RURAL ELECTRIC

May 2020

Finding Peace in Nature

Summer Savings Through Energy Efficiency Upgrades

Good News for Americans, Bad News for Pain Drugs.

Millions are expected to benefit from a new technology that's proven to relieve severe joint discomfort in a matter of days.

US- Several drug companies are expected to lose millions in sales as consumers have a new alternative to popular joint health products.

The alternative, a pill, was developed earlier this year by a private company in Seattle.

Using a new 8-million dollar technology, studies show it can relieve severe joint discomfort in just days.

And when compared to a leading prescription, this relief was stronger and longer lasting at the 30 day mark.

So what's the secret behind this new pill called VeraFlex? It's called immune modulation and it may be the biggest breakthrough we've had in years.

The Science Behind Relief

Research shows that the joint stiffness, soreness and discomfort associated with arthritis is caused by inflammation which attacks healthy cartilage and protective tissue.

And according to top medical professionals, this inflammation is caused by two inflammatory enzymes released by the body's immune system.

The active ingredients in *VeraFlex* help to block the production of these enzymes, resulting in a dramatic decreasing in swelling, inflammation, and discomfort.

Right now, the leading over-the-counter pills are only able to block one of these enzymes!

"VeraFlex users can generally expect more flexibility in three days...their joint pain alleviated in five days...and in just seven days, a tremendous improvement in overall joint function that may help them move like they did years prior" explains Dr. Liza Leal, developer and spokesperson for *VeraFlex*.

Piling on the Clinical Research

Remarkably, the key ingredient in *VeraFlex* is protected by 8 patents and is backed by over 8-million dollar in research. It's also been studied in two clinical trials.

In the first, 60 participants with rheumatoid arthritis and/or osteoarthritis were randomly placed into four groups.

Two groups were given the patented

ingredient in *VeraFlex*, one was given the drug Celecoxib, and the last group a placebo. The results were monitored at 30, 60, and 90 days.

The data collected by researchers was stunning.

The groups taking the *VeraFlex* ingredient saw staggering improvements in arthritis symptoms such as flexibility, discomfort and function.

And even more astonishing they experienced a dramatic reduction in pain by the 30-day mark that was even better than Celecoxib, a powerful drug!

A second study was conducted to ensure the data was accurate and again the results participants experienced taking the *VeraFlex* compound blew away researchers.

This time it beat out the drug Naproxen. Shockingly, both men and women experienced a reduction in joint stiffness two days faster than when using Naproxen.

"I have to admit I was surprised when I read the initial findings" explains Leal. "But when you look at the science it just makes sense. It's going to change everything."

Faster Delivery, Maximum Absorption

VeraFlex is comprised of two patented ingredients: Univestin, a powerful immune modulator which blocks the enzymes which cause your joints to hurt and an absorption enhancer (accelerator) that ensures maximum potency.

Research shows that severe joint discomfort arises when the immune system goes haywire and releases COX and LOX into your blood stream, two enzymes that causes tremendous swelling and inflammation around cartilage and protective tissue.

Over time, this inflammation overwhelms the joint and it begins to deteriorate resulting in a daily battle with chronic pain.

Unfortunately, modern day pain pills are only able block only one of these enzymes, resulting in marginal relief and continued suffering.

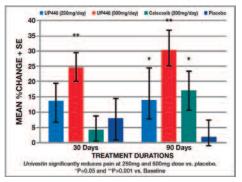


This new technology is now encapsulated in this pill. It reprograms the body to block painful inflammation instead of creating it.

The Univestin in *VeraFlex* is one of the only known substances which has been proven successful in blocking both enzymes, resulting in phenomenal relief from the worst kinds of discomfort.

The accelerator, a unique extract of aloe vera, maximizes the delivery of the plant based Univestin extract to every joint in the body because it is proven to improve nutrient absorption for maximum results.

Aloe Vera also is proven to support the body's immune system which manages inflammation, further supporting relief.



How to Claim a Free 3-Month Supply Of VeraFlex

Due to the enormous interest consumers have shown in *VeraFlex*, the company has decided to extend their nationwide savings event for a little while longer. Here's how it works...

Call the *VeraFlex* number and speak to a live person in the US. Callers will be greeted by a knowledgeable and friendly person approved to offer up to 3 FREE bottles of *VeraFlex* with your order. *VeraFlex's* Toll-Free number is 1-800-235-7807 Only a limited discounted supply of *Veraflex* is currently available.

Consumers who miss out on the current product inventory will have to wait until more becomes available and that could take weeks. They will also not be guaranteed any additional savings. The company advises not to wait. Call 1-800-235-7807 today.

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Finding Peace in Nature

Nature can provide hours of peace and comfort during difficult times. But due to the COVID-19 pandemic we are asked to remain at home, so where can one turn for the peace and comfort of nature? The answer might be right out your window.



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Summer Savings

If May's warmer weather has you thinking about the sultry summer months ahead, this could be a great time to consider energysaving options and making plans to help control your energy costs.



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On the cover

A seed feeder can attract birds such as this Red-bellied Woodpecker. See the related story on Page 6. Photograph by Scott Casper



EDITOR'S PAGE



by Wayne Price

Adjusting to the new reality of the COVID-19 virus

et me start by saying that I hope each of you are safe and healthy as you are reading this issue of the Rural Electric Nebraskan magazine. As I am writing this we are in the middle of self isolation during the COVID-19 pandemic.

Our top priority is the safety and health of the NREA membership and staff. We have closed our office in Lincoln to all visitors and the majority of the employees, myself included, are working from home for the time being.

To say that flexibility of workplace practices during this unique time is required is an understatement. It can be more difficult if you're also dealing with having your children home from school.

The NREA member-systems that provide electricity to your homes and businesses across the state are following the guidelines of the World Health Organization (WHO) and the Centers for Disease Control (CDC). Many of the local offices where you pay your electric bill have also closed to visitors.

Some public power districts and electric cooperatives have also separated their working crews of linemen from the rest of the staff. Most have reported they are increasing cleaning services and preventative measures.

Other procedures related to COVID-19 that are in place include:

• Outreach to employees with messaging around workplace hygiene, authoritative websites to monitor and sanitizing efforts for the office.

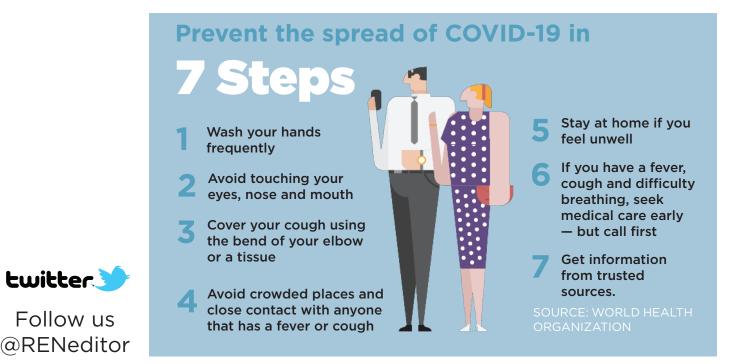
• Encourage employees who are sick or have sick family members to stay home.

• Practice social distancing, selfquarantine, and isolation as directed by local officials.

• Implement steps to separate work crews to help safeguard the integrity of the distribution system.

These are unprecedented times and with the uncertainty of our future, the NREA remains committed to its mission of serving our membership. The NREA staff will continue to provide essential services to our membership.

We are grateful to our membership for the cooperative efforts during this ever-changing situation. We are "Working for Nebraska" and your continued safety.





Finding Peace in Nature

ature has provided me with hours of peace and comfort during difficult times. Many times I have left my home with stress on my mind and the wonders of nature have lifted my spirits. The sight and sounds of thousands of Sandhill cranes at Rowe Sanctuary near Gibbon, the awesome display of bald eagles swooping down to catch fish at the J-2 Power Plant near Lexington, as well as Lake Ogallala, deer crossing the MOPAC East hike/bike trail in Lancaster and Cass Counties, red-tailed hawks and other raptors flying above, and squirrels and songbirds seemingly everywhere.

But due to the COVID-19 pandemic we are asked to remain at home, so where can one turn for the peace and comfort of nature? The answer might be right out your window. Whether one lives in a city, town, or rural setting there is nature near by that can be viewed to provide peace and comfort.

Birds are a great example of nature that may be right out your window. If you want to bring the birds closer, there are a variety of ways to do so. A simple feeder, like the one shown on the cover can attract many species including the red-bellied woodpecker shown.

Another simple way to attract birds like orioles and finches is to cut an orange in half and poke it into a stick or other sharp object. The birds seem to love oranges and will even battle for this prize.

A birdbath can attract birds, especially during dry times. Sometimes the birds come in one at a time, or possibly in pairs. If a person keeps watching long enough small flocks may come to your birdbath. The seven American robins shown at the birdbath wasn't even all that were gathered right outside my window at the time. However, seven at the birdbath at once was pretty cool to see.

Flowers such as trumpet creeper vines can attract species such as hummingbirds. I would regularly see ruby-throated hummingbirds from July until early September on my trumpet creeper vines. One day I noticed a hummingbird that looked a little different and it turned out to be a Rufous hummingbird, somewhat unusual for Nebraska, proving that a person can find rare sightings right outside your window.



A squirrel hunkers down in the hoarfrost. Photographs by Scott Casper.

Another thing that amazes me about Nature is how wild animals can survive in different types of conditions, take for example squirrels like this one shown in hoarfrost. While it is new for most humans to be asked to hunker down and survive in a limited space for a while, squirrels, which do not hibernate, have to do this each and every year.

Many kinds of animals do hibernate, and some brumate while others estivate. What is the difference? Mark Peyton, a naturalist who regularly contributes to the *Rural Electric Nebraskan* put it this way:

During hibernation mammals and amphibians go into a torpid state of

deep sleep. They survive by breaking down the stored fats in their bodies. In a deep sleep the animal requires far less energy, which it can get from the fats.

Reptiles, on the other hand, never really "go to sleep". They remain kind of awake, but with a reduced metabolism. This is called "brumation" and it differs from hibernation in three major ways.

First, a brumating animal is moreor-less awake and consumes more energy than a hibernating animal. Secondly, metabolism uses water so the brumating animal must consume water to keep from dehydrating. Lastly, a brumating animal lives on stored glycogen, not fat. Glycogen is a complex polysaccharide (sugar) produced by the body and it is our main source of "energy" on a daily basis. The problem with glycogen is that we can only store a limited amount, for example, when marathon runners run out of stored glycogen they "hit the wall". When a brumating animal runs out of glycogen they must eat or die.

Estivation is pretty much the same as hibernation but during times of excessive heat and or dryness. The biggest concern during estivation is water. Also, the animals that regularly estivate can become reanimated fairly quickly while waking up hibernating animals is a lot like waking up teenagers.

So during difficult times, one can admire Nature, learn from Nature, and find peace and comfort viewing the Nature right at home.

While I have spent hours and hours in photography blinds, all of the photographs for this article, (even the squirrel in the hoarfrost), were taken out of the same window of my old rural Buffalo County house. Sometimes you travel to see wildlife, sometimes the wildlife travels to you.





Above: A bird bath can attract birds such as these American Robins.

Left: A Baltimore Oriole and House finch are attracted to a half of an orange.

Below: A Rufous Hummingbird lands on trumpet vines.



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May 2020

Taking Advantage of the Earth's Heat

f you haven't already, you will likely run your air conditioning system within the next few weeks. Most public power utilities in Nebraska have higher rates June through September to offset increased costs associated with generating electricity during peak-use periods. Rather than worry about how fast your air conditioner is making your electric meter spin and raising your monthly bill, wouldn't it be nice to know your system is cooling and heating your home year-round? The solution might be right under your feet!

Also called an earth-coupled heat pump, or a geothermal heat pump, a ground source heat pump operates by transferring heat to and from the ground or groundwater. Below the frost line, the temperature of the earth in Nebraska stays fairly constant at 50 – 55°F. Heat pumps provide summer cooling by extracting heat from your home and transferring it into the earth through a mechanical process. In the winter, that process can be reversed so the heat pump extracts heat from the earth and "pumps" it into your home. Since it is much more efficient to transfer heat than to create it with electrical resistance or fossil-fueled furnaces, even during extreme temperature conditions a ground source heat pump can provide up to five times the amount of heating or cooling energy for each kilowatt-hour used to run the system.

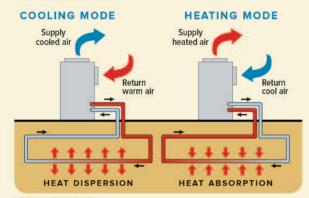
Ground source heat pump systems generally fall into two categories: closed-loop and open-loop. Most closedloop systems circulate an antifreeze solution, which is usually made of plastic tubing buried in the ground or submerged in water. A heat exchanger transfers heat between the refrigerant in the heat pump and the antifreeze solution in the closed loop.

Open-loop systems use well or surface water as the heat exchange fluid that circulates directly through the heat pump system. Once it has circulated, water returns to the ground through the well, a recharge well, or is discharged above ground. This option is especially practical when there is an adequate supply of relatively clean water and all local codes and regulations regarding groundwater discharge are met.

Ground source heat pump systems are reasonably

How ground-source heat pumps work

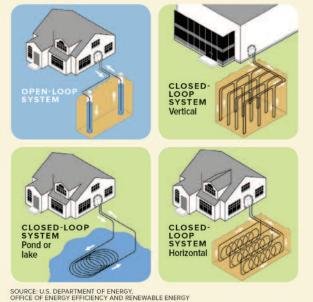
Geothermal heat pumps operate on the same heat-transfer principles seen in air-source heat pumps, but they use 25 to 50 percent less electricity than conventional HVAC systems.



SOURCE: WATERFURNACE

TYPES OF GEOTHERMAL HEAT PUMP SYSTEMS

There are four basic configurations for geothermal heat pump ground loops. One is an "open-loop system," where ground water or well water is used. Three others are "closed-loop systems," where a water and antifreeze solution is continually moved through pipes.



warranted by manufacturers, and their working life is estimated at 25 years for inside components. The plastic tubing for closed-loop systems will last 50 to 100 years. Maintenance costs tend to be significantly less with a ground source system when compared to fossil-fueled heating systems.

Yes, setup costs for ground source heat pumps are higher than for conventional systems. However, ground source heat pump systems qualify for a number of programs that dramatically reduce your final cost. Your local utility may offer additional incentives to reduce your cost recovery from savings even more quickly. That's why it's a great time to consider ground-source heat pumps.

Does your cooling system need a tune up?

A \$30 EnergyWise incentive is available to homeowners that have their cooling system tuned up, regardless of what type or age of cooling system it is (air conditioner, air or water source heat pump).

The application includes a checklist of key components your contractor should inspect as well as items for discussion, such as; filter replacement schedule, proper temperature set-back practices and an understanding of the general condition of the system.

Qualifications

Incentives are available to customers who have their cooling system inspected and tuned up by an HVAC contractor.

Qualifying systems include residential central - air conditioners, air source and water source heat pumps that are served by Nebraska Public Power District or its Wholesale Utility Partners.

Contact your utility for an incentive application.

Linda Hesnard retires from NREA Credit Union

fter 27 years of service as the Nebraska Rural Electric Association Credit Union

Bookkeeper, Linda Hesnard has retired. She began working at the Credit Union in May 1993 as a part-time employee. Over the years the credit union grew along with her responsibilities.

She switched to fulltime status in 2004.

Her favorite memories of working at the credit union are of the membership.

"I have gotten to know so many of them by voice recognition," she said, "the jokes they tell me, the places they have traveled, the stories about their families. They have shared



Linda Hesnard

pictures on email of family members, weddings and vacations. I will miss my co-workers and our CU members

very much."

After retirement she plans to spend part of her time traveling with her husband, Dwight. She would like to visit many of the places they have not had time to go to, until now.

"This August we have plans to take a train trip through the Canadian Rockies and visit Canada," she said. "In September 2021 we

are planning to go to Ireland to watch the Husker football game and visit Ireland."

She is also looking forward to spending more time with family.



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May 2020 -

by Paul Wesslund

The Little Blue Logo that Changed Efficiency Standards

he little blue (and sometimes black) logo with the star inside that you see on all sorts of appliances and electronics has changed the way we view savings through more efficient products.

The EnergyStar program claims credit for reducing pollution and greenhouse gas emissions, and for saving Americans \$30 billion in energy costs. Analysts credit EnergyStar with innovating the energy industry, as manufacturers set goals of making more energy efficient products than their competitors.

What EnergyStar does is make it easy to know whether a product you're thinking about buying is more energy efficient. Essentially the program looks at the average energy use of each type of product, and awards the EnergyStar rating to top performers based on different criteria—a refrigerator needs to be 9% more energy efficient than the minimum efficiency standard; a computer needs to use 25% less electricity than conventional models and include a power-saving mode option when it's not being used.



So, if the appliance or electronic device you're purchasing includes the EnergyStar logo, you know it's among the most energy-efficient products available. That simplicity is the secret to the success of the program that is run by the federal Department of Energy and the Environmental Protection Agency (EPA).

The program's effectiveness comes from a complex process of making sure the EnergyStar logo is accurate and trusted—and the numbers show it is trusted. Americans bought more than 300 million EnergyStar-rated products in 2017 alone, and an EnergyStar study found that threefourths of U.S. households say the EnergyStar label influences their purchases. According to energystar.gov, the EPA uses the following specifications to determine Left: An EnergyStar study found that three-fourths of U.S. households say the EnergyStar label influences their purchases. Photograph by Scott Van Osdol

if products meet the EnergyStar standard:

• Product categories must contribute significant energy savings nationwide.

• Certified products must deliver the features and performance demanded by consumers, in addition to increased energy efficiency.

• If the certified product costs more than a conventional, lessefficient counterpart, purchasers will recover their investment in increased energy efficiency through utility bill savings, within a reasonable period of time.

• Energy efficiency can be achieved through broadly available, non-proprietary technologies offered by more than one manufacturer.

• Product energy consumption and performance can be measured and verified with testing.

• Labeling effectively differentiates products and must be visible to consumers.

Today, more than 500 certified labs in 25 countries around the world test more than 1,500 products a year, along with surprise inspections, to manage a list of 60,000 product models. EnergyStar runs seminars on how to meet its standards. Those standards require that TVs must use 3 watts or less when switched off; light bulbs must use two-thirds less energy than standard incandescent bulbs; EnergyStar home furnaces must be between 4 and 15% more efficient than standard furnaces.

EnergyStar tests also require quality standards in addition to just energy efficiency. In general, products must have popular features, like internet connectivity for smart TVs. Light bulbs must last up to 15 times longer and produce 70 to 90% less heat than conventional bulbs.

EnergyStar Tools for Calculating Savings

ver the years, EnergyStar has branched into ratings for business, industry and new homes. Its website, energystar.gov, sprawls with details, explanations and features like ask the expert, product finders, tax credit calculators, recommendations for business strategies, lists of certified test laboratories, even suggestions for how to set up your video games to make them more efficient.

An example of what's available sits in the middle of the homepage, a link to "Improve your home's comfort and efficiency." So, I decided to give it a try.

The webpage asked me to create a password before answering questions about the square footage of my house, the number of light fixtures and the appliance model and year of purchase.

Full disclosure, I did not complete the entire questionnaire, but the energystar.gov site provided some helpful recommendations.

I could save energy by replacing a ceiling fan that probably was not made with efficiency in mind—it was installed before EnergyStar was even born. It also suggested replacing our 10-year-old dishwasher—no big surprise there either.

It's certainly no secret that today's appliances are becoming more energy efficient, and newer models use a lot less energy for the same amount of work as their older counterparts.

If you're interested in calculating potential savings, visit www.energystar.gov/campaign/home.

In 2018, EnergyStar tested 1,792 models, disqualifying 59 of them. Of the 858 different kinds of lighting and fans tested, that year, 51 were disqualified. Of the 35 TVs tested, two were disqualified.

EnergyStar has caught on because it has something for everybody ways for consumers to save money; ways for businesses to promote their efficient products; online calculators for those wanting deep dives into finding the ideal energy use; and for the rest of us, a simple little logo that tells us we're buying one of the most energy-efficient products available.

Paul Wesslund writes on consumer and cooperative affairs for the National Rural Electric Cooperative Association, the national trade association representing more than 900 local public power districts and electric cooperatives. From growing suburbs toremote farming communities, rural electric utilities serve as engines of economic development for 42 million Americans across 56 percent of the nation's landscape.

Fractal burning can cause electrocution

H igh voltage electricity is an invisible killer; the user cannot see the danger. It is easy to see the danger of a spinning saw blade. It is very obvious that coming into contact with a moving blade will cause an injury, but in almost all cases a spinning blade will not kill you. With fractal burning, one small mistake and you are dead.

This is true whether you are using a homemade device or a manufactured one.

Fractal or Lichtenberg burning works by passing electricity at very high voltage between two electrodes while they are in contact with a piece of wood. An electrolyte (a solution that conducts electricity) is often placed on the wood to help the electricity move between the two electrodes. The electricity seeks the path of least resistance while generating heat along the wood surface and between the electrodes, burning the wood as it goes.

Electrocution happens when highvoltage electricity enters through any part of the body, passes across the heart, and then exits the body. If you grabbed one electrode of a Lichtenberg burner in each hand while the voltage is on, the electricity could flow from one hand, across your heart, and out the other hand. This could stop your heart and kill you. Accidental skin contact with an energized electrode, the electrolyte, a loose wire, or even standing on a conductive floor can all contribute to conditions causing electrocution.

In addition to voltage, the burner's level of amperes, or "amps"-a measure of electrical current—is also important; the greater the amps. the greater the risk. Furthermore, the transformer, wire, insulators, and other components used to construct a Lichtenberg burner also contribute to the risks of using it if they are not properly rated. Simply getting a Lichtenberg burner with very low amperage and made from correctly rated, quality components may not be sufficient to protect the user. Even low-amperage current can stop a beating heart if it passes through at the wrong moment. If the burner is capable of burning Lichtenberg figures in wood, it is capable of hurting or killing the user.

"There are many ways to express your creativity," said Rick Baker, American Association of Woodworkers safety committee chair. "Do not use fractal burning. If you have a fractal burner, throw it away. If you are looking into fractal burning, stop right now and move on to something else. This could save your life."

The American Association of Woodturners has banned the use of this process at all of its events and has banned articles about use of a fractal burner in all of its publications.

The reported cases of fractal burning deaths range from hobbyist woodworkers through experienced woodworkers to an electrician with many years experience working with electricity.

"It only takes one small mistake and you are dead; not injured, dead," Baker noted. "Some of those who died were experienced at using the process and some were not. What is common to all of them: fractal burning killed them."

Source: American Association of Woodworkers



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Seek Summer savings through energy efficiency upgrades

Making slight modifications to your family's routine that can help identify and achieve opportunities for savings while keeping your home more comfortable throughout the summer cooling season ahead.

I f May's warmer weather has you thinking about the sultry summer months ahead, this could be a great time to consider energy-saving options and making plans to help control your energy costs.

There's a combination of things you can do yourself, like making slight modifications to your family's routine.

HVAC Tune Up

When it comes to heating, ventilation and air conditioning equipment, spending a few dollars at the beginning of the season can add up to big savings and help you avoid expensive surprises and system failures.

A qualified service technician with the right skills and equipment will check key components like the compressor and condenser, clean the coils and inspect the ductwork. A technician may also offer advice on the how to get the most value out of your programmable thermostat.

According to experts with the EnergyStar program, sealing and insulating ductwork can improve the overall efficiency of your HVAC by as much as 20%. Making sure systems are appropriately sized can also improve performance.

Consider replacing systems that are more than 10 years old (or those that no longer keep your home comfortable) with a high-efficiency system that is properly sized and designed to meet your needs.

Gain Insight from Energy Audits

Sometimes it pays to get the big picture, so when it comes to energy efficiency and getting real value for your home improvement dollars, professional advice is a good place to start.

Your local public power district or electric cooperative may be able to recommend professionally trained energy advisors who can conduct comprehensive assessments and provide recommendations that could help you control energy costs and improve comfort.

Energy audits include examination of heating, cooling and water heating equipment, as well as interior and exterior lighting. Other available services can include inspections and assessments of windows, crawl spaces and other voids for air leaks,



which can degrade HVAC performance.

According to the DOE's Energy Information Administration, a professional energy auditor will review monthly, seasonal and annual energy bills, consider household occupancy patterns, and examine condition, age and use of appliances and other electronics.

An analysis developed from the collected information can help determine a series of

During summer months, consider using smaller appliances like a slow cooker to eliminate heat gain in the kitchen. Photograph by Scott Van Osdol

recommendations that, if accomplished, can produce savings. Homeowners can then decide which measures fit into their budgets or schedules as they consider improvement projects.

Small Changes Add Savings

When the goal is keeping the house cool and comfortable, remembering that any activities adding heat and humidity to your air-conditioned spaces can increase your costs. Open doors don't just allow people to come and go. They also provide an instant exchange of cooler inside air for warm, moist air, much the same as the cooling effect you experience when standing in front of an open refrigerator. A cooler stocked with cold drinks and chilled snacks and placed outdoors can help cut down on household traffic on hot summer days.

When cooking, consider using smaller appliances like a slow cooker – or better yet, take the extra heat from cooking outdoors and fire up the grill.

Ceiling fans operating in airconditioned space can make you feel about 4 degrees cooler while you are in the room. But the benefits only occur when a room is occupied. Make it a habit to turn off the fan when you leave the room.

5 steps to a clear decision on new windows

by Pat Keegan

Q: Thanks for answering my question last month about replacing older windows. Clearly there are benefits in addition to energy savings, so we've decided to go ahead with replacing our windows. Can you offer any tips on deciding which new windows to purchase?

A : I'm glad to hear you're thinking this through. Here are five tips I'll offer as you think about the types of new windows you should purchase.

1. Think beyond windows. Sometimes home improvement projects can grow into something bigger. And that's not necessarily a bad thing. There are advantages to replacing windows and siding at the same time, for example. You could consider adding rigid foam insulation to the exterior wall before installing siding. You could also pump some additional insulation into the wall cavities. These measures will reduce heat loss through the wall and make your home more comfortable. Another advantage of replacing siding as you replace windows is to make it easier to install flashing around the window. Flashing is what prevents water from making its way into the wall from the outside.

Are you replacing doors, too? Maybe you'd like to reduce or increase the size of one or more windows. A larger window can let in more light and transform a room. A smaller window that lets in less sunshine can make a room less likely to overheat in the summer. Remember that high-efficiency windows are less efficient than a well-insulated wall, so increasing or decreasing window area can impact heating and cooling costs.

2. What is your type? Do you want fixed-pane units that don't open at all? Or casement windows that open with a crank? How about sliders, or double-hung windows that open from the top and bottom? Maybe awning-style options that open out from the bottom? A bay window can add extra space and light. There are so many options that can fit many different situations. I recommend a thorough search online, or visit a local window store to see examples of these styles.



Outward-opening casement windows like these give this room a classic charm. Photograph provided by The Sash Window Workshop

3. Frame the issues. If the number of styles wasn't bewildering enough, now you get to choose the frame and sash (the inner frame that holds the glass). Vinyl is the least expensive and most common option; it can also be quite energy efficient and does not require painting. Vinyl frames vary greatly in quality and the less expensive models may be susceptible to warping. Aluminum is an affordable option, but if the

frames don't have a thermal break, they can lose heat and cause condensation. Wood windows offer high quality – but the biggest drawbacks are the price and maintenance requirements. There are wood options with vinyl cladding that never need painting. Fiberglass and composite windows are a newer option that fall between vinyl and wood in quality and price.

Also, you may be able to save money by not doing a full window replacement. If your existing frames and sills are free of rot and in good condition, and you aren't looking to make any alterations to the walls around them, you could look into replacing the glass and keeping the existing frames.

4. Glass assemblies. Single-pane windows no longer meet building codes. Your two choices are doubleand triple-pane. An add-on that is often well worth the price is a low-E coating that reflects heat back into the room. You can also boost energy efficiency with windows that have either Argon or CO2 gas between the panes.

5. Compare the numbers. Fortunately, there's an easy way to compare the efficiency of windows. windows Almost all are independently tested and rated by the National Fenestration Rating Council (NFRC). The most important number on the NFRC label is the Ufactor. The lower the U-factor, the more efficient the window is. It's best if the window has an EnergyStar label, but the NFRC label will tell you which EnergyStar window is more efficient.

I hope these tips help in the decision of choosing your new windows. Remember, you'll have to live with them for several years, so be sure to do your research and consider all options. And because new window installation is a complicated process, it's best to have them installed by a qualified professional with solid references.

Celebrate electrical safety month in May

Public power districts and electric cooperatives' top priority is always to provide safe, reliable, affordable energy to their consumers. Your well-being and that of the larger communities we serve are of paramount concern.

Sometimes we hear about preventable tragedies involving young people and car accidents. This brings up the topic at hand: safety.

Does your teen or loved one know what to do in the event of a collision with a utility pole resulting in a downed power line? Do your loved ones know what to do if they come upon an accident with a downed power line? This month, we'd like to share a few safety tips that we hope you never have to use. But if you do, they could save their life.

If a car collides with a utility pole, the vehicle may be charged with electricity. Anyone exiting the car could come in contact with thousands of volts of electricity from the downed line. In essence, when you step out of the car, you become part of the electricity's path to the ground and could be electrocuted. It's critical to stay in the vehicle and tell others to do the same until emergency crews have told you it's safe to exit the car. If the vehicle is on fire or you must exit for other safety reasons, jump clear of the vehicle. Do not let any part of your body or clothing touch the vehicle and ground at the same time. Land with your feet together and shuffle away (in small steps with your feet still together) to avoid electric shock. Keep moving away until you are at least 40 feet from the vehicle.

If you come upon a car accident involving a utility pole and downed power lines, keep your distance. A downed power line can energize the ground up to 35 feet away. While your natural instinct may be to rush to the car to help, instead pause. Do not approach the car or scene of the accident. Tell others to stay away. While you may be concerned about injuries to those involved, the best action you can take is to alert emergency officials, who will in turn coordinate with the power provider. For the same reasons described above, never drive over a downed power line or through water that is touching a downed power line.

If you have a downed power line on your property as a result of a falling tree, storm or other circumstance, do not go near the power line. Assume that the downed line is energized and dangerous. Never try to move the power line even if you think it's not energized or if you are using a nonconductive material. We recognize that you may be anxious to clear your property of tree limbs or other debris near the downed line, but please wait until after an electric utility crew or emergency officials have confirmed that it is safe to do so.



Cuming County PPD's Working Foreman Willy Anderson, right, and Journeyman Lineman Jess Hunke teach students about electrical safety.



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The value of the electric grid in Nebraska

he discovery of electricity is regarded as one of the greatest achievements of all time. Electricity is the backbone of our current modern-day society and people around the world depend on it every single day.

We may see electricity as something that is always present now, but the current infrastructure of today's electric grid took a lot of coordination, investment and efforts. Although the electric grid itself is complex, the process of delivering power to consumers isn't difficult to understand. Here's how electricity is sent from the electric grid to your home or business.

The first step is to generate the electricity itself, which can be done using several different types of energy. There are non-renewable energy sources, like coal or natural gas, and there are also renewable energy sources, like solar power, wind power or hydropower. The generation infrastructure depends on the type of energy being used, such as a power plant for natural gas, a dam for hydropower or a large array of solar panels. As generation technology has evolved over the last decade, solar power and wind power are playing a larger role in the generation mix than ever before.

The next step is to carry the generated energy through transmission lines. High-voltage transmission lines are the first phase in delivering electricity, and they help to move large amounts of energy from the generation source to more populated areas. Through transformers located at a distribution substation, the electricity is carried from transmission lines to distribution power lines. Distribution lines carry electricity to businesses, neighborhoods and individual homes, where it is ready to be used by consumers.

But not all energy comes from large power plants or

fields. Some electricity comes from decentralized sources, which is called distributed generation. Consumers can use the energy that they generate themselves, for example, energy from solar panels on their roofs. Typically, this is not enough energy to power an entire home, but for those who want cleaner energy or an alternative energy source to the grid, this is a great option to supplement.

There are several aspects of the grid that keep evolving by use of new innovative technologies. One aspect is energy storage, which helps to reduce power outages by storing excess energy to use later as needed, especially energy from renewable sources. Another innovation is the microgrid. Microgrids are disconnected from the larger grid and can still supply electricity when the energy from the main electric grid is unavailable. Another aspect is smart meter, which allows for two-way the communication between the end-user and the utility. Smart meters can alert the utility if there is a power disruption for a specific consumer. Two-wav communication helps to better generate, store and consume power between the consumer and the utility. All of these new technologies are contributing to a "smarter" grid that helps reduce power outages, and many advances are still on the way.

We often take for granted the availability of electricity around us, but without electricity, we would lose a great deal of value in our lives. Because of the electric grid, we can light our homes after the sun goes down, power our smart phones, keep our food refrigerated – and so much more. We tend to only notice electricity when it is missing and can no longer complete our daily tasks. But when we're more aware of how we receive our electricity, we can all appreciate the electric grid much more.

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Brunch ideas with an original farm-to-table ingredient

B runch with family and friends can be a treat any time of the year, but spring's fresh, seasonal ingredients and warmer days practically beg loved ones to gather for the morning meal.

These cute, kid-friendly Bunny Oatmeal and Easy Egg Casserole recipes are simple and made with real foods like milk, bringing richness and flavor, and ingredients you can feel good serving to kids.

Whether it's skim milk for lighter lattes with friends, 2% milk to wash down birthday cake or strawberry milk for a sweet celebration surrounding the game-winning goal, milk's already a part of the foods – and meaningful moments – that matter.

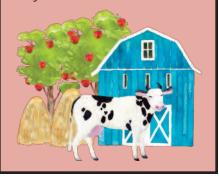
For more kid-friendly, seasonal recipe ideas, visit milklife.com

Fun Cow Facts

A cow produces an average of 6.3 gallons of milk daily and 350,000 glasses of milk in a lifetime.

Farmers measure milk in pounds, not gallons.

A cow will produce an average of 6.3 gallons of milk each day. That's more than 2,300 gallons each year! By Farm Flavor



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Bunny Oatmeal

- 1/3 cup instant oats
- 3/4 cup fat-free milk
- 1/4 teaspoon cinnamon
- 1/4 teaspoon vanilla
- 1 teaspoon brown sugar
- 2/3 small banana
- 2 fresh blueberries
- 1/2 small strawberry chocolate syrup (optional)
 - 1 glass milk (8 ounces)

In microwave-safe bowl, stir oats, milk, cinnamon, vanilla and brown sugar. Microwave on high 30-60 seconds and stir. Cut banana in half crosswise. Cut 1 1/8-inch thick coin slice from flat ends of each banana half. Place two banana slices in upper third of oatmeal bowl, side by side, to make eyes. Top each banana slice with one blueberry.

Place remaining banana halves at top of bowl, hanging out, to create ears.

Place strawberry in middle of bowl to make nose then drizzle chocolate, if desired, to make mouth and whiskers.

Reader Submitted Recipes



Easy Egg Bake Casserole

Nonstick cooking spray

- 1 cup lean ham, cubed
- 1 cup frozen seasoned potatoes with fresh onions and peppers
- 3/4 cup fresh spinach, chopped
- 1/2 cup low-fat cheddar or Swiss cheese, shredded
- 6 eggs
- 3/4 cup fat-free milk
- 1 glass milk (8 ounces)

Heat oven to 375 F. Lightly coat 8by-8-inch casserole dish with nonstick cooking spray. In bottom of casserole dish, arrange ham, potatoes, spinach and cheese.

In large bowl, beat eggs and milk. Pour mixture over ingredients in casserole dish. Bake 25-30 minutes, or until lightly browned and puffed.

Serve with 8-ounce glass of real milk for added nutrition.

Beef Party

Slice 3 pound cold, cooked roast beef

Arrange in layer in an 8x8" baking dish, salt

Combine:

- 1 can beef consommé
- 2 tablespoons steak sauce
- 1/3 cup honey
- 1 1/3 cups beef broth
 - 2 tablespoons Worcestershire

Pour over beef and cover. Refrigerate overnight or freeze. Bake covered 1 hour at 325 degrees.

Sally Hosier, Holdrege, Nebraska

Banana Bread

- 2 1/4 cups flour
- 1 1/2 tsp. Calumet Baking Powder
 - 1/2 tsp. baking soda
 - 1 package (8 oz.) Philadelphia Cream Cheese, softened
 - 1/4 cup butter, softened
 - 1 cup sugar
 - 1 cup mashed fully ripe bananas (about 3)
 - 2 eggs

Heat oven to 350°F. Combine flour, baking powder and baking soda. Beat cream cheese, butter and sugar in large bowl with mixer until blended. Add bananas and eggs; mix well. Gradually add flour mixture, mixing well after each addition. Stir in nuts. Pour into greased and floured 9x5-inch loaf pan. Bake 1 hour 10 min. or until toothpick inserted in center comes out clean. Cool 5 min. Remove from pan to wire rack; cool completely.

Cindy Allgood, Lincoln, Nebraska

Pistachio Éclair Dessert

- 3 cups cold whole milk
- 1 package (3.4 ounces) instant pistachio pudding mix
- 1 package (3.4 ounces) instant French vanilla pudding mix
- 1 carton (8 ounces) frozen whipped topping, thawed
- 1 package (14.4 ounces) graham crackers
- 1 can (16 ounces) chocolate frosting

In a large bowl, whisk milk and pudding mixes for 2 minutes. Fold in whipped topping. In a 13-in. x 9-in. dish, layer a third of the graham crackers and half of the pudding mixture. Repeat layers. Top with remaining graham crackers. Refrigerate for at least 1 hour. Spoon frosting into a microwave-safe bowl. Cover and microwave on high for 15-20 seconds or until softened, stirring once. Spread over graham crackers. Cover and refrigerate for at least 20 minutes or until frosting is set. Note: To make Cheese cake éclair dessert, You can change this up by using 2 package of vanilla pudding instead of 1 pistachio and 1 vanilla. And for the topping use cherry pie filling or strawberry pie filling.

Audrey Kaser, Pender, Nebraska

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CONCERN FOR COMMUNITY

If you're familiar with electric cooperatives and public power districts you know this is one of the guiding principles in our not-for-profit business model. It's part of who we are proud to be. During these challenging times, our cooperative family is here for you. We are responsibly doing our part to help power you through the unknown. There are a million things on your mind, making sure the lights stay on, shouldn't be one of them. Because whatever the future holds, we'll power it.



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