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Published monthly by the Nebraska Rural Electric Association, 1244 K Street, Box 82048, Lincoln, Nebraska 68501, (402) 475-4988.

Advertising in the *Nebraska Magazine* does not imply endorsement for products by the Nebraska Rural Electric Association. Correspondence should be sent to Wayne Price, Editor, *Nebraska Magazine*, Box 82048, Lincoln, NE 68501.

The *Nebraska Magazine* is printed by the Aradius Group, 4700 F Street, Omaha, NE 68117. Form 3579 should be sent to *Nebraska Magazine*, Box 82048, Lincoln, NE 68501.

Periodicals postage paid at Lincoln, Neb. POSTMASTER: send address changes to *Nebraska Magazine*, 1244 K Street, Box 82048, Lincoln, NE 68501.

Publication numbers are USPS 071-630 and ISSN 0193-

Subscriber Services: Cost of subscription for consumers of participating member-systems is \$2.14 per year (17.8 cents per month), plus periodicals postage paid from equity accruing to the consumer. For nonmembers, a subscription is \$10 per year or \$20 for three years, plus local and state tax. Single copy, \$2.50.

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Cover photograph by John E. Weare

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Editor's Page



Wayne Price

Meet Our Newest Employee

I would like to introduce our newest employee, Gabriela Castillo. She was hired as the credit union's Member Service Representative. Her duties include setting up new member accounts, posting member transactions, including deposits, withdrawals and transfers, and processing loan applications.

Gaby was raised in Lancaster, California until her family moved to Grand Island, Neb. She graduated from Grand Island High School and attended classes at the University of Nebraska at Kearney. She enlisted in the U.S. Army and was preparing to leave for training in Lousiana when she found out she was pregnant.

Following the birth of her son, Iker, she returned to school at Central Community College in Grand Island. She graduated with an Associate of Applied Science in Human Services degree.

Gaby started her banking career at Wells Fargo Bank in Grand Island as a teller. Later she transferred to a branch in Lincoln, Neb.



Gabriela Castillo and her son, Iker

She also worked at Union Bank and Trust in Lincoln as a loan processor before accepting the position at the NREA Credit Union.

She enjoys spending time with Iker, crafting and taking care of her house plants.

A Note from the CEO

The Fields of Nebraska

A place where character and a strong midwestern work ethic grow wild!

A rite of passage for kids throughout rural Nebraska is getting their first job with a paycheck. Weeding beans and/or detasseling corn is that first job for many. It sure was for me when I was 14 years old. Although I also detasseled corn, my thoughts today will focus on weeding beans.

The daily 4:30 a.m. alarm clock certainly built character for me at a young age. I would get up, get ready for the day, pack a sack lunch, fill my thermos with ice water and head over to Don "Smiler" Houston's place to pick up his Ford F-150. Don was my second cousin who put me in charge of his bean crew. As crew chief, it was my job to drive around and pick up our bean crew in the early morning hours. Our task was to be in the beans ready to go when the sun would begin its rise over the hills.

The morning dew on the green leaves of the beans and a long line of friends and neighbors fully armed with corn knives and ready to start down their respective rows is how each morning began. A corn knife is a knife with a blade about two feet long. It is used to cut down voluntary stalks of corn and weeds that grow in the soybean fields.

As kids, we did not necessarily know at the time how many life lessons we were learning in those rows of beans. Building character, understanding a sense of responsibility, learning the importance of a strong Midwestern work ethic were each a gift, but the best gift of all was the lifelong friendships that we enjoy many years later.

A CEO of a large regional banking system told me recently, "The absolute best leaders that I have hired over the years had one thing in common. They each had a great Midwestern work ethic and strong character because they grew up with their first jobs in the beanfields and cornfields of Nebraska."

Some of my best memories of those days are the dirt under our fingernails and the sweat on our foreheads in the summer heat. The ice cold water waiting for you in that big thermos jug just over the next hill at the end of the row is what kept each of us going on those hot and humid late summer days. Although it did not feel so fun at the time, those memories have grown fonder as the decades have passed.

The conversations about our future and the friendships built have lasted a lifetime. It truly was a field of dreams.

It was great money for junior high and high school kids who had limited job opportunities in rural communities. I saved money for college and was also was able to purchase my first car – a 1970 Pontiac Grand Prix V-8 400 with 350hp. Yes, it was a lot of car for a high school kid, but it sure was fun!

Do me a favor, the next time that you are traveling down that country road and you see a bean crew out in the field, give them a honk and a wave. It just might motivate them enough to do a few more rows before they head home for the day.

All my best,





Dennis Houston







by John E. Weare

6

A white pickup pulls away from the 30x40-foot greenhouse, an exhaust fan still humming as the Albro sisters head back home for supper. Laura and Amy, both Bayard High School FFA members this fall, are responsible for 175 mums to be sold in September. An initial grant and overwhelming community support made the greenhouse possible two years ago. After the second spring plant sale, the FFA/vocational agriculture asset seems to be just hitting its stride with year round production a near-term goal.

Bayard native Justin Rafferty has been the FFA advisor, Vo. Ag. and mechanics teacher for 19 years. He also taught four years in McCook after graduating from

the University of Wyoming. A greenhouse had been a topic of discussion for years though did not seem possible until, "WESTCO called and wanted to donate \$10,000 to the (FFA) chapter," Rafferty said. The condition: the funds must be spent within a year. He talked to the school administration, which supported using the grant as seed money for a greenhouse. If the FFA could raise enough funds, the district would pay the difference. Rafferty said they needed \$36,000. Individuals and businesses up and down the North Platte Valley responded with \$62,000 to help bankroll what would be a \$130,000 project.

"Without that (response) it would never have been possible," Rafferty said. "I am tickled to death how these different entities stepped up." The superintendent who signed off on the longtime dream has even said,

Nebraska Magazine

Rafferty continued, "if I'm having a bad day it's nice to come over to this greenhouse (to enjoy the plants and quiet)."

Like a newly sprouted crop facing a thunderstorm, not long after opening during the 2019-20 school year the greenhouse saw the COVID19 pandemic send students home leaving Rafferty to care for its plants. He said the students helped transplant the flowers then never saw them again. The advisor's dedication helped ensure the May 7, 2020, grand opening and the first sale days later. Students were involved firsthand this past year selling several thousand bedding plants - flowers and vegetables - as well as 60 hanging baskets.

Laura Albro, a senior, is among 62 FFA members who helped operate the greenhouse last school year. This fall she will also continue as chapter president. Amy will start her first year in the organization as a freshman. The elder sister also grew mums last summer for her Supervised Agricultural Experience (SAE), an opportunity to earn money. She said the 150 plants grown in 2020 made \$1,800, of which she was allowed to keep a third. Asked about the current crop, the sisters said there are 175 mums in five colors. The flowers began as plugs -- planted in the same containers in which they will be sold. For the mums sale, and spring sale, Laura said people come from all over the Valley as well as anyone who has heard about the BPS greenhouse.

The structure has a set of fans that help maintain a constant 78-80-degree temperature throughout the summer with two heating and four cooling controls, Laura explained. Though a state FFA grant paid for an irrigation system installed this season, the sisters check on the mums, regularly watering every day and fertilizing every other. They laughed that the most challenging part of the project is "seeing whose day it is to water," Laura said. "Because we always get it mixed up," Amy added.

Laura enjoys, "seeing all the plants grow and being around them." Amy likes, "seeing how they react to different things -- how much fertilizer, heat, things like that."

The greenhouse has joined the annual labor auction as

Continued on Page 8



Opposite: Amy Albro, left, and her sister, Laura, water 175 mums while tending the Bayard Public Schools greenhouse this summer.

Above: A mum receives fertilizer during its daily watering.

Below: A dwarf banana plant purchased from the local NRD.

Photohgraphs by John E. Weare



From Page 7

major FFA fundraiser. Chimney Rock Public Power, a longtime supporter of the chapter -- including the auction, is also the local REA supplying power to the structure. "(If we were needing help) Chimney Rock would be one of the first to call. A lot of them are probably Bayard alumni," Rafferty said.

Though an asset for his FFA members, the translucent structure will again revert to a learning environment for students this fall. Rafferty said his Plant and Soil class mainly takes care of the greenhouse. The eighth grade has done some stem and leaf cutting (cloning), he added. Students also did quite a few experiments on seeds. "What a better place to learn something than at school."

All their plants begin as seeds or plugs, with the latter purchased from a nursery in Central City, Neb. "We could have them (plugs) shipped, but we take the kids down in the spring," Rafferty said. The nursery staff shows the students how to do everything, and "I feel they learn a lot," he said.

What he and his classes like best, Rafferty said, is the hands-on aspect of tending the greenhouse. "Kids don't get enough hands on . . . I think that's why my program is so big -- we try to do (a lot) of hands-on things." Students take care of the greenhouse on weekends on a volunteer basis. Rafferty selects an individual (Laura Albro this year) to serve as greenhouse manager to help with ordering what flowers to buy and grow. The added responsibility "has a pretty big impact," he said.

While successful overall, there are always day-to-day challenges from insects to shipping delays. It is easy to under water, over water or even step on a plant, Rafferty said about the labor intensive process while recalling one class period of pinching buds to deadhead petunias.

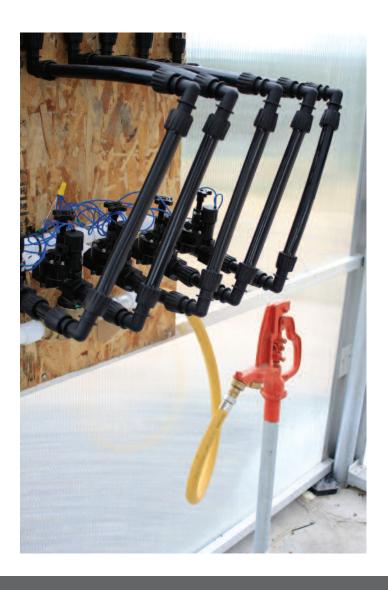
Walkers on the adjacent track often stop by to peek to see what's growing, Rafferty has noticed. He feels like the greenhouse has impacted the community. "I think it's greatly appreciated. (Residents) don't have to drive to Scottsbluff (to buy plants) and they're grown locally."

Beyond the spring sale and mums fundraiser, Rafferty plans to have something growing year round. For the 2021-22 school year poinsettias are on the schedule, possibly followed by Easter lilies.



Above: Laura and Amy Albro head home from the BPS greenhouse on a June evening. Laura, a senior, and Amy, a freshman, are growing mums to sell this fall for their FFA supervised agricultural experience (SAE).

Below: An irrigation system installed this spring.





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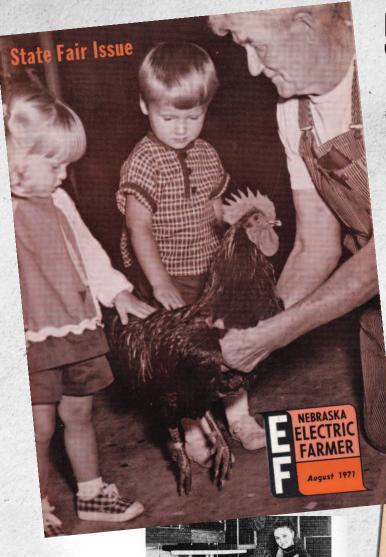
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50 YEARS AGO

The Nebraska Rural Electric Association has published a statewide magazine for the past 75 years, keeping readers informed about their public power utilities, promoting the time-saving benefits of electric power and telling the story of rural Nebraska.

This issue featured Nebraska's Big Show - the State Fair. Readers were encouraged to stop by the Gold Medallion Home, sponsored by the Nebraska Rural Electric Association. The home was built by Wahoo Housing and showed all-electric living at its finest.

An article about the benefits of "Freezer Living" reported owning a freezer as one of the most significant kitchen convenience trends of the 1970's,

by making life easier for women on the go.



Kitchen Of The **Future**

What can we expect from the kitchen of

the future?
It will be mod, mod, mod—and mod means

It will be mod, mod, mod—and mod means modern and modular. The "mod" kitchen design concept, introduced by Whirlpool, would enable the homemaker of the future to periodically redesign her kitchen whenever it suits her fancy. Appliances are housed in cubical units. These units, which are on pedestals, can be moved about the kitchen, permitting the homemaker to plan one layout when she moves into a house and others as her family demands and tastes change.

The mobility of the appliances is achieved by having the plumbing and wiring housed in special detachable units under the floor. To change the location of a given appliance, she would merely take the cover off one of the holes at various locations in the floor, detach the utility unit, move it to a new location and snap it in place. place.
The appliance would then be moved to the

same location, dropped in place and the utility connection would automatically be made.
A touch of a button or foot lever raises or lowers the appliances. For example, if the home-

doing in the oven, she could push a button would raise the oven to eye level. Once sh satisfied, she could lower it to its or

position.

In one section of the kitchen is a puterized "read-out" panel which enables homemaker to check inventory of clean clor meals, individual foods and beverages, p

meals, individual foods and beverages, p supplies, linens, etc. The computer also has a direct conne to the local supermarket and various a stores which allows it to do the family shi when inventories run low. The kitchen also has a special laundy ing basket that automatically sorts the o out by fabrics and colors, and then program washer to use the right water temper agitation speed and detergent. The dryer is programmed for correct tumbler speed temperature. temperature.

How are the possibilities for the mo en? The mod kitchen is strictly a concep point. However, the concept does have possibilities and not as far off as on

The Last Word By KAY VAN SICKLE, Associate Editor

Unfortunately, this is the last word. Unfortunately, this is the last word.

Lowell Vestal, managing editor of the Electric Farmer, left the magazine recently after 12 years of service. During Lowel he was field editor. Many of you out in "the field", our readers - will recall visiting with him about electric heat, irrigation, crop drying and what-have-wou.

Lowell made friends wherever he traveled for his stories. He covered the state from the Panhandte to the banks of the Missouri, His knowledge of "electrified" farming and his easy grin won him respect from Nebraska farmers



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and from his colleagues at the rural electric

and from his colleagues at the say good-bye. It is always difficult to say good-bye. It is especially hard for me, When two people share a common goal . . in this case, the monthly a common goal . . in this case, the monthly collection of the Electric Farmer . . It is like loosing an arm. rather than an editor. One of Lovell's slogans sticks in vm. of the collection of

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Waffles, pancakes and other frozen foods are ready-to-serve in minutes with a new convenience foods toaster by Westinghouse. The toaster has a food guide which lets the user toaster has a room guide which hers the users select the special setting to correctly cook all he various toaster size foods on the market. It le various tuaster-size louds on the maintains. Iso has a color control for toast that maintains elected color no matter how fresh the bread or ow many slices are toasted. The unit will sell

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A project is underway to make Grand Island home to the second Nebraska State Veterans Cemetery. The Hall County Hero Flight Association started working on this dream several years ago, according to Don Shuda chairman of the Hall County Hero Flight Association and Hall County veterans services officer.

The plan calls for the existing Nebraska Veterans Home Cemetery on Capital Avenue to be converted into a Nebraska State Veterans Cemetery.

"As veterans pass away in other states, and other counties of Nebraska," Shuda said, "it would allow them to come home and be buried at home. It would allow for family members to visit but also those veterans would be buried with their fellow military brothers and sisters."

The idea behind the project has been on the minds of a few local residents for several years. John Hilgert, Nebraska Department of Veterans Affairs director, was approached in 2019 to see if the concept of creating another Nebraska State Veterans Cemetery was possible.

"Without the state director's support it just wasn't going to go anywhere," Shuda said. "Once we communicated with him, he was 100 percent on board."

Hilgert met with Governor Pete Ricketts and got his support of the project. Shuda said they met with the City of Grand Island, which owns the existing land to inquire about the possibility of them giving the existing cemetery plus 20 additional acres for the project.

Former State Senator Dan Quick introduced LB911

during the Legislative session in 2020 and State Senator Tom Brewer, who was the chairman of the Government and Military Veterans Affairs committee, made it a committee priority bill. Gov. Ricketts signed the bill into law on August 6, 2020.

"As it went through the Legislature, most bills have some opposition, but this bill had zero opposition," said Shuda. "It cleared all levels of legislative debate, came off the floor and went to the Governor unopposed."

The Hall County Hero Flight Association is now raising \$750,000 through private and business donations and fundraisers to meet it's



by Wayne Price

cost share of 10 percent of the project. They were working to meet their goal by the first of August.

They have been holding a monthly hamburger feed at the United Veterans Club, which is every third Wednesday of the month from 4 to 7 p.m. Shuda said at a recent hamburger feed they fed 551 folks.

They need to raise the 10 percent in order for the Nebraska Department of Veterans Affairs to submit their request for VA funding which will actually pay for 100 percent of the construction of the state veterans cemetery project.

"We feel confident that we'll have the \$750,000 raised by August 1," he said. "The support of Grand Island, Hall County and the surrounding counties, as well as the State of Nebraska has been good. We've received money from Omaha to Ogallala. It's been across the entire state. We sent out several hundred funding request forms and we're waiting on the response from most of those. It's been a positive response, towards having a state veterans cemetery in Grand Island."

Currently, with committed and actual money, they have raised \$384,000 of the needed \$750,000. Shuda said there are some other committents that are yet to come in. Every dime, every dollar is important, he said.

"Those that can give more is appreciated, of course, but just because you feel like you can't give a large amount, don't feel that way," Shuda said. "Because every dollar is important to make this project happen."

Once the proposal is sent to the National Veterans Cemetery Authority in Washington, D.C., they have six months to hire a contractor for purpose of the cemetery project. Hopefully construction will start mid Summer of 2022 with a completion date of 2023. The first burial would likely be late 2023 or early 2024.

Nebraska's first State Veterans Cemetery in Alliance, Neb. began construction in October of 2008. The cemetery was dedicated and presented to the public on August 13, 2010. The first interment was held January 21, 2011.

In addition to the state veterans cemetery in Alliance, Neb., there is a national veterans cemetery at Fort McPherson in Maxwell, Neb., and there's a national veterans cemetery in Omaha. Grand Island fits right in



A plan is underway to converty the existing Nebraska Veterans Home Cemetery on Capital Avenue into a Nebraska State Veterans Cemetery. Photographs by Wayne Price

the center of those other three cemeteries which gives it a complete flow across the state of Nebraska for access to state veterans cemeteries.

"You can't build a state or national veterans cemetery within 72 miles of each other," Shuda said. "When you look at the map and the outlay of the cemeteries in Nebraska it is just perfectly situated to compliment those other three cemeteries."

The cemetary would include an administration building and a committal shelter.

"We would like to see a carillon tower installed and an impressive waterfall feature near the entrance of the cemetery," he said. "There's a lot of things we can do to enhance the cemetery and make it more eye-appealing. We will have a recognition wall in the administration building to coincide with the levels of giving."

To support the project donations can be made to the Hall County Hero Flight
Association at 131 South Locust Street, Grand Island, NE 68801. Please include your name, address, phone number and email address.

Safety Briefs

Get Proper Rest For A Safe Harvest

For many farmers, fall requires long days in the field and little rest. The pressure to harvest as much as possible, combined with fatigue and looming deadlines, increases the risk of injury. In fact, most injuries occur during the spring and fall when stress and fatigue are common among farmers.

The safety and health of workers, including making time for sleep, should be a priority when considering a farm's productivity, according to Josie Rudolphi, University of Illinois Extension associate research scientist. "Rushing and cutting corners can lead to injury, which no one has time for, especially during the harvest," Rudolphi says.

Rudolphi grew up on a farm and understands the pressures of harvest season. She says that getting proper rest can make a huge difference in staying safe, but during the time crunch of harvest season, farmers sacrifice sleep to work late into the night.

"Sleep deficiency has been associated with increased injury, reduced reaction time, and reduced concentration," Rudolphi says. "All of which could impact health and safety, as well as productivity."



The demands of harvest are stressful, and a lack of sleep can intensify that and lead to errors in the fields or even on the roads.

To improve sleep, Rudolphi advises farmers to go to bed and wake up at regular times when possible. They can use rainy days to catch up on sleep.

Other sleep health tips include:

- Create a bedroom environment that encourages sleep; keep it quiet, dark and cool.
 - Limit electronic device use.
- Avoid large meals, caffeine and alcohol before bedtime.

In addition to improving sleep, managing stress is an important component to injury prevention, health and safety, according to Rudolphi. "By using the 'Four A' Method of avoid (planning ahead), adapt (changing expectations), alter (changing the situation when you can) and accept (acknowledging that a situation is what it is), farmers can successfully manage the stress of long hours and unpredictability," she adds.

For information about safety around electricity, visit SafeElectricity.org.

Murphy





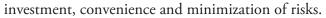
Energy Efficient Irrigation Strategies

by Maria Kanevsky

Agriculture is the backbone of our country, and keeping farmland well-irrigated is crucial for almost any agricultural producer. Farm irrigation methods or technologies can make a huge difference when it comes to maximizing productivity while minimizing costs.

Energy efficient irrigation methods help farmers

curtail unnecessary water use while growing the same produce, reducing their operating costs and increasing overall productivity. Above all, when choosing between different irrigation methods and technologies, the most important aspects to consider are the overall cost, return on



One of the easiest ways to maximize energy efficiency, as many farmers have already done, is to use electric motors in place of any old, inefficient diesel irrigation motors. Typically, electric motors are about 90% efficient, while diesel motors have much lower efficiencies between 30% and 40%. This means cost savings in the long run for farmers. Electric motors also have lower maintenance needs and can make use of a variable frequency drive (VFD) irrigation system which helps to further reduce costs.

VFD systems allows farmers to pump water at different rates, which maximizes irrigation throughout the day. A VFD system can control the speed of the electric motor because it controls the electric power frequency supplied to the motor. Since there are many benefits from using electric irrigation motors, the majority of U.S. farmers have switched their diesel motors to electric ones, although pairing the motor with a VFD system is still a relatively new agricultural trend.

Irrigation efficiency is not a one-time deal. After several years, the efficiency of irrigation pumps tends to decline. After five years, irrigation pumps are typically evaluated for performance efficiency. The evaluation can help inform decisions on the most cost-effective solution, whether making improvements to the existing

pump or a replacing it entirely. Irrigation pump tests usually assess the pump's discharge pressure, lift, water flow and power input. Regular testing of irrigation pumps can help to ensure the pumps are working as efficiently as possible. Upgrading irrigation hardware can also lead to more efficient irrigation system performance. Replacing leaky sprinklers, for example, can help save a significant amount of water.

Maintaining the overall efficiency of irrigation systems over time helps to reduce water use and save energy.

There are many new agricultural technologies that are part of the "precision agriculture" industry, including autonomous

tractors, crop-monitoring drones and robotic milking or weeding machines. Beyond existing irrigation technologies, Wi-fi connected crops is one type of precision agriculture irrigation technology. After placing Wi-fi-connected sensors throughout a crop field, farmers can monitor the conditions by simply using their smartphones or computers. Data on light, humidity, temperature and moisture are captured by the sensors. That data is automatically sent to a server to be analyzed, which is then sent to a farmer's smartphone app. Using Wi-fi connected crops also allows farmers to remotely set automatic timers for their watering systems. There are several factors to consider, such as cost, range, bandwidth and power.

As technology continues to improve, there will be new opportunities to support the agricultural sector. Replacing technology that uses on-site fossil fuels, such as propane and gasoline, with technology powered by electricity will help improve energy efficiency and reduce local pollution.

Nebraska's public power districts and electric cooperatives are proud to support their agricultural members and will continue to help them determine opportunities to improve and meet their energy efficiency goals.

Photograph by Lance Cheung, USDA

Clean Energy Options



Hay Helps Rural Nebraskans Explore Clean Energy Options

by Russell Shaffer

Making the switch to clean energy is not a one-size-fits-all endeavor. John Hay, a Nebraska Extension educator who conducts workshops on solar energy, helps individuals make the decision that best suits their home, farm, ranch or business.

"Success isn't always choosing to install solar," he said. "Success is doing a good analysis of the resources to make the best decision."

Since 2007, Hay has conducted workshops through Nebraska Extension to educate farmers, homeowners and rural business owners on the process of installing clean energy technology. During the in-person and online workshops, participants learn to run cost-analysis models, which evaluate installation, energy usage options, return value and more. Following each

workshop, attendees can work one-on-one with educators such as Hay, where they walk through their models. The entire process is tailored to the individual.

"Solar energy may be worth a different price in the summer vs. winter, or in one part of the day vs. another," Hay said. "Depending on state laws, it could be different on how much you generate in a day, week or month. This is why modeling is important."

The models lay out everything one needs to know about installing clean energy technology on a property.

"We try to be very realistic," Hay said. "Farms that have more consistent use have the best chance to gain value," such as those in an animal facility with fans, feeders, water and lights. "With solar, you can use most of that electricity on site, no matter how policies change. With irrigation systems, you may only get a portion of the value because you only use those a few

Workshop participants help assemble a solar photovoltaic array at a hands-on workshop during summer 2018. Photograph provided by University of Nebraska.

months a year."

The workshops focus on more than monetary value, however. Michael Kocher, who installed solar technology on his property after attending an in-person workshop, said he values the benefits to the environment, too.

"There's value in being environmentally friendly," he said. "How do you put a value on contributing to reducing greenhouse gases? John talked about

the different 'values' that are less tangible than

Hay, who teaches energy science courses at Nebraska, became interested in renewable energy because people would ask him if wind turbines or solar panels were a "good deal."

"I wanted to provide them with a good answer, so I started to learn more to help them make their own decisions," he said. "I befriended an installer and began helping install systems. I've helped install a dozen, and then I've done a ton of modeling with economic analysis. That's been the key piece of our education."

Hay capitalizes on his experience during the in-person workshops, in which participants build solar arrays.

Whatever the venue, Hay said he enjoys sharing his interest with those trying to make their lives and communities better — however their decisions play out. For example, some attendees come interested in agrivoltaics: combining solar arrays and crop production in the same space.

"One farmer wanted to put solar up at a feed lot and use it as shade, but it wasn't feasible for his operation," said Hay, emphasizing that installing solar technology isn't the point of the workshops. "The focus is on good decisions — decisions with data."

John Phillips, owner of Branched Oak Marina near

Raymond, Neb., attended one of the hands-on workshops because he was curious about using solar to power the marina buildings, one of which houses a restaurant.

"We went through a couple projects — the economy of solar and the science of it," he said. "But at my age, the payback was going to be too long."

Phillips' decision not to install didn't discourage Hay.

"In the workshop, we explore what fits your goals," Hay said. "We identify motivations and help

you make those decisions easier."

The process proved beneficial for Ron Rose, a renewable energy consultant for the Nebraska Public Power District. He was drawn to the workshop because he thought it would make him better at his job.

Rose learned a lot in the workshop and even drew on what he learned to install solar panels on his wife's chiropractic office in Aurora, Neb. Shade on one side of the building presented an issue, but Hay and Rose worked through it together. The panels generate enough power for the office, and Rose and his wife sell excess power to the utility company.

While the workshops are based out of the university, Hay's efforts, combined with a cohort from Ohio State University, are felt nationwide. For some workshops, he has partnered with the National Renewable Energy Laboratory.

However, as the workshops become more widespread, Hay is continuing to focus on the unique wants and needs of individuals and what they deem a successful and valuable experience.

"Success is an initial evaluation of your goals and your motivations for solar and renewables," he said. "It's very personal."

Source: Rural Prosperity Nebraska

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For more information on the renewable energy

options, visit https://cropwatch.unl.edu/bioenergy.

workshops, including schedules and registration

Energy Sense

by Pat Keegan and Brad Thiessen

When to DIY and When to Hire a Pro

: I'd like to make my home more efficient, but I'm not sure where to start. When does it make sense to take on efficiency projects myself, and when should I hire a pro?

: When it comes to home DIY projects, I recently asked myself, "Why hire someone to do a mediocre job when I can do a mediocre job myself?" That may sound odd, but I recently hired a contractor to remodel my kitchen. Needless to say, I was not happy with the quality of the work. Unfortunately, hiring a contractor based on positive online reviews and references doesn't always guarantee quality work.

One reason to DIY (do it yourself) instead of hiring a contractor is if you're convinced you can do a better job. Naturally, this depends on the scope of the project and how knowledgeable you are about the work. And there are additional reasons to tackle a home efficiency project yourself:

- You're unable to find a contractor that is available and reasonably priced.
- You need the work completed in a tight timeframe or during odd hours.
 - You're certain you can save a lot of money.
 - The job is one you'd really enjoy doing yourself.

On the flipside, there are also several good reasons to hire a contractor (and not tackle projects yourself):

- Specialized equipment is required. For example, the best wall insulators use a fill tube, which results in a higher R-value performance. Some contractors use an infrared camera to review wall framing and air leaks.
- Specialized materials are needed. Attics need proper ventilation, and contractors might have easier access to attic insulation baffles or roof vents.
- There's a safety issue. I was once moving insulation in our attic and accidentally stepped onto the sheetrock ceiling and fell through to my waist. My legs were dangling in the air and the room below was littered with broken sheetrock and insulation. I wasn't hurt but could have been. As I repaired the damage, I regretted the decision not to hire a contractor.
- Expertise is required beyond the homeowner capability, like tuning a furnace or repairing holes in a



Some do-it-yourselfers are comfortable tackling an attic insulation project. The steep pitch of this roof and the plywood decking this person is kneeling on makes this project appear easy, but in most homes, you'll only be able to stand on the floor joists or rafters. Photograph provided by The EnergySmart Academy

sheetrock wall to match the wall around it.

• Tackling the project yourself will save little or no money. I discovered years ago that some contractors could install insulation cheaper than I could buy it.

As you consider whether to do the job yourself, be sure to research the tools and supplies you'll need. Fortunately, there are amazing resources online.

When you search for information like "how to insulate an attic" or "how to air seal a home," you'll find fact sheets and video tutorials from contractors, home improvement shows, big box suppliers and material manufacturers. You Tube videos often show experts making the installation of anything seem simple, but beware, some of these videos are aimed at other experts and not DIY homeowners.

Our advice: Don't tackle energy efficiency projects yourself unless you've thoroughly researched it and have become very knowledgeable. Another benefit of doing the research upfront is that it will help you even if you decide to hire a contractor. You'll be able to identify a knowledgeable contractor and hire one that knows you recognize a quality job. Good luck!

by Cory Fuehrer, NPPD Energy Efficiency Program Manager

Manage a Dehumidifier's Impact on Your Budget

Summertime in Nebraska. Anyone experiencing a few can tell you they can be hot. If they are from eastern Nebraska, they can also tell you humidity makes those summer days feel even sweltering. While airconditioning systems are tasked with removing most of this excess indoor humidity, many homes and businesses use stand-alone dehumidifiers to lower levels.

To keep comfortable during the summer, the Consumer Product Safety Commission recommends a humidity level between 30 and 50%, while the Environmental Protection Agency recommends between 30 and 60%.

However, not everyone realizes the impact dehumidifiers can have on summer utility bills. For each dehumidifier used, the monthly expense will often run from \$15 to \$35, but it can exceed \$50 per month if the unit runs frequently. Here are some ideas of how to manage humidity problems while saving money.

- Set the humidistat so the dehumidifier does not run continuously. For basements in the summertime, 50% relative humidity is recommended. In colder weather, relative humidity between 25 and 40% is advised to reduce condensation on windows.
- Close all windows and doors to the area being conditioned to dramatically reduce humidity coming from outside air.
- Place the dehumidifier in the area with the highest humidity, but do not create a safety hazard by placing it in or near water. Dehumidifiers are not the solution to standing water (or running water) in basements.
- Make sure the dehumidifier is connected to a properly grounded outlet.
- Position the dehumidifier away from the wall or furniture so air can freely circulate through the unit.
- Hook up a hose to drain the dehumidifier if emptying the tank is a chore.
- If frost forms on the coils, turn off the machine until it melts. Frost can form when the room temperature drops below 65 degrees F. Note that automatic defrosting dehumidifiers are a convenient way to address this maintenance issue. The automatic defrost feature is a must-have for anybody who plans to

use their device in colder climates.

- Keep the dehumidifier clean. Wipe or vacuum dust and dirt from the coils and fan.
- If you have a choice of fan speeds, higher speeds are more efficient, though lower speeds are quieter.
- Reduce energy use during peak electric use periods. Put your dehumidifier on a timer to turn it on at 9 p.m. and off at 10 a.m.

Finally, when you are shopping for a dehumidifier, purchase an EnergyStar-qualified model. A dehumidifier that has earned the EnergyStar label uses more efficient refrigeration coils, compressors and fans to remove the same amount of moisture as a similarly-sized conventional unit, but uses nearly 15% less energy.

Reasons Why You Should Control Your Home's Humidity Level

In addition to eliminating the muggy, clammy feeling indoors, additional dehumidification can provide the following additional benefits:

- Improved air quality
- Lessened allergy and asthma symptoms
 - Mold prevention
 - Diminished musty odors
 - Reduced airborne dust
 - Dust mite suppression
- Protection of the home's or building's structural integrity

Infuse Citrus Flavor into Summer Meals

When families fire up their grills and turn to favorite summer recipes for filling meals, nutritional considerations are often not the focus. However, this doesn't have to be the case. This year, you can rethink traditional seasonal menus by opting for main courses – and even desserts – that offer healthier returns by incorporating ingredients like whole oranges, which provide a multitude of nutritional benefits.

Adding an ingredient like California Valencia oranges to your family's dishes means you're including a rich source of vitamin C. As a balance of sweet and tart, the extra juicy oranges reach their peak in summer, making them perfect for warm-weather recipes, juicing or as portable snacks to take along on adventures.

Try combining them with tastes of the Mediterranean for dinner with Orange and Harissa Glazed Beef Kebabs.

Summer is also a time to relax, refresh and enjoy a cool, creamy and absolutely divine dessert that's perfect on a hot day.

This luscious Coconut Key Lime Cream Pie has a smooth texture with toasted shredded coconut on top. It's sweet, but not too sweet, and will leave your taste buds wanting more as soon as you take your first bite.



Orange & Harissa Glazed Beef Kebabs

- 1/2 cup California Valencia orange juice, freshly squeezed
 - 2 California Valencia oranges, zested and segmented
 - 2 tablespoons harissa paste
 - 2 tablespoons honey
- 2 tablespoons olive oil
- 1 tablespoon fresh mint leaves, roughly chopped
- 2 garlic cloves, finely chopped
- 8 ounces beef tenderloin, cut into 2-inch cubes
- 1 green bell pepper, cut into2-inch squares
- 1 red onion, cut into 2-inch squares
- 16 broccoli florets, raw kosher salt, to taste black pepper, to taste cooked couscous

mandarin chutney

In mixing bowl, combine orange juice and zest, harissa, honey, oil, mint and garlic; mix well.

Add beef cubes and toss to coat; marinate 2 hours in refrigerator.

Using long skewers, build kebabs, alternating beef, peppers, onions and broccoli on each.

Heat grill to medium-high heat. Season kebabs with salt and pepper, to taste. Grill until vegetables are cooked through and beef reaches desired doneness.

Serve over bed of couscous and top with mandarin chutney.

Source: California Citrus Growers

Reader Submitted Recipes



Coconut Key Lime Cream Pie

- 1 package (11 ounces) vanilla wafers
- 1/3 cup butter, melted
- 2 cups heavy whipping cream
- 1/4 cup confectioners' sugar
- 1/2 cup Key lime juice, divided
- 1 package (8 ounces) cream cheese, softened
- 1 can (14 ounces) sweetened condensed milk
- 1 teaspoon coconut extract
- 1 cup shredded coconut
- 1/4 cup toasted shredded coconut lime zest maraschino cherries

In blender, pulse vanilla wafers into crumbs. Add melted butter and pulse until combined. Press crumbs into bottom and up sides of greased 9 1/2-inch deep-dish pie plate. Refrigerate 30 minutes.

In large bowl, beat whipping cream until it thickens. Add confectioners' sugar and 1 tablespoon lime juice; beat until stiff peaks form. Remove 1 cup; set aside.

In separate large bowl, beat cream cheese until smooth. Add sweetened condensed milk and coconut extract; beat until blended. Add remaining lime juice and shredded coconut; stir until combined. Add reserved whipped cream. Stir until combined. Pour into crust. Refrigerate 4 hours.

Before serving, garnish with toasted coconut, lime zest and maraschino cherries.

If you made this recipe at home, use #MyCulinaryConnection on your favorite social network to share your work.

Blueberry Zucchini Cake with Lemon Buttercream

Cake:

- 3 eggs
- 1 cup vegetable oil
- 2 1/4 cups white sugar
 - 3 teaspoons vanilla extract
 - 2 cups zucchini, shredded & drained
 - 3 cups all-purpose flour
 - 1 teaspoon salt
 - 1 teaspoon baking powder
 - 1/4 teaspoon baking soda

1 pint fresh blueberries (reserve a few for garnish)

Lemon Buttercream:

- 1 cup butter, room temp.
- 3 1/2 cups confectioners' sugar
 - 1 teaspoon vanilla
 - 1 lemon, juice and zest (about 2 tbsp)
 - 1/8 teaspoon salt

Preheat over to 350 degrees. Prepare two eight-inch round cake pans. Grate a large zucchini and place in a clean dish towel. Squeeze until most of the liquid comes out. You will need 2 total cups of shredded zucchini after it has been drained. Set aside. In a large bowl, beat together eggs, vanilla and sugar. Fold in zucchini, then slowly add in the flour, salt baking powder and baking soda. Gently fold in blueberries. Bake 35 to 40 minutes or until a knife inserted in the center of cake comes out clean. Cool 20 minutes in pan, then turn out onto wire racks to cool. To make frosting, combine butter, sugar and salt and beat till well combined. Add lemon juice and vanilla and continue to beat for 3-5 minutes or until creamy, fold in lemon zest. If you are piping this buttercream leave out the zest.

Judy Brockmeier, Eustis, Nebraska

Tasty Veggie Hot Dish

- 2 medium sweet potatoes
- 1 small yellow summer squash (or small zucchini)
- 3/4 cup sliced carrots
- 1/4 cup peas
 - 2 tablespoons butter or
- margarine
- 1/4 teaspoon Garlic-Dill mix (Pampered Chef)
 - 2 bouillon cubes or 1-2 teaspoons chicken flavored base (dissolved in water)

Cube sweet potato, squash and carrots and put in microwave for a short time to start the cooking process. Put all ingredients in baking dish, cover and put in 350 degree oven for 30 minutes or until done. Remove and put shredded cheese over the top and return to oven for 5 minutes.

Kay Victor, Emerson, Nebraska

Saucy Pork Chops

- 6 pork chops, 3/4" thick
- 1/4 cup catsup
- 1 medium onion, thinly sliced
- 2-3 teaspoons Worcestershire
- can cream of chicken soup
- sauce

Brown pork chops and place in crockpot, top with onions. Mix soup, catsup and Worcestershire sauce. Pour over chops and cook 6 to 8 hours till tender. Sauce can be used over mashed potatoes.

Michelle Liston, Oxford, Nebraska

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