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2525 Reno Highway
(775)-481-3592

President/Publisher
RACHEL DAHL

Staff Writers
LEANNA LEHMAN
JO PETTERUTI

Editing/Proofing
SYLVIA NASH

Contributors
KELLI KELLY
MANDIE KOECKES
ANNE MCMILLIN
HUNTER MCNABB
MARILYN MOORE
MARIE NYGREN
ERNEST C. SCHANK

Advertising Executive
BILL POST

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Meet the Staff



Rachel Dahl is a 1987 grad of Churchill County High School and received her BA from the University of Nevada. She continued on, receiving her MA in Political Science, and has served the Fallon community as a city councilwoman, and director of economic development. She taught high school and middle school English as well as Core Humanities at the University of Nevada, and Political Science at WNC. She is mother of three and grandmother of one.



Leanna Lehman is a Fallon girl, born and raised. She started writing for The Fallon Post in February 2019. Her first novel was published in 2015 and she has had articles featured in First for Woman and Women's World Magazines, PopSugar, Chick Lit Central, and Chispa Magazine. Leanna is a lover of all things Western Nevada as is working on a Nevada photography collection as well as new fiction and non-fiction projects.



Jo Petteruti moved to Fallon from Rhode Island in 2007 after a successful 31-year career in Information Technology. She is the original owner/builder/designer of Jo's Stillwater Tea Room and is now retired from that endeavor. She is an avid football fan and even worked as a security person for the New England Patriots for one season. She now spends her time volunteering in many capacities around town, including in her new role as a reporter for *The Fallon Post*.

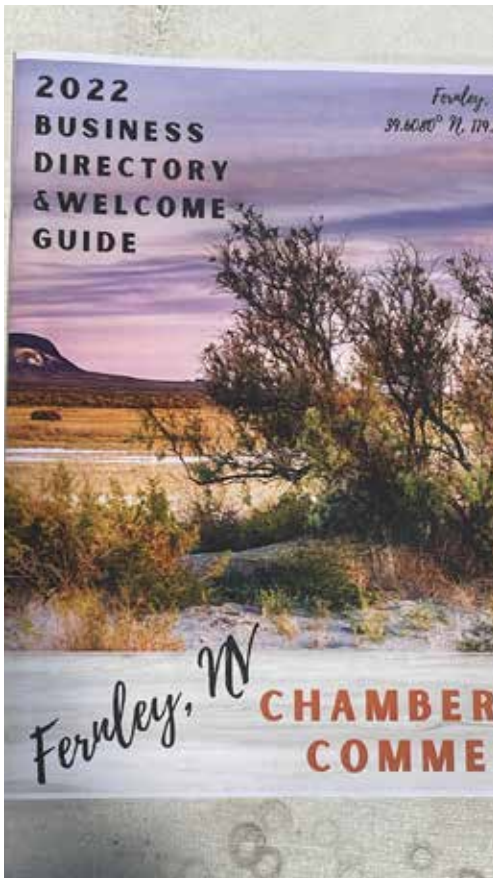
Watch for our next edition of the Fallon Magazine with planned issues focusing on:

- April - Local Artisans
- May - Construction
- June - Transportation
- July - Service Organizations



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The Lahontan Valley – Nevada’s Land of Milk and Honey

By Leanna Lehman

Upon entering the Lahontan Valley during certain times of the year, something enchanting occurs. One emerges from the heart of the desert to find themselves in the vibrant oasis of Fallon. Vast rocky hills, alkali flats, and miles of brown brushy scrub sage give way to a kaleidoscope of lush green fields, farms, and ranches.

This oasis did not naturally occur, however. The Carson River, fed from snow runoff and natural springs high in the Sierra Nevada mountains, has made farming and cultivation possible for generations. Stretching from the base of the Stillwater range to the eastern edge of Lake Lahontan, acre upon acre of emerald fields transform the desert landscape into something beyond the area’s naturally occurring sand and brush. So green is the valley in the heart of summer, the Mighty Greenwave – the high school mascot, was born out of the grand view of the ocean of green alfalfa that spans the valley.

It is no surprise that agriculture has been the lifeblood of Fallon for well over a century. Situated in the western-central territory of Nevada’s Great Basin, the county spans 5,024 square miles and is one of the state’s most productive farming and ranching regions.

With the Department of Agriculture registering 19 dairies, the area is home to 70% of the state’s cow, sheep, and goat milk production. There are also two feedlots in the valley raising and selling beef cattle. In 2017, the USDA census recorded 504 farms in Churchill County, with an average farm size of around 500 acres. Most of that farm ground is in crops grown to feed livestock. Alfalfa and hays top the list of crops grown locally, with corn having the second largest yield.

Hemp is a recent addition to the long list of crops grown in the area, which seems to thrive in the valley’s fertile ground. Small niche farmsteads specializing in herbs, flowers, and organic produce also take root alongside some of the older farms that have provided fresh fruits and vegetables to locals for years. New and pioneering agricultural methods are also being developed and adapted here, keeping our community at the forefront of sustainable and regenerative farming innovation.

Honey is another one of the Lahontan Valley’s hidden gems. With more and more beekeepers starting hive operations, increased natural pollination is occurring and benefiting the many farms in the region. Beyond the practical consideration of bees, it is worthwhile noting the rich flavor of Fallon honey, which is quickly becoming one of the area’s most treasured locally-grown products.

Agriculture, in all its various forms, continues to positively impact the area’s economy, despite the mounting challenges faced by modern farmers.

Churchill County reported a total agricultural economic output of \$150.9 million in 2021, an impressive number for a small rural community like Fallon.

In this edition of the Fallon Magazine, we will explore some local agriculture and supporting industries. We hope you enjoy an up-close look at what makes Fallon such an amazing agricultural community.





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Lahontan Valley and the Newlands Project: a History

By Ernest C. Schank

As a young boy, Ida R. Alldredge's 1948 poem was recited in our home. "They the builders of the nation, Blazing trails along the way; Stepping stones for generations were their deeds of every day. Building new and firm foundations, Pushing on the wild frontier, Forging onward, ever onward, Blessed, honored Pioneer!" The history of the Newlands Reclamation is truly a tribute to the pioneers for what we enjoy today.

In 1928, Hudson Bay Company explorer, Peter Skene Ogden pioneered the route linking the Humboldt Sink to the Carson River. Today that route is known as the 40 Mile Desert. Over the next 17 years, explorer John C. Fremont and tens of thousands of settlers and gold-rushers passed through our valley on the way to California. The 1850s brought many Mormon pioneers across the Lahontan Valley. In 1854 Asa Kenyon and his bride-to-be set up Ragtown Station along the banks of the river.



A few settlers based in the Lahontan Valley started providing freight and forage services to the booming Virginia City's silver mines.

J.J. Cushman and David Wightman were some of the first ranchers on the south branch of the river around 1860. A year later, the St. Clair Family settled along the south fork and opened a post office, they sold their improvements in 1866 leaving only the family name in the valley. The 1860s saw many families immigrate to the Lahontan Valley, including families named Richard, Allen, Harmon, Ferguson, Sanford, William, and Kent.

Alfalfa was introduced in 1864. By 1866 the easiest lands to divert water to had homesteaders. As the mining in the Comstock slowed, the early settlers of the Lahontan Valley found new markets for their beef, honey, wool,

and mutton in California. Rangeland around water sources quickly became private holdings.

The Carson River in spring saw plenty of water only for it to be gone by early July. During the winter of 1862, the Lahontan Valley saw one of the largest floods ever recorded. At that time most of the water flowed from the South Fork of the Carson River to Carson Lake. Overflow waters from Carson Lake then flowed into the Stillwater Slough and finally to the Carson Sink. The flood of 1862 carved a new channel for the river to the north and another channel east to the Stillwater Slough. Subsequent floods in 1867 and 1869 almost closed entirely the South Fork, drastically reducing the size of Carson Lake.

In 1870 the Lahontan Valley boasted 36 working ranches with Carson River providing enough water for only one crop of grass hay a year. The Stillwater area saw the first development of large fields because of the flat nature of the area and because it was relatively easy to get the water to flow in that direction. Stillwater became the hub of activity and the Churchill County seat.

In the middle 1890s, Mike Fallon's ranch became a new community on the north fork of the Carson River. In 1894, James Richards set up a business at the crossroads of what is now Maine and Williams. Warren W. Williams bought the Fallon Ranch in 1901 and attracted some 200 residents who incorporated the town of Fallon in 1908. By 1903, the residents of Fallon were battling the residents of Stillwater for the county seat. County folklore has the Fallonites in the early morning hours sometime in 1903, quietly going to Stillwater and removing all the official records to the new courthouse in Fallon. The awakened Stillwater folks gave chase with many records getting lost in the altercations.

By the end of the 19th century, the idea of reclamation in the west was all the rage in Washington D.C., then Nevada Congressman Francis G. Newlands and Wyoming Senator Henry C. Hansborough sponsored a bill that would commit the federal government to an aggressive program of "reclamation." On June 17, 1902, President Roosevelt signed the reclamation bill into law.

The principle of reclamation was simple - build dams and reservoirs on rivers to collect water in plentiful times. The stored water would then be used for crops and cities during times of drought or water scarcity. Just what the Lahontan Valley needed. On March 14, 1903, the Truckee Carson Project and its four sister projects in Salt River, Arizona, Milk River, Montana, the North Platte in Wyoming and Nebraska, and Gunnison, Colorado, were officially authorized by the Interior Secretary.

The Project commenced in July 1903 with the building of the Truckee Canal and all its structures, including a wooden chute that brought Truckee River water into the Carson River

just north of the Old Lahontan Powerhouse. The construction included Diversion Dam, the T-Line Canal to Soda Lake Road, the V-Line Canal, the AA Canal, the L-Line Canal to the Stillwater Slough, and the S-Line Canal to Indian Lakes Road and Reservoir Road.

On June 17, 1905, Senator Newlands, 11 congressmen, and 14 senators met at Derby Dam to dedicate the first completed project of the United States Reclamation Service in an elaborate ceremony.

Project water was first delivered in 1906. It soon became evident to the early farmers that the government hadn't adequately planned for a proper drainage system. Many of the things the government was advertising to get people to come to this valley were not true. Forty acres were supposed to support a family but that was soon found not sufficient land to make a living. Water and drainage were both promised but the water applied often failed to drain, drowning or scalding the crops. Distributed pamphlets read, "wonderful results have already been achieved in staple vegetables such as potatoes, onions, celery, asparagus, cantaloupes, etc." Such claims in the early days of the project bordered on ludicrous.

Another problem was a reliable water supply. The plan was originally to use the spring runoff to water the farms from April until the Carson River ran dry then bring water stored in Lake Tahoe to complete a 7½-month growing season. When this proved unworkable, water shortages in those early years prompted Interior Secretary Richard Ballinger to authorize the building of the Lahontan Dam and Reservoir in December 1910.

Construction began in February 1911. The remoteness of the area prompted the construction of a hydroelectric power plant to provide power for construction activities and a site was chosen to take advantage of the 120-foot fall from the Truckee Canal to the Carson River.

Construction on a powerhouse began in March 1911. Two-500 kilowatt General Electric generators driven by Francis turbines manufactured by the Pelton Waterwheel Company were installed. Now there was electrical power to run the machinery required to build the Lahontan Dam and construction was completed for the 1915 water year.

When the Reclamation Act was being debated a 10-year re-payment of construction charges was contemplated. The 10-year re-payment proved much too short. It took 85 years for the Newlands Project to repay construction costs.

At first, the United States planners estimated a construction cost of \$5-10 per acre in the Lahontan Valley. When the cost of the project reached \$20 per acre, there was still no proper drainage system and the original funds approved for the Project had run out.



The water users formed an association to deal with the U.S. Reclamation Service and insisted that they had been guaranteed adequate water and proper drainage by the government. The USRS responded that the farmers were responsible for over-irrigation. Tempers were short on both sides.

Between 1912-15 the USRS experimented with different types of drains to see what was necessary to lower the high-water table and reduce the alkalinity of the soils. It was determined that a \$9 charge per acre would be assessed to build an open drainage system. The water owners turned down that proposal.

In 1916 the USRS proposed that water users form an association that could contract to build a drainage system for the Truckee-Carson Project. The Truckee-Carson Irrigation District was created under the laws of the State of Nevada in 1918 as a non-profit governmental agency to undertake the building of a drainage system, to negotiate a contract with the federal government to repay construction charges, and to operate and maintain the project works. This was a requirement of the Reclamation Act, that when a project was substantially completed it should be turned over to a water users' group for operation. In 1926, TCID contracted with the United States to operate, maintain, and repay the project construction costs.

After Francis G. Newlands passed away in 1917, the Truckee-Carson Project was renamed in his honor, the Newlands Reclamation Project.

While competing water interests kept the project from reaching its potential, today 73,800 acres of western arid soils were reclaimed, and the Newlands Project made the desert bloom.

Left: The chute that delivers Truckee River water from the Truckee Canal into Lahontan Reservoir. Above: TCID board members from the mid-1920s. Photos courtesy of Churchill County Museum.

The Economics of Agriculture in Churchill County

By Rachel Dahl

Agriculture is the oldest industry in Churchill County, our heritage, and over the years has provided the culture that has driven our community since Asa Kenyon and his bride set up Ragtown Station along the banks of the Carson River.

Equipment dealers, tire shops, seed and feed, and building supply stores all owe their existence to those who brave the risks and trust Mother Nature to grow crops and animals and create the products from these raw materials that we all rely on for our everyday way of life.

In 2021 the Nevada Department of Agriculture completed an economic analysis of the food and agriculture sector in Nevada, breaking down the economic contributions the agriculture industry makes in each county. Total economic impacts in the study were calculated as the sum of direct, indirect, and induced effects and used economic multipliers for each, agriculture production and food manufacturing industries.

The Churchill County food and agriculture sector contributed \$150.9 million to the state's economy in 2020 and accounted for 852 jobs. Using a multiplier of 1.2, for every dollar invested in the agriculture sector, an additional \$.20 in economic activity was stimulated in other industries in Nevada.

The study showed declines in the agriculture sectors between 2018 and 2020 which were attributed to COVID-19 closures and supply chain complications. The report also explains that Churchill County "suffers exposure to declines in raw agriculture commodity prices," with a drop of \$19.8 million in economic output from agriculture, however, food manufacturing hasn't been impacted as severely.

Dairy cattle and milk production is the top contributor in Churchill County to the food and agriculture sector as a whole, pumping \$44.8 million into the economy in 2018. Following closely behind are beef cattle ranching and farming with \$41.5 million, and dry, condensed, and evaporated dairy products coming in at \$41.2 million. All other crop farming contributes \$14.7 million, animal slaughtering accounting for \$6.5 million, animal production except cattle and poultry at \$4.9 million, followed by grain farming for \$4.9 million.

According to the analysis in the NDA report, in 2017 there were 504 farms in Churchill County comprising 249,832 acres. The average farm size was 496 acres, while the median farm size was 30 acres. Data showed 59 farms with over \$100,000 in annual sales and 135 farms with less than \$2,500 in annual sales. Under livestock and animal production there were 210 cow/calf operations, 154 farms producing beef cattle, and 17 farms producing dairy cattle. Crop production during the same 2017 period, shows 48 farms producing corn for silage, 326 farms producing hay and grass, 12 farms producing wheat for grain, and 7 farms producing vegetables, potatoes, and melons.

According to Kelli Kelly, executive director at the Fallon Food Hub, last summer in 2022, the Food Hub worked with 15 different local, small farmers who were producing vegetable crops

for the Food Hub as well as local area farmers markets.

Before the employment data reflected above for 2020, in 2018 the food and agriculture sector accounted for 933 total jobs, with an average hourly wage of \$24.36. Food and several manufacturing jobs accounted for 58 of those jobs with an average of \$27.64 per hour. Local sources say those numbers are slowly rebounding, however, there is stiff competition for the local labor pool that is increasingly leaving farm employment for the large corporations that have grown at the Tahoe Reno Industrial Center in Storey County.

During 2019, the state as a whole had an economic output of \$4.85 billion with ranching and farming contributing \$994.2 million and food and beverage manufacturing contributing \$3.904 billion. In 2020, the food and agriculture sector consisted of 18,092 direct jobs and over \$113.2 million in wages.

In comparison to the agriculture related sectors which makes up just over 7 percent of the local economy, Churchill County relies on 13.7 percent Health Care and Social Assistance, 9.43 percent Public Administration, 9.23 percent Retail Trade, and 9 percent Construction for economic inputs. In a community that relies heavily on the military and other governmental services for the local economy, agriculture cannot be underestimated in importance.

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Got Milk? – Dairy Farming in the Lahontan Valley

By Leanna Lehman

It is nearly impossible to live in the Lahontan Valley or even travel through the valley without happening upon a dairy or two or twenty. While most of the area's dairy farms may not be visible from the highway, they can be detected by even the least discerning passerby. An often not-so-subtle scent lies on the edge of a breeze, overtaking the valley's otherwise fresh, clean, high mountain desert air. Combined with the rich, warm fragrance of blooming alfalfa, there can be no doubt that this is an agricultural community.

The casual observer might not think this rural Northern Nevada community would be a suitable environment for large milk cow herds with the climate, geography, and constant threat of drought. However, Fallon has proven more than viable, with 19 dairies registered with the Nevada Department of Agriculture. By all accounts, the area seems particularly suited to dairy farming. In 2022, the region produced over 810,000,000 pounds of milk – or in terms of gallons, 94,186,047 (8.6 pounds per gallon), according to Dairycatteextension.org.

Fallon is home to more working dairies than any other community in Nevada and is responsible for 70% of the state's milk production. A few of those dairies have been in production for generations. They are considered legacy dairies, including Olsen Brothers Hillside Dairy, established in 1915, and Perazzo Brothers Dairy, in operation since 1941.

The Milk Cow Herd

Most cows milked in the Lahontan Valley are Holstein and Jersey breeds. Holsteins are easily recognizable by their black-and-white pattern and are known for their high-volume milk production. At about 1,500 pounds when mature, a healthy Holstein can produce up to 75 pounds or nine gallons of milk per day about 305 days a year.

According to US Jersey, Jersey cows produce the highest quality of milk for humans and report that Jersey milk has 15%-20% more protein than average milk, up to 18% more calcium, and overall higher nutritional value. Further, Jerseys are said to be remarkably sustainable, require about 32% less water than other breeds, and produce less waste reducing the carbon footprint by 20%.

Since milking is at the heart of any dairy operation, the herd's health is a significant priority for dairymen. The cows receive excellent care with the help of veterinarians, expert herdsman, and animal nutritionists. They receive highly specific feed rations that balance proteins, fats, and nutrients to ensure the cows have ample energy to produce high milk volumes. According to Pete Olsen Jr. of Hillside Dairy, feed trucks combine ration ingredients like a giant electric mixer and are continuously adjusted as the cows' needs change. The time of year, weather, and the animals' overall health can impact milk production.

Various feed commodities, generally trucked in or delivered



from rail cars, like dried corn, cottonseed, and canola make up the ration. Other essential ingredients in dairy cow rations are hays and silages; forage feeds provide the animals with fiber, nutrients, and minerals.

Most of the area's farmland is dedicated to growing crops to feed local livestock. Dairies can cultivate a large portion of their feed ration by growing alfalfa, corn, and other forage crops. Few modern dairy operations can exist in an unpredictable and often volatile milk market without a companion farm operation. Most milk produced in the Lahontan Valley is transported to the Fallon Dairy Farmers of America (DFA) food-grade powdered milk plant. DFA has had contracts for powdered milk sent to China, with Nestle, and in various milk products, including infant formula.

Milk that does not go to DFA is sent to Model Dairy, sold in regional grocery stores, and helps support the economy while offering locally sourced milk.

It is of no minor consequence to dairymen that their herd and milk are healthy. And, whether the milk is dried for powder or sold fresh, the milk's quality is ensured as the dairy industry is one of the most regulated in agriculture. Every load is tested while dairies undergo continual inspections to guarantee the milk is hormone and antibiotic free. A single bad test can result in an entire tanker truckload of milk lost.

Of the 19 operating dairies in Fallon, few are legacy dairies. Although 98% of dairies in Nevada are family-owned, far fewer have stood the test of time and passed down to the fourth and fifth generations.

Legacy Dairies

Olsen Brothers Dairy is located on Bass Road and is Nevada's oldest and largest working dairy. Established 1915 in Sparks, Nevada, by Otto and Carrie Olsen, they also bottled and delivered milk door-to-door. In 1972 Harold Peter Olsen, Sr. and his wife Ruth moved the dairy to Fallon, where it has continued in

Continued on page 10 ...



operation ever since. Milking about 2,800 Holstein cows and raising another 2,500+ heifers and calves, Hillside is continually expanding. Their 44-stall parallel parlor milking barn, completed just over five years ago, allows for milking three times a day – the number of times Holsteins prefer, according to research.

The dairy remains a family-owned business owned by Pete Jr., Eric, and Neil Olsen. With over 50 workers, Hillside Dairy also runs a sizeable farming operation. Using some of the most advanced farming methods available, the brothers depend on an agronomist to help maximize their crops' health and yield, adjusting to fluctuating water allocations. Like most dairymen, they must use every resource available to stay afloat when ranches, farms, and dairies struggle to survive in challenging economic times. Pete also actively serves on the Board of Directors for Dairy Farmers of America and was integral in bringing the DFA plant to Fallon.

Perazzo Brothers Dairy, located on Stillwater Road east of Fallon, is a fourth-generation dairy owned and operated by the Perazzo brothers, David and Alan, and their sons, Daniel, Michael, Tyler, and Brent. According to the family, the Perazzos can trace their roots back to Elis Island when three-year-old Otto immigrated to America with his family from Italy. In 1941, Otto and his wife Noma started a small dairy by milking six Shorthorn cows by hand in a dirt-floor chicken coop. In 1972, John and Jim Perazzo took over for Otto and grew the herd to 100 cows. In the early 80s, Alan and Jim came on board and are now working the dairy with their sons.

Perazzo's expanded their operation when the DFA plant opened. Upgrading to a double-30 parallel milking parlor, they now milk over 1,200 Holsteins three times a day, hoping to expand beyond 1,600. Perazzos also constructed a museum over the dairy office when they completed their new barn in 2014. They

Previous page: Perazzo Brothers Dairy offers tours during World Milk Day in 2019. Photo courtesy of High Desert Grange. Above: Hillside Dairy harvester operator chops corn on the move, which shoots directly into trucks which haul the corn silage to the dairy where it is stored for later use in the feed ration. Photo by Randy Wellnitz. Right: JM Gomes Dairy, Photo by Leanna Lehman. Right: a dam cow... Rice 2021.

aim to share the family's history in the dairy business. They also display various milking equipment used over the last 80 years, like cream separators, milk buckets, and butter churns. Proud of their dairy heritage, the Perazzos eagerly share their history with local children, the community, and visitors.

JM Gomes Dairy can be found in Fallon at the corner of Allen and St. Claire Roads. Originally owned by John and Mary Ann Gomes, it is a third-generation dairy. Like the Olsens and Perazzos, JM Gomes is a close-knit family operation. The dairy is now run by Joe Gomes, son of Jon and Mary Ann, along with the help of his three sons, Thayne, Lance, and Nick. Gomes currently milks about 330 Holstein cows twice a day in a parallel 20-stall parlor.

Gomes Dairy also relies heavily on crops they grow to feed their herd. Primarily alfalfa and corn silage are harvested, although Gomes and other local dairies also grow winter wheat varieties like triticale. They manage to keep the operation strong and viable, doing most of the planting and harvesting themselves. The US Department of Agriculture reported that in 1970 there were about 650,000 dairy farms in America. Now, there are less than 54,000 and only 28 in Nevada. Fallon has seen the closure of several area dairies over the last two decades. A lack of irrigation water and available cropland have contributed to the decline. Meanwhile, the high costs of farming and ranching continue to climb.



Keeping dairies operating in the black is no small feat. The milk market is fickle and often volatile. Further, science and technology have taken on much more vital roles, and dairies must acquire and utilize these to stay competitive. Not to mention dairies survive in part by the most unpredictable element of all - the good graces of Mother Nature.

Fortunately for the Lahontan Valley, high snowpack levels will ensure enough irrigation water for another year, and Fallon's dairy farms will continue to provide jobs and boost the local economy. With a little help from Mother Nature, a bit of luck, and a supporting community, these dairies will be passed down for generations to come continuing Fallon's long history of dairy farming.



Fallon Dairies

- *B&J Dairy, formerly A&A Dairy, is owned by Mike Palandini, who raises Holsteins. Palandini comes from a dairy family, as his father owns a large dairy in Galt, CA.*
- *Cottonwood Dairy is owned by Brian and Brett Sorensen, who raise Holsteins.*
- *Laca's Vacas is owned by Jared and Katrina Laca. Jared is a grandson of Harold Pete Olsen, Sr., of Hillside Dairy. They raise mixed-breed cows while actively breeding Jerseys into their herd.*
- *Liberty Jersey Farm is owned by Bill and Valerie Christoff and operated by their son Ted.*
- *Mills Jersey Farm is on Sheckler Road and is owned by Cameron Mills.*
- *Regli Dairy is owned by Scott Regli, who raises mixed-breed dairy cows.*
- *Sage Hill Dairy is owned by Pete Olsen III and his brother Mike, also the grandsons of Harold Pete Olsen, Sr. of Hillside Dairy. Sage Hill Dairy raises Jersey cows.*
- *Sand Hill Dairy is owned and operated by Isidro Alves, who primarily raises Holsteins.*
- *Storm's Oasis Dairy is owned by Jason Storm, who raises Holsteins. Storm also owns and operates a large goat dairy.*
- *Whitaker Dairy is owned and operated by Greg and Jeff Whitaker. They also milk and raise Holsteins.*



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Oh Honey! A Year in the Life of a Local Beekeeper

By Leanna Lehman

There is nothing quite like a little local honey. It might be the pollen gathered from acres of hearty alfalfa, the vibrant rabbit brush when in bloom, or even the decades-old cottonwoods that shade the Lahontan Valley during the long summer months of sunshine and warmth. Or, it could be the time, love, and care that local beekeepers put into each jar of local honey. Sure, regular honey from the grocery store will do the trick, but it just doesn't taste like Nevada.

Every local beekeeper does things differently, but there is one thing they all have in common - they serve the pleasure of Mother Nature. But despite the occasional extreme Northern Nevada seasons and frequent droughts, bees continue to thrive in the area.

Local beekeeper Stacy Fisk of Fisk Farm Herbs, along with the help of her husband Brad, keeps nine hives. According to Fisk, beekeeping is a year-round occupation, although part of that involves much watching and waiting.

Fisk has been beekeeping for six years and still finds herself constantly learning. With her Beekeeping Bible in hand, she takes care to nurture her colony and ensure the bees' health. She plots her course for the upcoming year on how well the hives are doing and how they have held up after dealing with the other variables that have affected the colony the previous year. January and February are her planning months.

In Fisk's case, she lost six of her nine hives last fall, which means far more planning and preparation than usual with no hive losses. While she cannot be sure, Fisk attributes most of that loss to varroa mites, tiny parasites that feed on live adult honey bees, weakening them and transmitting various viruses. "It is not unusual to have varroa mites and to treat," Fisk said, "but it usually doesn't cause the death of the hive." Fisk's colony also suffered an infestation of yellow jackets. "Potentially, yellowjackets can decimate a hive," said Fisk, explaining that yellowjackets or wasps can eat the brood, which is the eggs, larvae, and pupae of honeybees, and kill the queen.

Spending the last couple of months assessing, Fisk has devised a plan to rebuild the colony. She is purchasing six packages of bees from California through her beekeeping association, Mason Valley Beekeepers. Each package consists of a queen and three pounds of live bees. She is confident she can replenish her colony by splitting her existing hives and combining them with her new arrivals.

The queens will then breed with local drone bees that exist solely to mate. Unlike worker bees, they don't have stingers, nor do they gather nectar or pollen.

Fisk says in her colony, it usually takes three days for her existing bees to accept a new queen once they are familiar with her pheromones. Even though the new package queens are usually already mated, they will mate with the local drones and propagate more local honey. "The drone congregation area is like the bar

where drones hang out," laughed Fisk, "The queen comes by, and they chase her down, where she will mate with several of them." April is when Fisk begins to watch closely for swarming in her hives. Swarming is a natural process when the queen decamps with a large group of bees from an established colony in response to overcrowding. They often relocate to an old dead tree or stump, or into another weather-protected space. Careful watching ensures if her bees do swarm, she can split the swarmed hive, doubling the space for her bees.

"This is the time of year when the girls work, and the drones just sit around and eat," she explained. Fisk feeds her bees sugar water, pollen patties, and leftover crystallized honey from the previous year, essentially recycling it.

By May, her bees are building up their population. The beekeeper must keep a close eye on her queens. If all is well, the queen is laying her eggs which hatch into larvae in about three days. A queen may lay up to 1,500 eggs per day or even up to 3,000 per day for a good queen during peak season. These eggs will eventually become worker bees that will gather

all the nectar for a honey flow that begins mid-June in the latter part of July when the bulk of the honey is produced.

Each bee will make about $\frac{1}{2}$ teaspoon of honey during its six-to-seven-week lifespan. Fisk must add larger boxes to her hives during this time, giving her bees plenty of room to produce more honey before harvesting begins.

Beekeepers harvest at different times, with most of her association beginning late in August and continuing through early to mid-September. Last year, Fisk harvested at the end of July so she could start treating the varroa mites more quickly. Fisk and her family harvested about 630 pounds of honey

in about two days, no small amount for a nine-hive operation.

Fisk spent August treating for the mites, which takes about 45 days. As varroa is very common, not all beekeepers choose to treat for them, which can be problematic as bees can carry the mites to another colony, infesting and burdening the newly treated hives. In cases like Fisk's, treated hives can be overwhelmed and lost.

By October, Fisk is back to watching and assessing what is happening in the colony. Typically, Rabbit Brush is in bloom, and she will see a mini harvest that she can extract or leave in the hives. Also, this is when her worker bees kill off the drones that have met their mating requirements for the season, which thins out the hive population in preparation for winter. "In the fall months, the bees feed each other differently," said Fisk, "making bigger bees that can withstand the cold, living about three months instead of their usual 6-7 weeks.

As winter approaches, Fisk freezes the wax frames used in the hives during the production months. Freezing prevents wax moths from destroying the hive's foundation and speeds things up when the bees prepare to produce again in the spring.

"The drone congregation area is like the bar where drones hang out"



*Above: Fisk Farm Herbs, next page: Getty harvesting honey, and a picture of Fisk bees hanging out in the drone bar.
Photos by Stacy Fisk.*

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By November, Fisk has closed up her colony, and her bees are nicely tucked into their hives to maintain their heat and survive the winter.

Bees often go outside in winter, usually when temperatures rise above 50°F. Even now, some local beekeepers report seeing bees are out and bringing in pollen as the cycle begins again.

Fisk firmly believes in honey's many medicinal benefits, which include antiseptic, anti-inflammatory, antibacterial, antiviral, and immunomodulator properties. Over time, honey may darken and crystalize, but it is still 100% viable and safe to eat. Honey will last for decades, even centuries, if properly stored in a glass or ceramic airtight container, preventing fermentation.



When warmed, honey will return to normal consistency, although heating to 98° F will cause the loss of nearly 200 of honey's medicinal and antibacterial components. Also, microwaving honey alters its chemical composition, weakening and destroying many beneficial properties.

Thank a beekeeper next time you see one, and remember buying local honey helps support area fruit and vegetable growers, the small business community, and your health. Most of all, it tastes like home.



HOW TO

Decrystallize Honey

Place glass jar of honey into a larger glass or ceramic bowl. For honey in plastic bottles, spoon crystalized honey into a sealable glass jar or container.

Heat water up to a temperature between 95°-110°F to create a warm water bath.

Pour the warm water into the bowl with the jar of honey. Make sure the water above the level of the honey, but below the lid - without getting any into the honey.

Leave the honey sitting in the bath, stirring occasionally, until the honey liquifies and returns to its normal consistency.

Monitor the water temperature with a thermometer and adjust by adding hot or cool water to keep it at or below 110°F.

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Rafter 3C Arena Showcases Local Agricultural Heritage

Livestock Events and Others Driving Economic Development in the Area

By Anne McMillin

With the opening of the Rafter 3C Arena last summer, Churchill County now has a new facility to showcase its agricultural heritage. The facility has lived up to its billing, hosting a variety of agriculture-related events over the past eight months including rodeos, barrel racing, team roping, and cutting horse events as well as livestock and horse shows.

Concerts, craft shows, veterans' events, youth sporting tournaments, the Cantaloupe Festival, cowboy fast draw competitions, and community events have all found a home at the arena and the various facilities at the larger 3C Event Complex (formerly the fairgrounds).

The total economic impact from events at the Rafter 3C Arena from June 2022 to January 2023 is conservatively put at \$5,646,665.

"Our top three ag events at the Rafter 3C Arena thus far have been the 4H State Expo last September and the Top Shelf Breeders Barrel Racing Futurity and NCHA Redwood Circuit Cutting Finals in October," Jesse Segura, Rafter 3C Operations Deputy said. Each of those events, and many others, are contestant-driven and bring people in from all over the western U.S. to participate.

Economic development revenue is generated not only from renting the Rafter 3C Arena but also from livestock stalls and RV spot rentals for events. On top of that, event contestants and spectators may stay at local hotels and eat at local restaurants when in town.

Churchill County continues to make general improvements to the 3C Event Complex to make the facilities work in harmonious concert with each other.

"Improvements across the 3C Event Complex make for a more cohesive and comprehensive infrastructure to be able to put on large events," Segura said. It is not unusual to host simultaneously separate events in the Rafter 3C Arena, the Fairview (outdoor) Arena, and the Lee Green Arena and be able to house all the livestock for those events at the complex.

This year, more covered horse stalls are being added south of the complex off Miner's Road and additional RV spots are going in to accommodate event participants. A new RV dump station will be installed near the tennis courts.

Among upcoming agriculture events this spring and summer are:

- March 10-12: Churchill County High School Rodeo
- March 23-26: American National Cattlemen's Association Region VI meeting
- April 7-9: High Rollers Jackpot Livestock Show
- April 27-29: Churchill County Junior Livestock Show and Sale



- June 13-14: Battle Born Broncs
- June 15-24: World Series of Team Roping
- June 23-24: DeGolyer Bucking Horse & Bull Bash

The calendar year 2023 is nearly fully booked out with 43 weeks reserved for various events at the Rafter 3C Arena alone. Daily rental reservations for 2023 across the entire 3C Event Complex currently stand at 373.

Many events are free and open to the public. See the Rafter 3C Arena website at www.rafter3Carena.org for specific event information. The Rafter 3C Arena is also on Facebook and Instagram.

Built to drive diverse economic development in the region, the Rafter 3C Arena hosts livestock events, equipment shows, concerts, banquets, equestrian events, community events, and more in the 75,000 sq. foot facility consisting of a covered livestock arena, concourse area, meeting room, and concession area. Large screens in both the main arena and the concourse area enhance the spectator viewing experience. Bleacher seating can accommodate more than 1,800 spectators with an additional 30+ spaces for wheelchairs. The concourse area seats up to 1,500. Outside is the covered pavilion, which offers additional event space, and livestock stalls and pens.

The parking lot accommodates 700 vehicles with more room

for livestock trailers and RVs on the south end of the arena off Miner's Road.

The 3C Event Complex includes the Fairview Arena, the Lee Green Arena, the Dry Gulch building, the Barrel House, all stalls and livestock pens, RV camping areas, and the Lonetree Festival Field (where the Cantaloupe Festival is held).

The \$14 million Rafter3C Arena economic development project was funded by loans/bonds and county general funds. Events booking the arena are required to provide clean-up crews, security, and ticketing staff as needed. The Churchill County Parks & Recreation Office can help organizers find vendors in the local area for needed services when hosting an event.

To inquire about bookings for the Rafter 3C Arena, please call the Parks & Recreation Office at (775)423-7733.



Left: Churchill County Junior Livestock Show and Sale in 2022.

Above: Team Branding.

Photos courtesy Churchill County.

Who's egg-cited?

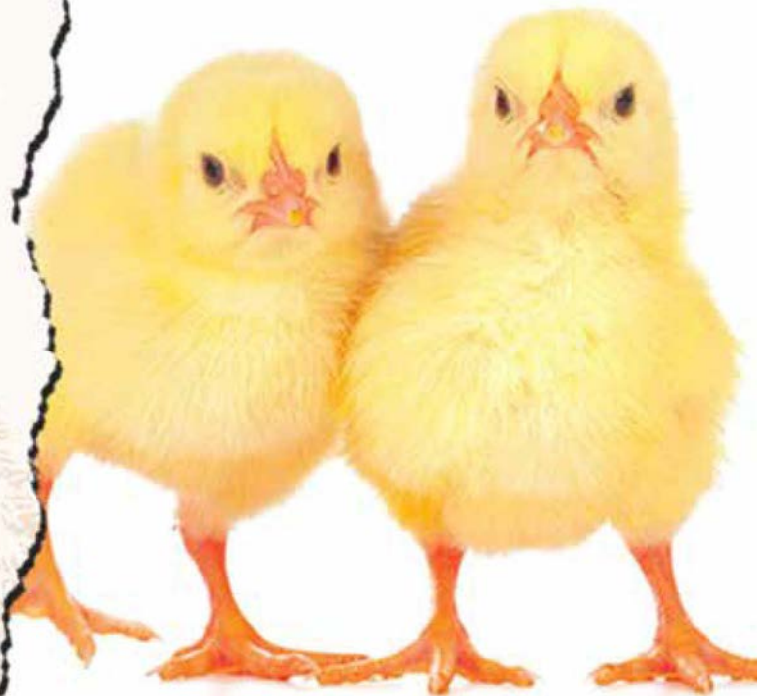
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Healthy Soils NV - How an Idea Becomes a Statute

*“Well, it’s a long, long journey
To the capital city.
It’s a long, long wait
While I’m sitting in committee,
But I know I’ll be a law someday
At least I hope and pray that I will,
But today I am still just a bill.”*

By Kelli Kelly

On February 20, 2023, Assembly Bill 109 was presented to the Assembly Natural Resources Committee at the Nevada Legislature. Sponsored by freshmen Assemblywoman Selena La Rue Hatch, the legislation will create “Healthy Soils Nevada,” an incentive-driven program to assist, educate, and encourage agricultural producers to integrate techniques that improve the health of their soil. As you might remember from the teachings of Schoolhouse Rock, there are many steps and potentially many obstacles for a bill to become law. It all starts with an idea.

The Idea

The origin point for any piece of legislation is the identification of how things are now and how they could be different. In the case of Healthy Soils Nevada, the idea was to create a program that would increase focus on soil health in the state and accomplish something. In 2021, the legislature passed AJR2 an assembly joint resolution in which the legislature expressed support for soil health improvement efforts. Like most joint resolutions, the legislation didn’t do anything beyond making a proclamation. Assemblywoman La Rue Hatch wanted to work on a bill that would help people improve the health of their soil.

Gathering Stakeholders

The next step is to identify what individuals and groups within the state care about the idea, these are the stakeholders. With Healthy Soils Nevada, there was a pretty wide group of stakeholders that were interested in collaborating and supporting the project. The core group that was involved in working on the bill included: soil scientist and educator Chuck Schembre from the Nevada Department of Environmental Protection; climate-smart farming educator and director Jill Moe with the Desert Farming Initiative; Fallon farmer Joe Frey; agricultural advisor Kelli Kelly from the Churchill Entrepreneurial Development Association; and Natural Resources Manager for Eureka County Jake Tibbitts. This group was tasked with figuring out the nuts and bolts of how the program would work, including identifying best practices from other states with existing programs.

Creating Language

The state of Nevada operates with a citizen legislature. Our legislators spend 120 days in each biennium (two-year period) passing legislation for the state. They come with a variety of experiences

including real estate, optometry, education, law enforcement, and legal backgrounds. It is not realistic to expect that legislators arrive in Carson City with an understanding of how to write statutes—it’s an entirely different kind of language. The Legislative Council Bureau (LCB) is the office that supports legislators in their work. Lawmakers send the LCB information about what they want to have drafted into a bill often including examples from other states. The LCB identifies what needs to be changed or added to Nevada Revised Statute and sends draft language back over to the legislator. Once the language is agreed upon, the bill is finalized and entered into the record.

The core stakeholder group for Healthy Soils Nevada collected bill language from a variety of different states that have existing programs related to soil health and conducted research into program execution including outreach to staff and farmers working in each of the programs. Ultimately, it was decided that the state of Utah has the best program in execution and most closely matches the desired outcomes for Nevada. Assemblywoman La Rue Hatch sent the Utah bill language over to the LCB in late December, draft language was reviewed by the stakeholders in January, and the bill was pre-filed just before the start of the legislative session.

Building Support

On opening day of the legislative session, the clerk in both the assembly and the senate is tasked with reading into the record all of the pre-filed bills. Once the bill has been read on the floor, it is assigned to a committee for discussion, work sessions, and ultimately for passage or failure. The Healthy Soils Nevada bill was assigned to the assembly committee on natural resources.

Once you know where a bill is headed, it is time to build support for the legislation with community organizations, a wider group of individual stakeholders, and legislators. This outreach is typically divided up between members of the team, though a vast majority of the work falls to the sponsor of the bill. The soil experts and farmers in the group helped Assemblywoman La Rue Hatch and her attaché to create a “one-pager” that communicates the important pieces of information about the bill on one sheet of paper.

This one-pager becomes the predominant means of communicating to other legislators and organizations about the intent of the bill. Constituents are directed to places where they can get additional questions answered and where they can weigh in with their opinion. The majority of these avenues are through “NELIS” the Nevada Electronic Legislative Information System. Questions from legislators are directed to the bill sponsor. It was not hard to build support for the Healthy Soils Nevada legislation. Early on, conversations were had with groups like the Nevada Farm Bureau and the Cattleman’s Association with both groups enthusiastically on board. Environmentalist groups like the Nevada Conservation League, the Sierra Club, and the Center for Biological Diversity were also happy about the

Great Basin Apothecary's Top Five Herbs for False Spring

By Mandie Koeckes

We are in one of my favorite, albeit funky-weathered, times of the year. The quickening of Spring is upon us, the grasses begin to green, the robins return and my first crocus flowers are blooming. It's also still a tricky time for exposure though, to the cold, the crud, the sinus dryness from the heaters, and the people who still don't wash their hands. We are closed up in our surroundings to stay warm and safe from the cold, limiting our time to access fresh air. I thought this might be a good time to go over my favorite, most heavily studied, and kindest herbs we carry at the shop. This is a nice introduction to many herbs that can be easily cultivated here or are currently being cultivated by our network of medicinal herb farmers.

In no particular order, here are my favorite herbs of resilience for false spring teas.

Eleuthero Root - Eleuthero Root is considered an adaptogen, which is a hot-button term for herbs that have a normalizing effect without damaging anything else. They help your body respond better to the negative outcomes of stress. Eleuthero has a long history in traditional practices such as Ayurveda and Traditional Chinese Medicine. Its anti-inflammatory properties and mild taste make it a go-to base for many blends in my house. An herb of resiliency as we make our final push out of Winter.

Tulsi, or Holy Basil - To be fair, I'll drink Tulsi all year round. It's another one on the adaptogenic list and lends anti-inflammatory properties with a side of flavor that can only be described as life-changing. We are lucky here to have an Africanum variety grown locally that adds such a fruity complexity to our house tea blends that we can't help but add it to almost every offering this time of the year. I enjoy the way its warming properties seem to relax my airways and encourage deeper breathing.

Rosehips - We have native versions of these as well as cultivated varieties, and we aren't the only ones who enjoy these, as lots of birds rely on them for their nutrient density during these months. These little rose fruits are rich in Vitamin C and many other vitamins necessary for seasonal resilience. They add a mildly sweet flavor to many herbal tea blends and you'll find them processed already. If you're wildcrafting, it may be better to dry them whole, as the hairs on the seeds can be troublesome.

Mints (Spearmint and Peppermint) - There are many mint varieties in the lamiaceae family, but these two are the most popular in the shop. Both are used for alleviating indigestion and relieving digestive upset caused by eating too much. It's a nice cooling simple tea to brew on its own and mixes well to hide the less tasty herbs we still want to ingest. Use in smaller amounts if you don't want to overpower the other flavors in your blends.

Calendula - Sunshine in a cup. We are blessed to have so many different farmers in the area cultivating this very helpful herb. Calendula will bloom here almost 10 months of the year, making its valuable properties accessible almost whenever you need it. It's a three-piece powerhouse, antiviral, antimicrobial, and antifungal, making it especially beneficial when we may be dealing with disrupted gut health. I've been known to place a whole flower head in my cup - they are lovely, and a nice treat at the end of your cup of tea. It's found in our Get Better Blend grown locally by an amazing network of Fallon female farmers - grown with love.

These are a very small sampling of the benefits of these specific herbs, and I encourage everyone to educate themselves on whatever they put in their bodies, be it herbs, foods, beverages, or supplements. There are so many others that we as individuals and a community can benefit from. We carry over 150 different organic beneficial herbs and varieties of teas, and we are sure to find a flavor you'll enjoy.



Mandie Koeckes gives a winter seed sowing skills class at Le Petit Atelier in early February. On April 30 she will be giving a Terrarium workshop. Photo courtesy of Great Basin Apothecary and Herbal Cooperative.

Area Goat's Milk in Award-Winning Cheeses

By Leanna Lehman

The only way to make great cheese is to begin by using great milk. That is precisely what Laura Chanel Cheese has done. The French-inspired Sonoma-based cheesemaker has earned top rankings in the World Cheese Awards and the U.S. Cheese Championships, along with winning the American Cheese Award and multiple California State Fair championships. With fresh, high-quality goat's milk from the Oasis of Nevada, their gourmet cheeses can be found in the finest restaurants and bistros of Napa and beyond, in specialty supermarkets across the region, and even in the inspiring chef's home kitchen through North Bay Creameries. But no matter where it is found, it will surely be delicious.

Goat cheese making dates back centuries and can be traced to the rough terrains of the Mediterranean and the Middle East, where goats were more plentiful and easier to raise than cows.

In France's Loire Valley in the 8th century, goat cheese (chevre) became a regional delicacy. The methods used then became the cornerstones of making modern goat cheese, according to Laura Chanel Cheese, who in 1979 became the first commercial goat cheese producer in America. "The key to great cheese is the best milk," writes the award-winning cheese maker, "We only source from family farms in the U.S.—California, Oregon, Nevada, and Idaho. We partner exclusively with our farmers and provide support and technologies for happy goats and delicious milk."

While the majority of dairies in the valley raise cattle for milk production, a few enterprising dairymen have expanded into producing goat's milk. Fallon is now home to three large goat dairies. One of them is Amazing Grace, Pete Homma's local goat dairy, whose milk goes directly to the Laura Chanel Cheese state-of-the-art creamery in Sonoma. Another high-grade goat's milk producer is Jason Storm and his wife Sarah, who milk about 1,200 goats. Scott Laca and his wife Anna-Lisa own and operate Great Basin Dairy, which began milking sheep, but in 2016 Lacas purchased 350 goats for milking.

However, COVID was tough on specialty food markets where Laca's sheep milk products were sold. As a result, Lacas transitioned exclusively to goats. Gradually expanding their herd, they now milk over 2,000 head, which means the total number of dairy goats in the valley - about 6,200, will soon rival the number of milking dairy cows. Lacas, unlike Homma and Storms, sell their milk to two separate California creameries, with one dairy's milk headed to Laura Chanel Cheese and the other to Redwood Hill Farms, which specializes in yogurt and kefir, a fermented milk drink known for its health benefits.

However, not all of the area's goat's milk is sent to large creameries. A few small enterprising farms are raising goats for cheese, like Marissa and Russell Ames of Ames Family Farms, who started Raising San Clemente Island (SCI) goats after they moved to Fallon in



2017. Now, they make small-batch cheeses and butter while growing various produce on their farm to use in their cheese blends. Though SCI goats are not widely used for their milk, Marissa believes they produce a delightfully sweet and creamy cheese, "Our Cotswold cheese, made with the farm's onions and garlic, is one of the tastiest cheeses I made."

Whether a large-scale goat dairy or a small backyard farm, Fallon goats thrive in the area and produce top-quality milk for cheese. Farmers' Markets and the Reno food co-op are great places to find fresh homemade cheeses, and some Laura Chanel gourmet cheeses can now be found in supermarkets like Safeway.

So, every time you buy one of their cheeses or Redwood Hill's yogurt products, which can also be found at Safeway, you support your area farmers, and our local economy, helping to keep agriculture in the Lahontan Valley alive and growing strong.

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ACTNevada – Creating Soil Explosions

By Jo Petteruti

Advanced Carbonate Technologies, LLC has developed mineral-rich products from their mines in northern Churchill County, products that are creating a productivity explosion in the soils they amend. The company, also known as ACTNevada offers three calcium oxide-based products that naturally restore the pH balance in soils, even in fields that have been fallow for years, turning dust into fertility, and dirt into dollars.

The products, ground from the mines' limestone and other sediments from the ancient freshwater lakebed area, contain organic rare-earth deposits that have been naturally fossilized over time. The use of these lakebed limestone deposits by California farmers dates back to the early 1900s because of their beneficial content. The rarity of this limestone deposit has transformed into a 31% calcium oxide mix which acts as an efficient delivery system of essential trace elements that are needed for many physiological and biochemical processes in both plants and animals. Not only do trace elements play a role in biological processes but they also serve as catalysts to engage in oxidation and reduction mechanisms.

An 18-month research study done by the University of Nevada Reno Greenhouse Experiment Station, concluding in 2019, found that naturally formed calcium oxide,

also known as quicklime, is a fast-acting strong base that when added to the soil reduces the need for chemical fertilizer, increases plant production, reduces water requirements, and acts faster than other lime minerals. Plant production levels were tested and measured in both alkaline and acidic soils, proving that this calcium oxide deposit was extremely effective in promoting soil fertility, nutrient availability, and increased plant biomass and growth.

Company co-founder Randy Messer said, "Our ACTpromin product allows the soil to hold on to the nitrogen, so farmers don't have to add it back or rotate crops to replace it. Fields can be planted within four to six weeks of applying the product because it activates immediately as compared to using regular lime where you'd have to wait two to three years for it to activate the soil."

Messer went on to say, "When people use this stuff, they don't get weeds anymore once their soil is balanced. Weeds are noxious and

won't grow in good soil." He described a farm in California that had blighted fields due to tomato mold, and they were told by the U.C. Davis Agriculture Department it could take up to 10 years to get them back. But after using ACTpromin, the farm grew bumper crops of tomatoes in those fields the following season. Warren Rhodes of Fernley, Nevada was surprised by the product, "A consultant advised us to use ACTpromin in our fields to help conserve water. What we found was, not only did the introduction of the product into the soil conserve water but to our amazement, our fruits, and vegetables more than doubled in size. This stuff is amazing, and just what we, as farmers, need."

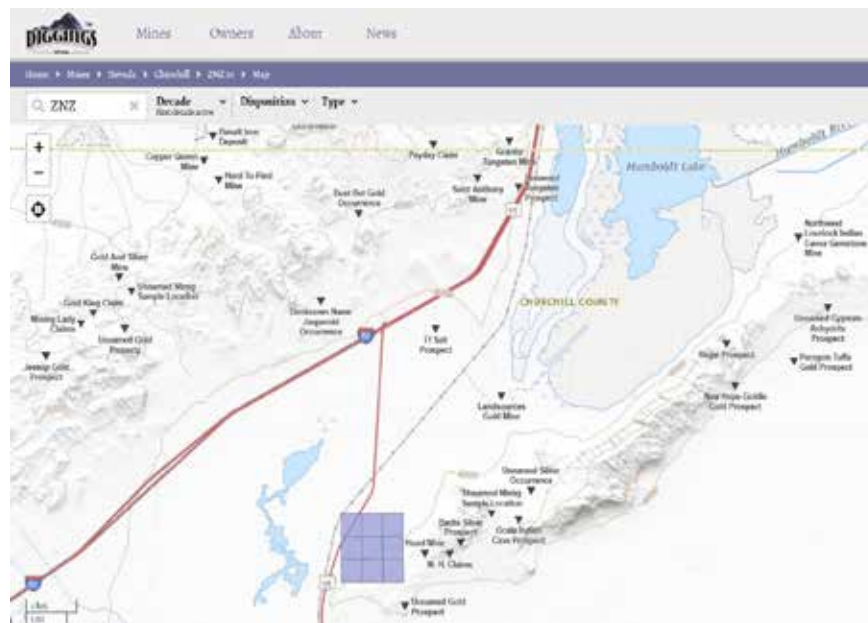
ACTpromin is OMRI listed, meaning the Organic Materials Review Institute has certified it for use in organic production or food processing and handling according to USDA National Organic Program regulations. According to ACTNevada's website,

ACTpromin builds cells in a plant's root system allowing it to increase its uptake of nutrients, and better store and utilize those nutrients. As a result, the plant becomes more tolerant to heat and drought conditions, it requires less water, and its yield is both denser and larger. The product is ground in different sizes from $\frac{3}{4}$ inch, $\frac{3}{8}$ inch, $\frac{1}{8}$ inch, or fine powder for different consumer requirements. The smaller the size the faster the activation of

slow-release nutrients. The product is sold in 50-pound buckets, in super sacks, and by pallet, making it suitable for agriculture, industrial agriculture, large-scale hydroponics, landscaping, and commercial gardening operations.

ACTpowder is a finer version, ground to less than one-eighth inch powder for use as an all-natural soil amendment for gardens, lawns, raised beds, and large pots. It strengthens soil health, improves water retention by up to 25%, and boosts nutrition density in plants. It also builds plant resilience to harsh weather and pests, reducing the need for pesticides. ACTpromin 200 Mesh is their finest mineral product which is ground to its smallest particle size of 200 mesh, making it ideal for houseplants including succulents. These two products are sold in smaller quantities for home use, and only $\frac{1}{8}$ teaspoon is needed for 1.5 gallons of water.

The company is trying to expand its reach due in part to the efforts of a group of individuals with complementary expertise



that were introduced to Messer at the Dayton Tap House by owner Chris Martinez. Mike Shafer, a rail transportation expert, and scientist Joe Ferro have been lending their talents to that effort. Martinez's background is in sales allowing him to provide marketing support, while Shafer works on rail transportation of the product, and Ferro explores additional product uses. Shafer said of his involvement, "Rail companies will try to draw you in, but then you are captive, subject to their pricing, fuel surcharges, and transportation schedules. But if they know their competitor can offer a better deal, they are a lot nicer. So that's what I'm doing for Randy, getting a competitor in here."


Martinez talked about marketing the product. "Many farmers are very used to using lime and other things that take longer before being able to plant. And for a blighted field where chemicals are used, it can take years to abate. The farmer is losing money if he has to wait years before he can plant. So, we are trying to introduce them to something different that's not only going to help their pocketbook because they'll save money, but they will also get better and quicker results. Based on the testing that UNR did, it took 9,600 pounds of derivatives and nutrients versus only 1,200 pounds of ours, and the results were even better with our product. That's a huge savings. It's also a natural pesticide, you will harvest 300% more, and the products you grow will be the best you've ever grown."

ACTNevada is owned by Patty and Randy Messer of Fernley who registered the LLC with the Nevada Secretary of State's office in September 2013. Their 10 mining claims are held by their second company, ZNZ, LLC which was registered in January 2013. According to The Diggings website, ZNZ holds 10 active mining lode claims on 20.66 acres 28 miles north of Fallon on the east side of Lovelock Highway (95 North), in the area of the railroad crossing that's about one mile south of Trinity Junction at Interstate 80. Messer said the mines are drilled and blasted to harvest the materials. But the work can only be done when it is dry there, and materials and finished products must be kept dry which also creates a storage challenge.

Per the U.S. Patent and Trademark Office website, ACT also has five trademarks: Advanced Carbonate Technologies, ActProMin, CalCMin, Caloxite, and Two Rivers all noted for fertilizer use. Further information about ACTNevada and its product line can be found on its website, <https://actnevada.com/>. Information and maps concerning the company's mining claims can be found on The Diggings website, <https://thediggings.com/owners/2354426>.

Martinez added, "We started calling this God's dirt because of the miraculous results that are being achieved, indoors and out, on a small scale and large. I even tried it aeroponically (growing without soil where the roots are just misted), not hydroponically, and the results were unbelievable. I truly hope we can get more local farms to try it, as it will be so beneficial to them."

Mining claims map courtesy of TheDiggings.com website. Sediment found in the ancient lakebed where ACTpromin is mined. Photo courtesy ACTNevada website.



ACTpromin

is composed of layers of organic freshwater algae interspersed with fossilised gastropods that have been uniquely heated by volcanic proximity to be a mineral rich Calcium Oxide.



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Agricultural Education Through Opportunity

By Hunter McNabb

Agriculture in the Lahontan Valley has existed for centuries, despite on-and-off drought and desert conditions. The contributions made to the community are essential and provide tangible economic and health benefits for Nevadans. Yet, agricultural education often doesn't make it into the spotlight, despite creating a strong foundation for the industry that is the backbone of the United States.

Agricultural education courses may seem out of place in the average high school, but they are very common across rural Nevada. Agricultural education creates endless educational opportunities for students in a variety of areas, offering amazing options for students learning how to practice animal husbandry, produce crops, complete research, advocate for policy, and much more.

In Churchill County, the most influential organizations working to support students are the Nevada Future Farmers of America Association, Churchill County 4-H, and Grange. These groups, along with their national counterparts work to improve agricultural education and opportunities for students from a variety of backgrounds.

The Nevada FFA Association is an organization dedicated to "premier leadership, personal growth, and career success through agricultural education." Throughout the entire state of Nevada, participating schools manage their chapters of FFA, building independence and responsibility for local student leaders with over a thousand members in the organization.

Not only do these school-based organizations foster leadership and community, but they also help create a meaningful relationship between career-technical education and hands-on experiences. FFA members learn through a mix of classroom instruction, supervised agricultural experiences, and FFA, which is the leadership component of the curriculum.

Currently, there are more than 25 agricultural education programs and FFA chapters across the state of Nevada. In Churchill County, there are two active chapters, Oasis FFA and Churchill FFA, representing Oasis Academy College Prep and Churchill County High School respectively. The chapters have worked together and continue to work together on various projects throughout the community, to improve their community and develop professional skill sets. The groups have also competed against each other at regional and state competitions. Networking and collaboration are major aspects of the Nevada FFA Program and help foster leadership and citizenship among its members. Throughout the year, there are a variety of leadership conferences and competitions held for members. These

events bring together students from the most rural parts of Lincoln County to the most populous parts of Las Vegas to improve agriculture and help each other accomplish our goals.

Oasis FFA President, Stacie Bogdanowicz comments, "FFA has always been a part of my life and impacted me in so many ways. Being part of the Oasis FFA Chapter has given me more opportunities than I could have dreamed of, and I am so grateful."

When students compete, they represent their chapter, their school, and their region at the annual Nevada State Convention. Contests are diverse and reflect a wide range of agricultural interests. For example, popular contests include Floriculture, Agricultural Sales, Agricultural Technology and Mechanical Systems, Milk Quality and Products, as well as a variety of other unique competitions. Students who qualify at the state convention then have the option to represent Nevada at the national convention in

Indianapolis. These events help build confidence and skills that benefit students beyond their high school career, and their occupational pursuits.

The Nevada FFA program provides worthwhile opportunities for students in rural and urban communities alike. Students get unique possibilities to build leadership skills, network, and gain industry expertise. Along with FFA, youth agricultural education organizations like 4-H provide educational activities for adolescents and young students to learn a variety of skills relating to agriculture and life.

4-H is an organization dedicated to providing meaningful hands-on activities focusing on the four values of head, heart, hands, and health. The Nevada 4-H Program receives extensive support and organization through the University of Nevada, Reno, and serves over 200 students aged 4 to 19 in our area.

Some of the most influential support for 4-H students is through the different clubs and activities offered. Some examples of clubs offered in the Churchill County 4-H program include sign language, gardening, creative crafts, cooking, and more. Of course, 4-H also helps build essential skills for raising animals and helps students learn how to safely handle livestock. As ubiquitous agricultural education organizations, they both provide comprehensive ways for students to improve their soft skills and learn to work in an essential industry.

Karen Bogdanowicz, the primary Churchill County 4-H director, has worked to create an extensive educational program for students. She said, "[the] established traditions and opportunities, as well as continuously updated clubs and standards set 4-H apart from any other youth program."

Bogdanowicz said that the group is open to new ideas and opportunities for students and that anyone is welcome to help establish new clubs within the local organization if they find there is enough interest among the kids. To learn more about 4-H, you can contact Karen Bogdanowicz through email at kbogdanowicz@unr.edu



EDUCATION

icz@unr.edu.

Grange is one of the oldest organizations that provide opportunities for community members to learn more about citizens and community support with an agricultural emphasis and has been doing so for more than 150 years. With a dedication to strengthening rural values, and service. Notably, the Grange is not a youth organization, it is a family organization, encouraging adults and children to work together and learn together as a collective unit. As Gloria Montero put it, the goal of a Granger is to “create a family puzzle, and ultimately create good citizens for our communities.”

Similar to 4-H, Grange serves a very large age demographic and is better for it, with approximately 120 active members in Churchill County. Their website says, “It is a fraternal organization, with its ritual steeped in agriculture. It is a family organization, with membership starting at age 5.” and “It is an organization that provides opportunities for young people to learn leadership skills.” Grange provides an amazing opportunity for many students and adolescents to develop leadership skills and become more involved with agriculture within their community. To learn more about High Desert Grange, visit <https://www.grange.org/highdesertnv22/>.

Agricultural education programs create an essential foundation for rural students to develop important life skills, confidence, and industry-specific skills, as well as a commitment to improving their communities and home. Programs like FFA, 4-H, and Grange create an immeasurable impact on youth in Churchill County, Nevada, and in communities across the nation. To learn more about the different programs and how to get involved, you can visit <https://nvaged.com/> (FFA), <https://extension.unr.edu/4h/program.aspx?ID=152> (4-H) (or contact jbogdanowicz@unr.edu), and/or <https://www.nationalgrange.org/about-us/> (Grange) (or call 775-427-8210).

Left: The cutest 4-H photo we've ever had, Macady Bogdanowicz; above right: Tyler Crystal, Oasis Academy FFA; below right: High Desert Grange judging workshop. File photos.



16 U.S.C. 707

... to my club, my community,
my country, and the world.



ARTISTS SPOTLIGHT

Welcome to O'Byrne's Art Studio

By Marie Nygren

Steve O'Byrne's Art Studio is located at 961 West Williams Avenue, known by the locals as "next to the old DMV office." As I walked into the studio my attention was immediately drawn to a strikingly colorful and well-composed mountain painting in progress on a huge wooden easel. The table next to it held an array of palettes and seemingly endless containers of brushes. The walls are adorned with work created by Steve and some of his students. In the back room are over 200 more paintings. This artist is motivated. And he has quite a sense of humor.

Sitting down, I said, "I am here to interview you, and I want to hear the entire story of your life, with all the details."

He replied, "I was afraid that is what you would say."

We laughed and from that moment on I realized Steve was very prepared to tell me everything, starting with the day he was born. Everyone has a story to tell, and in this interview, it was a privilege to be trusted with Steve's memories, thoughts, and his dreams.

Steve O'Byrne is Irish, and he has spent his entire life sketching, drawing, and later painting. He was "born to create."

His artistry bloomed as a teenager. In 1982 he was gifted with a big redwood easel, canvases, and paints. He is a self-taught artist, and back then used Bob Ross as a mentor to improve his work. For those of you who are not into art, and have never heard of Bob Ross, he was an American painter and art instructor. Most importantly, he was the creator and host of a PBS television program for nine years, "The Joy of Painting," where he would walk his viewers, step by step, into the art of oil painting, breaking the process into simple steps. O'Byrne was recognized by his art teacher, at Anaheim High School, as being a gifted student with natural talent. At 16 years old, Steve was a member of Buena Park Art Guild and the Anaheim California Art Association, groups he fondly refers to as "a group of starving artists back in the 80s who traded ideas and techniques and did shows together." A highlight for Steve was in his senior year of school when the art teacher asked him to teach the art classes for an entire day. His teaching method was "Bob Ross style" and that day he did six paintings, one each period, helping students learn while painting the subject together. Even the teacher participated and learned from Steve. The experience was fun, although good-naturedly he was often asked, "Where's your afro?" (Think Bob Ross).

In 1984, Steve sold his art materials and moved to Colorado. He worked in the field of architecture and construction, using his skills, and the principles and elements of design.

Thirty-five years later, he started painting again. People who saw his work said, "Teach me how to paint," and soon Steve was also back teaching again, this time with acrylics instead of oils. Acrylics dry fast and you can take work home the same day it's completed. His first Fallon studio opened on August 21, 2019, on Center Street. Beginning classes were so popular that space in the American Legion Hall had to be used to accommodate the number of students. Steve made sure all his beginners were



successful and supplied these emerging adult and child artists with a variety of compositions that he researched online. Painting parties for birthdays and private events became popular. The large space of the dance hall at Boomers was also used for classes. It was obvious that he had outgrown the Center Street facility and a new studio was rented with a grand opening on June 29, 2022, in its current location.

One of his fun, wonderful memories is being hired to provide a painting activity and help all the nurses at the hospital create art.

To commemorate the passing of Bob Ross on July 4, 1995, Steve entered a float in Fallon's 2019 Fourth of July parade as a tribute to his mentor and Bob's "happy little trees" painting attitude. Steve set up his easel and painted during the parade.

While teaching, Steve's focus is in-depth training for his students "to open their third eye to see differently, to notice how a tree is gnarled and shaped, to observe colors, shadows, and how light plays on a subject" and to apply art elements and principles. Steve personally loves creating whether it is a painting or a building. He designed the ambulance building in Fallon.

Painting to him is calming, relaxing, and pure happiness. It has helped him to cope with personal tragedy and unexpected turbulent times like the Covid pandemic.

Steve has a personal humanitarian goal to eventually become an art therapist, and use painting as a means to help others through hard times, and to provide an outlet for people suffering from anxiety, depression, PTSD, and abuse. He plans on creating painting tutorials for the YouTube Channel. Perhaps he will be Fallon's very own "Bob Ross."

In the meantime, the O'Byrne Studio continues to provide our community with a rich source of private and group art lessons and fun painting parties. Gift certificates are available. Find Steve on Facebook, NV20191545018, for an appointment call 775-426-8478, or drop by the studio.

He is there in his happy place, painting.

History of the Greenwave

By Marilyn G. Moore

Did you know the high school did not originally identify as the Greenwave? It's true! They were originally the Melon Pickers. It wasn't until 1935 that the name was changed to the Greenwave in honor of the abundant alfalfa hay fields that helped give Fallon its nickname, "Oasis of Nevada."

The term Greenwave first appeared in the yearbooks in 1936. Before then, the nicknames "Melon Pickers" and the "Green and White" were used. It is believed that the first image of the Greenwave Man first appeared in 1943, and he was little more than a cute bale of alfalfa hay that you see to the left. As time went on, the design and the symbol grew and developed to where he began to grit his teeth in a determined smile showing a fighting spirit that could never be extinguished.

The person who illustrated the current Greenwave Man was a former CCHS teacher named Bill Davis. In 1963, the Greenwave symbol was painted on the gym floor, and flags painted in the school colors brightened up the room (you can see him on the floor in the picture to the left). The Greenwave Man prevails over all school events, communicating a unique spirit and color, helping our school toward victory.

In 1976, the Greenwave Man gained the nickname of Gurkha in honor of the 1976 football team who won the state championship. Coach Tony Klenakis was the head coach at the time, and he was looking for something to inspire his players, who were all on the smaller side. It was at this time that he found the Gurkha. The Gurkha was a fierce warrior who thrived on adversity and setbacks. They were a small tribe, with an average height of 5ft 3in, but what they lacked in size was more than made up for with fierce will and determination. When the players received their playbooks, they also received a copy of the Gurkha's history, and it inspired them. They embodied the spirit of the Gurkha and went on to win the state championship.

Churchill County High School is one of only 32 high schools in the United States that have the honor of calling the Greenwave their mascot. However, our school is the only one with a mascot nicknamed the Gurkha.

In her 2006 article in the Fallon Star Press, Siri Frey states, "the Greenwave figure is a special mascot that represents our past, present, and future." This statement is still true today, and the community takes pride in being a part of the Greenwave family.



The evolution of the Greenwave Man from 1923 to 1964. Courtesy of the Churchill County Museum.

March 2023

EVENTS



FRIDAY, MARCH 10

LION'S CLUB CRAB FEED

5:30 TO 9 PM

FALLON CONVENTION CENTER

SATURDAY, MARCH 11

FFR HIRING EVENT

10 AM TO 2 PM

CHURCHILL COUNTY SCHOOL DISTRICT OFFICE

GEORGE WARD CELEBRATION OF LIFE

2 TO 7 PM

FALLON CONVENTION CENTER

THROW-BACK TO THE 90S

6 TO 11 PM

TWISTED BRANCH

LANEY LOU & THE BIRD DOGS

DOORS OPEN AT 6PM CONCERT AT 7PM

CHURCHILL ARTS COUNCIL

SUNDAY, MARCH 12

SUNDAY MORNING BREAKFAST

7:30 TO 11 AM

EAGLES HALL

WEDNESDAY, MARCH 15

HEART 2 HEART WOMEN'S CIRCLE

10 AM TO 6:30 PM

LIBRARY ANNEX

MARCH 17, 18, & 19

FALLON SHOOT-OUT

CITY/COUNTY GYM

TEAMS \$175

SATURDAY, MARCH 18

MOTHER/SON MOVIE NIGHT FOR

GRAD NIGHT

6 PM - \$20 PER COUPLE +\$5 ADD'L

FALLON THEATRE

MONDAY, MARCH 20

DOG OBEDIENCE CLASSES BEGIN

5:30 PM AND 6:30 PM

CONTACT PARKS & RECREATION

SATURDAY, MARCH 25

DOUBLE MARATHON/PC

FALLON TRAP CLUB

HAPPY

St. Patrick's Day