. It’s a little white corn. We have kept the seeds in the family for generations and save them from year to year. We also grow blue corn. The only corn we grind is blue—to use for *atole* or for ceremonial purposes during traditional holidays.



Hutch Naranjo in his Santa Clara Pueblo cornfield

AL: Your husband, Hutch, is known for his skills building traditional hornos. What are hornos used for and how does Hutch build them?

NN: Hornos are the mounded adobe ovens that Pueblo people bake in. You see them when you drive around New Mexico, and people are very curious as to what they are used for. Hutch builds hornos from scratch using natural materials that come from the land: sand, dirt and straw. He makes adobe bricks and brings river rocks. He finished one last month. It took him about a month.

AL: How many adobe bricks does it take to build a horno? Maybe 100?

NN: Oh! (laughing) I don’t know. Our bigger horno holds 60 loaves of bread and our smaller one about 30 loaves. When people come to our house for a class, we explain to them how we build a fire in them, how the fire keeps the heat in the horno, and then what can be baked or cooked. When you are cooking food like meats, you keep all the ashes in. The ashes keep the heat more consistent. When you’re baking, well of course you want to take them out so that you won’t burn your baked goods.

AL: I remember trying to learn to cook over a wood fire. It’s really hard.

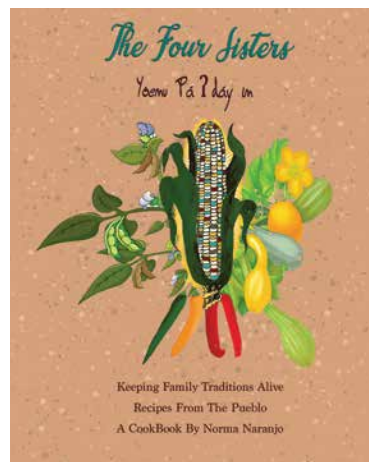
NN: Yes, there’s an art to baking and using an horno. People are very surprised how we can get the horno to a temperature where it’s doable for baking.

AL: Years ago, you taught me to test the temperature using a piece of newspaper.

NN: Yes! Once we’ve cleaned out the ashes, I put a piece of newspaper on the floor to see how hot it is. If the paper gets darkened too fast, it’s still too hot. It should come out light brown. Then it’s ready, like maybe at 400°.

AL: You have been doing cooking classes since 1999. What is it like to host people?

NN: We’ve had people from all over the world come into our home. We’ve had famous people—Isabel Allende, Andrew Zimmerman—people from Australia and Africa. We’ve been featured on the Travel



Norma Naranjo’s cookbook, The Four Sisters: Keeping Family Traditions Alive – Recipes From The Pueblo; Norma and Hutch Naranjo

Channel. I feel that we’ve been blessed to be able to educate the world about who we are as Native people, our traditions, our culture. Not only that, but we also share our food, our recipes, which is very important to me.

AL: Farmers are intimately experiencing the effects of climate change. What are you seeing on your farm?

NN: It is really affecting how we water our gardens. You know, we’ve always had the acequias—or at least for hundreds of years—to irrigate our land, and I think we never thought about how [climate change] was going to affect our land, our crops, our communities, our families. Now we’re having to be very, very careful as to how we use the water—and that’s a big change.

We have to look at the future as to how we’re going to farm and sustain ourselves. Looking back, I think about our ancestors and our elders telling us to take care of Mother Earth, and at that time we never really thought about what that meant. But I think they saw that in the future we would need to take more care of Mother Earth, and more care of the future, of our children and ourselves. ■

*Norma Naranjo’s book, The Four Sisters, will be available on Amazon Nov. 1. Pre-orders can be placed at The Feasting Place website: [HTTP://THEFEASTINGPLACE.COM/HOME](http://THEFEASTINGPLACE.COM/HOME)
Alice Loy is a co-founder of Creative Startups and widely considered a leading authority on entrepreneurship in the creative economy. WWW.CREATIVESTARTUPS.ORG*



NORMA’S GREEN CHILE STEW

- 1 lb. ground beef**
- 5 potatoes (medium to large)**
- 15 medium roasted, peeled, seeded and chopped green chiles**
- 2 cloves garlic, diced**
- 1 medium onion, diced**
- Salt to taste**
- 6 cups water**

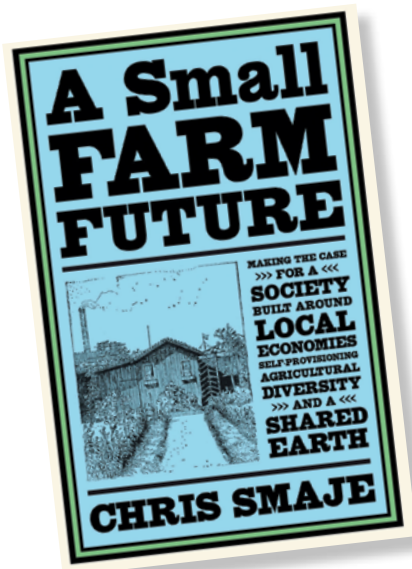
Brown ground beef. Drain thoroughly. Add diced onion and diced garlic to ground beef and sauté for five minutes. Add water and potatoes. Boil for 15 minutes or until soft. Add potatoes with water to ground beef and chile. Add salt to taste and boil for 15 minutes.

BOOK PROFILES

A SMALL FARM FUTURE: MAKING THE CASE FOR A SOCIETY BUILT AROUND LOCAL ECONOMIES, SELF-PROVISIONING, AGRICULTURAL DIVERSITY AND A SHARED EARTH

BY **CHRIS SMAJE**

Chelsea Green Publishing, 2020



This is not just a book about farms and farming. It is a well written, thorough examination of the current paradigm for food production, resource use, transportation and global interdependency. And it is an attempt to provide a positive vision of a possible future society. The subtitle makes clear the general outlines of what farmer/social scientist Chris Smaje has in mind.

Smaje argues that organizing society around small-scale farming offers the soundest, sanest and most reasonable response to climate change and other crises of civilization—and will yield humanity’s best chance at survival. Drawing on a vast range of sources from across a multitude of disciplines, *A Small Farm Future* analyzes complex forces that make societal change inevitable, explains how low-carbon, locally self-reliant agrarian communities can successfully confront these changes, and explores pathways for delivering this vision.

Challenging both conventional wisdom and utopian blueprints, *A Small Farm Future* offers a rigorous original analysis of entrenched problems and hidden opportunities. Smaje explores what challenges might lie in store if we move toward a world where small-scale, labor-intensive, productive and environmentally friendly farms are commonplace, supplying many of our essential needs as locally as possible. He explains how local farms could intertwine to build up regional communities that could better withstand the coming contraction from the unsustainable system in which we are living.

LANDRACE GARDENING: FOOD SECURITY THROUGH BIODIVERSITY AND PROMISCUOUS POLLINATION

BY **JOSEPH LOFTHOUSE**

Part of Landrace Gardening (2 books)

2021, [HTTP://LOFTHOUSE.COM](http://lofthouse.com)

Digital version distributed by Rocky Mountain Seed Alliance:

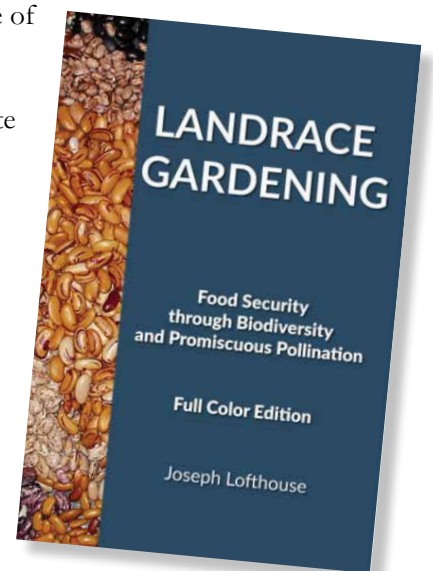
[HTTPS://ROCKYMOUNTAINSEEDS.ORG/](https://rockymountainseeds.org/)

Hard copies: [HTTPS://WWW.AMAZON.COM](https://www.amazon.com)

Joseph Lofthouse, landrace seed-keeper, focuses on something that all gardeners should know: The versatility and diversity of landrace plants are the way to sustainability. This book is as much a gardening manual as it is a reframing of our relationship with each other and the world. *Landrace Gardening* gives us a roadmap to the kind of food security we need.

Everything in the book is adaptable for any gardener. No high-level knowledge of botany or chemistry is required. Lofthouse’s books show, in simple terms, how to breed resilience into our favorite food plants, including for short growing seasons. He explains the steps for becoming your own seed breeder and highlights the easiest crops with which to begin.

Lofthouse has taught landrace gardening at conferences hosted by the Rocky Mountain Seed Alliance, National Heirloom Expo, Organic Seed Alliance, Northeast Organic Farming Association (NOFA-NY) and Utah Farm & Food Conference.



OP-ED: DANIEL W. SCHRECK

AMERICAN RECOVERY PLAN

The problems besetting people and the environment on the North American continent stem from both poor management and a lack of available deployable labor. At C.H.E. Farms in Chimayó, we are already enacting elements of the Green New Deal. As a newly emerging hemp farm (thanks to the legalization bill signed by the governor, under the watchful gaze of our lobbyist, the late, great, Jerry Fuentes), we are utilizing the *acequia*, or community-owned irrigation ditch, to water our medicinal plants with a community-based, family and friends’ production cooperative.

The key to the cooperative is that while farm labor gets paid minimum wage for the duration of the growth cycle, at harvest, the workers share a proportional cut of the wholesale price when the product is sold to a retailer, like a dispensary. As an owner/investor of the farm, my cut is the same as theirs, but in

my case, it goes to return on investment first. Folks from the cooperative movement, such as the Association of Southern Cooperatives, might agree that breaking the minimum wage threshold is vitally important for establishing labor and capital on an equal footing.

How do we parlay this perspective into a National Recovery Plan (or a national cleanup day that lasts 10 years)? It starts, of course, at the local level. In northern New Mexico, fire suppression policy preventing Native peoples from engaging in traditional fire cleansing practices led to a massive fuel-wood buildup. Fire suppression policy in California stopped Native people from utilizing small fires to cleanse forests as early as the 1850s.

Global warming is also a labor problem. Why not deploy half-a-million people nationwide to clean the forests, restore watersheds, mine landfills and ecologically reclaim old mining and drilling sites? We could also marshal an army of goats to eat the explosive weeds.

Meanwhile, every small farmer will be performing small, restorative acts at the community level. There again, it’s forest, water, seeds, plants, fields and animals, or “Milpa ecology,” more recently called “agroecology,” which is only achievable with a hands-on approach.

Daniel W. Schreck lives and works on his family farm in Chimayó, N.M.

Youth Become Stewards of the Land

YouthWorks has been awarded \$1.3 million in U.S. Department of Labor funds to assist 72 underserved young people and continue another three years of programming to empower youth with experience, education, support and tools to achieve their vocational and leadership goals.

YouthWorks Conservation Corps has been converting land around Santa Fe for food production while also pursuing GED education credentials in the classroom. Just across from the Reunity Resources farm in Agua Fría Village, south of Santa Fe, 15 rows and 100 pocket gardens were planted this year. Corps members have been learning growing techniques and establishing a demonstration farm to support local food security. The cohort is excited to be reclaiming land and implementing local farming practices that have been used for centuries. Their efforts give them a positive connection to the community as they grow up and start to raise families. By year's end, the crew will have helped grow hundreds of pounds of food that will be distributed locally, and they will have earned certificates that will encourage them to continue to develop skills in agriculture.

Students who join the organization's culinary arts program can complete training, certification courses, and gain college credit in culinary arts and hospitality. YouthWorks members are collaborating with Rose's Kitchen, an outdoor farm-based restaurant serving lunch and dinner six days a week at the farm at San Ysidro Crossing.

YouthWorks participants can also learn construction and technical skills. Thanks to the federal grant, Santa Fe YouthBuild is creating a workforce that can meet the demands of builders. The youth have been constructing energy-efficient homes for low-income families in coordination with Habitat for Humanity. For more information, visit [HTTPS://WWW.SANTAFEYOUTHWORKS.ORG](https://www.santafeyouthworks.org).



YouthWorks at Full Circle Farm
© Seth Roffman



FULL CIRCLE FARM

BY DR. CHRISTINA M. CASTRO
(TAOS/JEMEZ/XICANA)

Full Circle Farm (FCF), at the corner of Agua Fría Road and San Ysidro Crossing in Agua Fría Village, sits on one acre in what was once a thriving Tewa community known for agriculture and turkey cultivation. FCF began in 2020 as a collaboration between Alas de Agua Art Collective (ADA) and Santa Fe YouthWorks, with support from the neighboring ReUnity Resources farm. In 2021, the grassroots Indigenous women's initiative, Three Sisters Collective (3SC), became one of the farm's community partners. Three Sisters recognized a need for community healing through building multigenerational relationships and a sacred reconnection to Mother Earth. The farm represents a dream of what is possible for the future in *O'ga Pogeb* (Santa Fe).

The farm is also a manifestation of the "Land Back" movement that is gaining support across the nation, as reflected in the revival of Indigenous agrarian projects. Pueblo people have always been farmers, and this area has been cultivated for thousands of years, only interrupted



by American colonialism in the mid-1800s. Currently, the land is being leased from the county with the caveat that the lease could end any time. There is also no direct source of water, despite the large, looming water tank across the street. FCF seeks to serve as an example of what is possible if the city, state and tribes work together to begin to re-establish all that has been taken from Indigenous people, starting with *land*.

On any given day you will find members of 3SC and ADA working on the farm, along with Youthworks. A community of vested volunteers exchange their time for produce, camaraderie and connection to the land. We are grateful for all the hands that have transformed what was most recently a gravel pit into a now viable farm. A section specifically managed by

3SC is devoted to local, traditional varieties, including San Ildefonso corn, Taos beans and Hopi melon. There are days designated for particular communities, including Native Nights on Tuesday evenings from 6:30 to 8 p.m. Friday mornings are "Intersectional Farm Day," where all are welcome to assist in farming tasks. We invite you to follow our social media pages for more information.



Above: Mural "in honor of our missing and murdered relatives across imposed borders." Ni Una Mas, Ni Una Menos (Not one more, not one less)
Below: Carrie Wood (Diné), Three Sisters Collective member standing in San Ildefonso corn. Photos © Seth Roffman

STATE ASSISTANCE WILL EXPAND ALGAE GROWING

A southern New Mexico company that grows algae for Omega-3 nutrition products has been awarded economic assistance to expand its operations. Green Stream Farms in Columbus, N.M. grows algae on 96 acres of lined ponds, but current demand is higher than the facility can supply. The farm has sufficient water to support expansion; however, new buildings, processing and harvesting equipment are needed.

A \$250,000 grant from the state Local Economic Development Act (LEDA) job-creators fund will allow Green Stream to more than double its annual harvest, from 250 tons to 700 tons by 2022, adding 23 employees over the next five years. The upgrades will increase production to an industrial scale. Luna County is the fiscal agent for the grant.



Green Stream Farms' algae farm in Luna County, N.M. is expanding. Courtesy of New Mexico Economic Development

Gov. Michelle Lujan Grisham said, "The investment in this community will create jobs and boost the vital agricultural economy of southern New Mexico." "Chile and other agricultural commodities are the foundation of the economy in Luna County," NMED Cabinet Secretary Alicia Keyes said. "With this investment and our partnership with Luna County, the state is helping even out the seasonality for some of these jobs and create year-round opportunities." "Green Stream Algae Farms is a vital component of our local economy," County Manager Chris Brice said.

Luna County is the ideal location for Green Stream's micro-algae product due to its climate and moderate overnight temperatures. The site is the second-largest outdoor algae farm in the world. Harvesting takes place nine or 10 months out of the year, while ponds hibernate in the hotter summer months.

The family-owned company started operating on the property in 2019 and is investing about \$7 million in upgraded equipment. Green Stream's algae are primarily used as a feed supplement for healthier livestock and for human nutraceutical products. The Omega-3 oils industry is expected to grow to \$6.95 billion worldwide by 2022, according to an industry analysis by Allied Market Research.

ROUNDUP TO BE REMOVED FROM U.S. HOME AND GARDEN MARKET

In response to many lawsuits, Bayer, which acquired Monsanto in 2018, will no longer sell glyphosate-containing products to U.S. home gardeners. The company faces about 30,000 legal claims from customers who believe the products caused them to develop cancer.

Glyphosate has been linked to the development of non-Hodgkin lymphoma. The World Health Organization's International Agency for Research on Cancer declared in 2015 that it was "probably carcinogenic to humans."

Juries sided with the plaintiffs in three highly watched trials before Bayer settled about 95,000 cases in 2020 to the tune of \$10 billion. That settlement, one of the largest in U.S. history, allowed Bayer to continue to sell Roundup without any warnings. More than 90 percent of recent claims come from the residential home and garden market. The products will continue to be sold under the Roundup brand with different active ingredients in 2023, following reviews by the EPA and state regulatory bodies. Farmers and retailers will have continued access to glyphosate-based herbicides, according to AG Web Farm Journal.

"Bayer's decision to end U.S. residential sale of Roundup is a historic victory for public health and the environment," Center for Food Safety Executive Director Andrew Kimbrell said in a statement. "As agricultural, large-scale use of this toxic pesticide continues, our farmworkers remain at risk. It's time for EPA to act and ban glyphosate for all uses."

Chlorpyrifos, a Pesticide, Banned

In August, the Biden administration announced it was banning use of chlorpyrifos, a pesticide used on numerous food crops. Studies have linked it to potential brain damage in children and other serious disorders. The Pesticide Action Network North America and the Natural Resources Defense Council petitioned the EPA in 2007 to remove all approved levels of chlorpyrifos in food.



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JUSTICE
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EJ Business Partners strengthen NMELC's ability to take on precedent-setting cases that protect our communities from environmental hazards and pollution.

NMELC proudly offers free or low-cost legal services to frontline communities who are defending environmental justice. It is our privilege to represent and work alongside the clients and communities we serve.

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1405 Luisa Street, Suite 5, Santa Fe, NM 87505
Phone: (505) 989-9022; Email: nmelc@nmelc.org
<https://nmelc.org/support/ej-business-partners/>



WHAT'S GOING ON

ALBUQUERQUE / ONLINE

SEPT. 9

ELECTRIC VEHICLE PARADE

N.M. State Fair, Expo N.M.

SEPT. 9-19

N.M. AGRICULTURE NEVER STOPS

N.M. State Fair, Expo N.M.

Photo display of the N.M. agriculture and food industry demonstrating resilience during the pandemic. 9/11:

Battle of the Salsas. [HTTPS://STATEFAIR.EXPONM.COM](https://statefair.exponm.com)

SEPT. 17-18

GLOBALQUERQUE

NHCC, 1701 4th St. SW

Annual celebration of World Music and Culture.

GLOBALQUERQUE.ORG

SEPT. 25, 10 AM-1 PM

NATIONAL DRIVE ELECTRIC WEEK

Learn about electric cars with 350NM

[HTTPS://DRIVEELECTRICWEEK.ORG/EVENT.PHP?](https://driveelectricweek.org/event.php?eventid=2789)

[EVENTID=2789](https://driveelectricweek.org/event.php?eventid=2789)

NOV. 3-5

REGENERATE 2021: WEAVING WATER, LAND & PEOPLE

In-person and Online

A convening of ranchers, farmers, conservationists, land managers, scientists, health professionals, nutritionists, educators, students and others. A collaboration of the Quivira Coalition, Holistic Management Intl. and the American Grassfed Association. [HTTPS://](https://quiviracoalition.org/regenerate-3/)

[QUIVIRACOALITION.ORG/REGENERATE-3/](https://quiviracoalition.org/regenerate-3/)

SUNDAYS, 10 AM-2 PM

RAIL YARDS MARKET

777 1st St.

In-person and online shopping, curbside and delivery available.

TUESDAY-SUNDAY, 9 AM-4 PM

INDIAN PUEBLO CULTURAL CENTER

2401 12th St. NW

“Gateway to the 19 Pueblos of N.M.” Museum galleries, exhibits, restaurant. Tickets \$10/\$8/\$7. 505-843-7270, WWW.INDIANPUEBLO.ORG

SATURDAYS, 8 AM-NOON

DOWNTOWN GROWERS' MARKET

Robinson Park, 810 Copper NW

Over 70 vendors.

SANTA FE / ONLINE

SEPT. 4-12

FIESTA DE SANTA FE

Santa Fe Plaza

Fine Arts & Crafts Market; 9/4, 7:30 pm: Mariachi Extravaganza at the SF Opera; 9/11, 8 pm: Balle de la Gente (Street Dance). 505-795-9751, SANTAFEFIESTA.ORG

SEPT. 7, 8, 7:30 P.M.

BANFF MOUNTAIN FILM FESTIVAL

Motorama Santa Fe

Mountain sports and environmentally themed. Gates open 5:45 pm. \$18. Presented by the SF Conservation Trust.

[HTTPS://SFCT.ORG/EVENTS/BANFF-MOUNTAIN-FILM-FESTIVAL/](https://sfct.org/events/banff-mountain-film-festival/)

SEPT. 11, 12-2 PM

REUNITY RESOURCES FARM TOUR

Organic, regenerative agriculture farm working with closed-loop nutrient systems. \$20/\$5. [HTTPS://WWW.SLOWFOODSANTAFE.ORG/NEW-EVENTS](https://www.slowfoodsantafe.org/new-events)

SEPT. 8-22

RIVER TALKS

9/8: History of SF River Hydrology part 2; 9/18: Walking discussion of Tools, perspective and practice of citizen science; 9/22: Rain garden tour. Sponsored by the City of SF and the SF River Commission. WWW.SANTAFENM.GOV/RIVER_AND_WATERSHED

SEPT. 17, 12-1 PM

FOOD SECURITY, JUSTICE AND SOVEREIGNTY

Online panel discussion led by A-dee Romero-Briones (Cochiti/Kiowa), Dir. of Programs for Native Agriculture and Food Systems, First Nations Development Institute. Free. [HTTPS://WWW.SLOWFOODSANTAFE.ORG/2021-FOOD-SYSTEMS-SERIES](https://www.slowfoodsantafe.org/2021-food-systems-series)

SEPT. 18, 12-4 PM

INDIGENOUS COMMUNITY DAY

Ragle Park, 2530 W. Zia Road

Community event presented by the SF Indigenous Center. Traditional and contemporary Native song, music and dance, nonprofit booths, food, arts & crafts and more. Bring blankets or lawn chairs. 505-660-4210, SFINDIANCENTER@GMAIL.COM

SEPT. 20-OCT. 21

ENVIRONMENTAL TECHNICIAN TRAINING

SF Higher Education Center, 1950 Siringo Rd.

Free training provides skills needed for certifications in a wide range of job opportunities. 505-428-1866, EVELYN.GONZALES@SFCC.EDU, [HTTPS://WWW.SFCC.EDU/EPA](https://www.sfcc.edu/epa)

SEPT. 22, 1-3 PM

GREEN TRACTOR FARM TOUR

La Ciénega

Multigenerational family farm recognized for productive management of their land. \$20/\$5. [HTTPS://WWW.SLOWFOODSANTAFE.ORG/NEW-EVENTS](https://www.slowfoodsantafe.org/new-events)

SEPT. 22, 5:30-7 PM

WHY RAIN GARDENS?

1925 Aspen Drive

Tour of established rain gardens with Reese Baker. Urban food forest development, bioremediation of stormwater pollutants, ecological and hydrological potentials of urban stormwater. WWW.SANTAFENM.GOV/RIVER_AND_WATERSHED

THROUGH SEPT. 22

URBAN ECOLOGIES

- OUTDOOR ECO-ART

Santa Fe Railyard Park

Public art Installation emphasizes the connectedness of humans with the ecosphere and promotes strategies and behaviors that reinforce sustainability. Made possible in

part by the N.M. Humanities Council and the National Endowment for the Humanities. RAILYARDPARK.ORG

SEPT. 26, 1-3 PM

NATIONAL ORGANIZATION OF WOMEN MEETING

SF Women's Club

SF Chapter of NOW. “RvW. What’s next for N.M.? 505-982-1823, DANA1945SF@GMAIL.COM

SEPT. 29

INSTITUTE OF AMERICAN INDIAN ARTS OPEN HOUSE

83 Avan Nu Po Road

In-person and Live-stream

Exhibitions and demonstrations. Open studios and classrooms. WWW.IAIA.EDU

OCT. 1-JAN. 9, 2022

SITELAB 15: JOANNA KEANE LÓPEZ: LAND CRAFT THEATRE

SITE Santa Fe, 1606 Paseo de Peralta

N.M.-based artist explores boundaries between large-scale installation and adobe architecture, celebrating the legacy of the *enjarradora*. 505-989-1199, SITESANTAFE.ORG

OCT. 2-3

HARVEST FESTIVAL

El Rancho de las Golandrinas, La Ciénega, N.M.

\$8/\$6/12 & under free.

OCT. 5, 3-9 PM

GOOD EARTH FILM SERIES

Reunity Resources, 1829 San Ysidro Crossing (outside)

Eight short videos about New Mexican regenerative agrarians start at 7 pm, followed by a Q&A at 8 with the featured farmers and filmmakers. Farm stand, food truck. Suggested donation: \$5. GOODEARTHMEDIA.COM

THROUGH OCT. 10

SHONTO BEGAY: EYES OF THE WORLD

Wheelwright Museum, 704 Cam. Lejo

Neo-Impressionist paintings convey a connection to the spirit world intended to begin a healing journey. 505-982-4636, WHEELWRIGHT.ORG

OCT. 19-21

CROSSING THE CACTUS

- IDEAS TO JOBS

SF Convention Center

Conference gathering educators, workforce, economic development professionals, investors and disruptive, innovative companies. 505-629-7071, [HTTPS://WWW.CROSSINGTHECACTUS.COM](https://www.crossingthecactus.com)

THROUGH OCTOBER

¡VÁMANOS! SF WALKS & EXPLORATIONS

Free, hour-long walks and weekend hikes. Explore urban trails, meet community. Sponsored by the SF Walking Collaborative, Convened by the SF Conservation Trust. 505-989-7019, [#VamonosSantaFe, SFCT.ORG/VAMONOS](https://www.sfct.org/vamonos)

NOVEMBER, TBA

WHAT CAN NON-FARMERS, NON-RANCHERS DO?

Online discussion about food & agriculture policy issues in N.M. Free. [HTTPS://WWW.SLOWFOODSANTAFE.ORG/2021-FOOD-SYSTEMS-SERIES](https://www.slowfoodsantafe.org/2021-food-systems-series)

THROUGH JAN. 23, 2022**EXPOSURE: NATIVE ART AND POLITICAL ECOLOGY**

LAlA Museum of Contemporary Native Arts, 108 Cathedral Pl.

International Indigenous artists' responses to impacts of nuclear testing, accidents and uranium mining on Native peoples and the environment.

[HTTPS://IAIA.EDU/EVENT/EXPOSURE-NATIVE-ART-AND-POLITICAL-ECOLOGY/](https://iaia.edu/event/exposure-native-art-and-political-ecology/)

THROUGH MAY 16, 2022**KATHLEEN WALL "A PLACE IN CLAY"**

Museum of Indian Arts and Culture, 710 Cam. Lejo

The Jemez Pueblo artist is MIAC's 2020-2021 Native Treasures Living Treasure. 505-476-1269,

[INDIANARTSANDCULTURE.ORG/](http://indianartsandculture.org/)

THROUGH JUNE 16, 2022

Clearly Indigenous: Native Visions Reimagined in Glass Museum of Indian Arts and Culture, 710 Cam. Lejo

Works by 30-plus artists, including Ramson Lomatewama, Preston Singletary and Adrian Wall. 505-476-1269,

[INDIANARTSANDCULTURE.ORG/](http://indianartsandculture.org/)

THROUGH JAN. 15, 2023, 10 AM-5 PM**#MASK: CREATIVE RESPONSES TO THE GLOBAL PANDEMIC**

Museum of International Folk Art, 706 Museum Hill \$7/\$12 505-476-1200, [INTERNATIONALFOLKART.ORG](http://internationalfolkart.org)

TUES., 3-6 PM**DEL SUR FARMERS' MARKET**

Presbyterian Medical Center, 4801 Beckner Rd.

TUES., SAT., 7 AM-1 PM**SANTA FE FARMERS' MARKET**

1607 Paseo de Peralta

505-983-4098, [SANTAFEFARMERSMARKET.COM](http://santafefarmersmarket.com)

WEDS.-SAT., 10 AM-6 PM;**FRI.-SAT., 10 AM-6:30 PM****SANTA FE CHILDREN'S MUSEUM**

Interactive exhibits, play areas, weekly programs. Masks required for ages 2 and older. \$10/\$8/\$7/\$3/one & under free.

505-989-8359, [SANTAFECHILDRENSMUSEUM.ORG](http://santafechildrensmuseum.org)

THURS.-SAT., 1-4 PM, THROUGH AUG. 2022**TRAILS, RAILS AND HIGHWAYS**

Museum of Spanish Colonial Art, 750 Camino Lejo

How trade transformed the art of Spanish New Mexico.

\$12/\$5/under 12 free. 505-982-2226, RESERVATIONS@SPANISHCOLONIAL.ORG, [SPANISHCOLONIAL.ORG](http://spanishcolonial.org)

GRADUATING SENIOR EXHIBITION**"A RETROSPECTIVE OF CHANGE"**

LAlA Balzer Contemporary Edge Gallery, 83 Avan Nu Po Rd.

On the Institute of American Indian Arts campus and online:

[HTTPS://IAIA.EDU/RETROSPECTIVEOFCHANGE/](https://iaia.edu/retrospectiveofchange/)

EL RANCHO DE LAS GOLANDRINAS

334 Los Pinos Rd., La Ciénega, N.M.

Living history museum. 200 acres, 34 historic buildings.

505-471-2261, [GOLONDRINAS.ORG](http://golondrinass.org)

SF HABITAT FOR HUMANITY

Seeking land, donated or for sale, to build affordable housing.

Low-income homeowners help build homes and make mortgage payments to the nonprofit HFH. Property owners can

qualify for 50% Affordable Housing tax credit through the N.M. Mortgage Finance Authority. 505-986-5880, ext. 109

STATE MUSEUMS

Museum of International Folk Art (10 am-4 pm), Museum of Indian Arts and Culture (10 am-4 pm), N.M. History Museum (10 am-4:30 pm), N.M. Museum of Art (Tues.-Sun., 10 am-4 pm).

[NEWMEXICOCULTURE.ORG/VISIT](http://newmexicoculture.org/visit)

TAOS / ONLINE**SEPT. 24-OCT. 3****TAOS FALL ARTS FESTIVAL**

205 Don Fernando St. Parish Gym

Works by about 200 diverse artists who reside or exhibit in a Taos gallery. 575-779-8579, [TASOFALLARTS.COM](http://tasofallarts.com)

SEPT. 25, 12-4 PM**TAOS ELECTRIC VEHICLE EXPO**

Taos Community Auditorium, 145 Paseo del Pueblo

Exhibits, speakers, demos. Free. [HTTPS://RENEWABLE-TAOS.ORG/EVEXPO/](https://renewable-taos.org/evexpo/)

THROUGH OCT. 10**SANTO LOWRIDER: NORTEÑO CAR CULTURE AND THE SANTO TRADITION**

Harwood Museum of Art, 238 Ledoux St.

Santeros, santeras side-by-side with lowrider artists. More than 30 artists. 505-758-9826, [HARWOODMUSEUM.ORG](http://harwoodmuseum.org)

THROUGH OCTOBER**NATIVE ROOTS TRADITIONAL MEDICINE PROGRAM**

Clinical mentorship program. Energy work, body work.

[HTTPS://NATIVEROOTSHEALING.COM](https://nativerootshealing.com)

HOMELESS WOMEN & CHILDREN

Heart House Hotel Program provides emergency housing for up to 15 women and children experiencing homelessness in Taos. 575-776-4245, SUPPORT@HEARTOFTAOS.ORG

HERE & THERE / ONLINE**SEPT. 12 NOMINATION DEADLINE**

2022 NM Food & Farms Day Awards

Local food champions will be celebrated on NM Food & Farms Day, Jan. 5. Categories: Hardworking farmers & ranchers, nonprofits, health and conservation organizations, businesses or individuals contributing to our local food system. Produced by Farm to Table N.M. and N.M. Food & Ag Policy Council. [WWW.NMFOODPOLICY.ORG](http://www.nmfoodpolicy.org)

SEPT. 18**RALLY FOR THE RÍO**

Northern New Mexico

Community celebration of the Río Grande. Float rides, bird watching tour, fly-fishing demo and more. [WWW.AMIGOSBRAVOS.ORG](http://www.amigosbravos.org)

SEPT. 25, 2-6 PM**AG DAY**

N.M. State University, Las Cruces

Street festival celebrating agriculture industry. Presented by the NMDA and NMSU's College of Agriculture, Consumer and Environmental Services. Booths, animals, food, music. Free. 575-646-1864, [WWW.NMDA.NMSU.EDU/AG-DAY/](http://www.nmda.nmsu.edu/ag-day/)

SEPT. 29-OCT. 1**OUTDOOR ECONOMICS CONFERENCE & EXPO**

Farmington Civic Center, N.M.

Panel discussions, products expo, wild & scenic filmfest, N.M. Outdoor Company pitch fest, field trips.

[HTTPS://FARMINGTONNM.ORG/EVENTS/2021-OUTDOOR-ECONOMICS-CONFERENCE-EXPO](https://farmingtonnm.org/events/2021-outdoor-economics-conference-expo)

SEPT. 30, 3:30-7 PM ET**FOOD & WATER WATCH CONFERENCE**

[HTTPS://WWW.FOODANDWATERWATCH.ORG](https://www.foodandwaterwatch.org)

Speakers, education sessions, hands-on workshops, networking, community building. Keynote by Amy Goodman. Registration: \$25 and up.

SEPT. 30 APPLICATION DEADLINE**NATIVE AGRICULTURE AND FOOD SYSTEMS COLLEGE SCHOLARSHIPS**

For Native American students. [WWW.FIRSTNATIONS.ORG](http://www.firstnations.org)

STARTS SEPT. 30-NOV. 18**(8 THURS., 2-4 PM)****GRAIN SCHOOL ONLINE**

Learn techniques for growing and breeding diverse grains, harvesting and recipes, history and culture of grain cultivation. \$229. [HTTPS://ROCKYMOUNTAINSEEDS.ORG/GRAIN-SCHOOL-ONLINE/](https://rockymountainseeds.org/grain-school-online/)

OCT. 4-7**GREEN GLOBAL DESTINATIONS DAYS**

[HTTPS://LNKD.IN/GO9ZVPK](https://lnkd.in/gO9ZVPK)

Conference brings together sustainability professionals, destinations and tourist boards to share best practices and learn about initiatives, tools and sustainable tourism.

OCT. 7-9**GILA WILD AND SCENIC: RIVERS OF OPPORTUNITY**

Silver City, N.M.

Conference will re-engage local community and call for reintroduction of a Gila Wild & Scenic designation.

Panel discussions, film screenings, field trips and more. N.M. Wilderness Alliance. [NMWILD.ORG](http://nmwild.org)

OCT. 9**MOVING HEARTS 2021 GALA**

Moving Arts Española

Dinner, performance, live auction (online 10/4).

[MOVINGARTSESPANOLA.ORG](http://movingartsespanola.org)

OCT. 28-30**NATIONAL LATINO FARM & RANCH CONGRESS**

Isleta Resort & Casino, N.M.

202-628-8833, [WWW.NLFRTA.ORG](http://www.nlftra.org)

OCT. 31-NOV. 12**UN CLIMATE CHANGE CONFERENCE 2021**

Glasgow, Scotland

Work in support of the goals of the Paris Agreement and the UN Framework Convention on Climate Change. [HTTPS://UKCOP26.ORG](https://ukcop26.org)

THROUGH NOVEMBER**ROCKY MOUNTAIN YOUTH CORPS**

[WWW.YOUTHCORPS.ORG](http://www.youthcorps.org)

Recruiting crews ages 18-25 for conservation projects such as trail restoration, historic preservation, invasive species removal, forest fire prevention. Living stipend, education award. 575-751-1420, www.youthcorps.org

START SAVING NOW
SAVING MONEY & SAVING THE PLANET



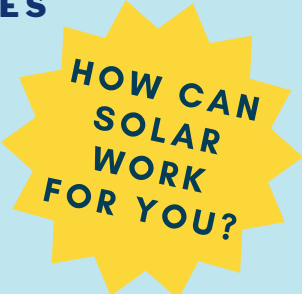
- ✓ 40+ years installing solar in NM
- ✓ 25 year workmanship warranty
- ✓ NABCEP Certified Team
- ✓ FREE 1st year system check up
- ✓ Zero down financing options
- ✓ Local nonprofit solar donations



BUSINESS FINANCIAL INCENTIVES

*Incentives subject to eligibility

- USDA-REAP Grant: 25%
 - Federal Income Tax Credit: 26%
 - NM State Tax Credit: 10%
 - MACRS Accelerated Depreciation (100% 1st year)
- = reduced cost by up to 81%**



CASE STUDY - BARTEE RANCH

- 6 solar systems = 116.28 kW DC (combined)
 - Generating: 225,415 kWh/year
 - Powering the ranch, well pumps & center pivot irrigation systems
 - Offsetting 100% of the electrical usage with renewable energy
- ✓ **4.2 years to recover investment = 25 years of free power**

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**SECOND ANNUAL
 NATIONAL LATINO
 FARM & RANCH
 CONGRESS**

**"LA TIERRA PERTENECE A QUIEN
 LA TRABAJA"** Emiliano Zapata

**Celebrating 16 years of serving "Nuestros"
 Latino Farmers and Ranchers**

**28-30
 OCTOBER 2021**

ISLETA - NEW MEXICO

SAVE THE DATE

The National Latino Farmers & Ranchers are pleased to announce our upcoming **2nd Annual Congreso, Latino Farmers & Ranchers** "Agriculture in Crisis: the Age of COVID 19 & Climate Change".

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