

The magazine of modern homesteading

COUNTRYSIDE

& Small Stock Journal

Volume 104 • Number 6
NOVEMBER/DECEMBER 2020

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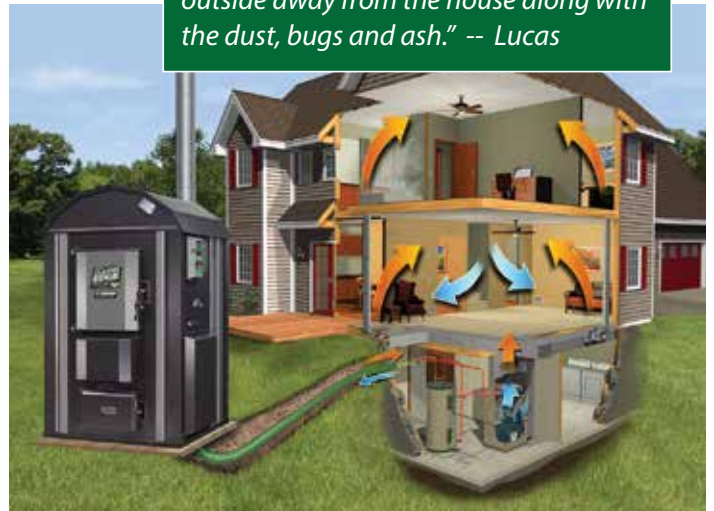
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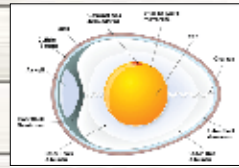
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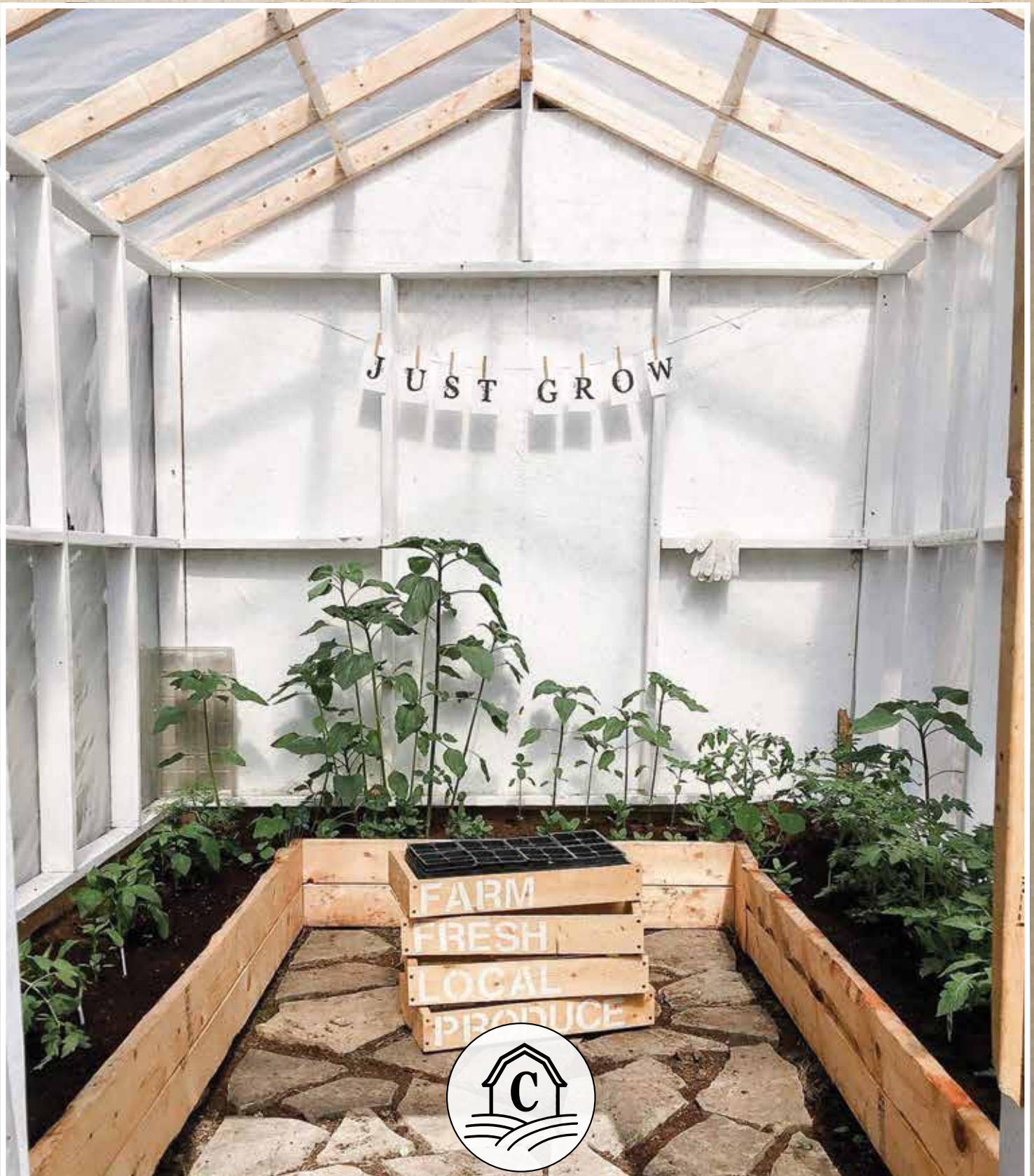
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I AM COUNTRYSIDE

FEATURING LISA THÉRIAULT FROM THE PETITE PLANTATION



Left: Zucchini and bush bean companion planting has us drowning in fresh produce.

Previous Page:
Our dreamy greenhouse allows us to grow in a snowy Canadian climate.

THE PETITE PLANTATION

IN 2013, THE PETITE PLANTATION DREAM, and blog, were born! We dreamed of living closer to our food, closer to nature and closer together to build a deeply rooted family but living in the hustle and bustle of Southern Ontario left us feeling tired, defeated, and stuck in the grind. After years of struggling to live a life that felt like it was not meant for our family, we began making life changes to live minimally, naturally, and spend more time together.

We downsized and moved to the east coast, then downsized some more! We began urban homesteading and growing our own food in the yard. Our neighbors joyfully referred to us as “Modern Hippies” because we were the odd balls tearing out the sod to make way for healing herbs, seasonal vegetable patches, and towering sunflowers with our linens on the line. But it wasn’t enough.

We longed for our sustainable homestead. After five years of hoping our dreams would come true and never getting ahead, we decided to take a big leap.

In the spring of 2018, we purchased Nelson, a 24-foot Class C motorhome with tons of personality. After three weeks of renovation, we moved inside full-time while we eliminated our

debt, built up savings, and began our hunt for the perfect piece of property to build our dreams.

In the spring of 2019, we purchased a forested property in central New Brunswick, Canada and began building our sustainable farm. Using new, salvaged, and repurposed materials, we built our 16x20 solar-powered sustainable tiny farmhouse ourselves for under \$6,000 and are currently expanding our permaculture farm.

We have learned so much over the last few years and that even our little family can make a big impact on the environment. We have heard many others want to make changes, build off-grid, and be more sustainable but they just don't know how to get started. We hope to inspire these people to dive in and start making changes to their lifestyles.

By not only living a lifestyle that requires less power and in a smaller home which requires less heat, but also by implementing permaculture systems such as our original grey water system, water catchment, humanure composting, and solar power designs, we have lowered our footprint and are becoming more and more sustainable! 🌱

Follow Lisa Thériault at
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Elderberry propagation
for jam and
syrup self-reliance.



Our chicken tractor, housing a clutch
that was hatched in the spring.



Our rabbits,
raised for
meat, to
become food
independent.



Our Pekins preening themselves after a dip in the pond.

A mix of duck and chicken eggs for hearty breakfasts.



First of many harvests to come from our hugelkultur-raised vegetable gardens.

Loretta is one of several in our breeding program for meaty heritage chickens on our tiny farm.



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EDITORIAL

Ann Tom, Editor

editor@countrysidemag.com

Steph Merkle, Content Director

smerkle@countrysidemag.com

Samantha Ingersoll, Marissa Ames

Editorial Assistants

Traci Laurie

Publication Designer

ADVERTISING

Alicia Soper, Advertising Director

asoper@countrysidemag.com

(715) 829-7330

Kelly Weiler

kweiler@countrysidemag.com

(715) 965-1234

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Countryside

P.O. Box 566, Medford, WI 54451

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Our Philosophy

At *Countryside*, our purpose is to inspire self-reliant living on any level.

We acknowledge that the path to self-sufficiency is as unique as the person who accepts the journey.

We strive to strengthen the homesteading movement by sharing the diverse voices and knowledge of today's practioners.

We teach our readers how to grow and raise their own food; build, fix, and craft with their own two hands; and walk as gently on this planet as possible.

Contact Us

PHONE: (970) 392-4419

ADDRESS: P.O. Box 566, Medford, WI 54451

ADVERTISING OFFICE: advertising@countrysidemag.com

EDITORIAL OFFICE: editor@countrysidemag.com

CUSTOMER SERVICE/BOOK ORDERS:
customerservice@countrysidemag.com

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FROM THE
EDITOR

HERE WE ARE AGAIN WITH THE HOLIDAY season and winter just around the corner. Where does the time go? The year 2020 has certainly been a historic one, a year that will never be forgotten. It has turned life upside down for millions of people around the world. We've learned how to cope with the "new normal" and wonder if things will ever get back to how they used to be. We must continue to live our lives and make the best of every day because you never know what tomorrow may bring.

Let's talk about *Countryside*. When you have some downtime, you may want to tackle some beekeeping to-do's and tend to your beekeeping equipment. Rusty Burlew shares 15 easy projects and tasks you can perform before spring arrives.

Speaking of spring, have you ever wanted to make your own trellis? Romie Holl has plans to build your own trellis out of cattle panels. It's affordable and rather simple to construct. Your plants and aching back will thank you!

But before we can think too much about spring, we still have to get through the winter. If you get dumped on with several feet of snow, you may

want to invest in a snow fence. Rebecca Sanderson discusses different types of snow fences that will help keep the drifts off of unwanted areas.

You may be spending a lot of time in the kitchen during the upcoming months. In this issue, you'll find recipes for oatmeal scotchies and homemade lefse. Also, Rita Heikenfeld takes a trip down memory lane with some of her grandmother's and mother's favorite kitchen gadgets. You might see some of your favorites, too!

All of this and a whole lot more within the pages of this issue.

Happy Holidays! Stay safe, healthy, and happy.



Ann Tom
Editor, *Countryside*

HAVE AN IDEA OR STORY TO SHARE, A QUESTION TO ASK, PERHAPS AN ANSWER TO A QUESTION? WE WANT TO HEAR FROM YOU!

Countryside Editor Letter
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Country Conversation & Feedback

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Baking with Biscuits

I was looking for some bread sticks to have and saw the Pillsbury biscuits in the refrigerator. I decided to pop them open and roll them to look like bread sticks. I then baked until golden brown, eight to 11 minutes in a 400 degree F oven. I used warmed RAGÚ® cheese for my dipping sauce.

I have also made sugar biscuits with these and they tasted really great. I popped open a can and spread butter on top of them. Then I sprinkled with cinnamon and sugar and baked until golden brown, eight to 11 minutes in a 400 degree F oven. Watch closely so they don't burn.

Have you ever tried donuts with these biscuits? Lay them out on counter and cut out the middle to make a donut. Save the centers; they are your donut holes. Add some oil to a skillet, plenty enough to cover the bottom, and when hot, lay your biscuits (donuts) in skillet, fry until golden brown, and turn over. Do the same with the holes. When browned, lay them on paper towels then roll in sugar.

Just some thoughts to share.

— Dianna Johnson, Ohio

Unbee-lievable Information!

I am a super novice beekeeper. My friends told me that they were going to split a hive and I decided it would be great to become a custodian of the ladies. I just want to say thank you, the site (backyardbeekeeping.iamcountryside.com) has answered so, so, so many questions above and beyond my *Beekeeping for Dummies* book!

In gratitude and kind regards,
— Lyndi Reichenbach



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In Response to September/October 2020 issue:

I just received the September/October 2020 issue of *Countryside & Small Stock Journal* and I ran over to the computer to write you.

First off, this issue was amazing! The cover photo was over the top fantastic. Thank you so much Stacy at 5farmoregon for the photo. Loved the cover designing and photo, perfect for a fall magazine!

Second, I am so glad and overjoyed that the reader contests are back! I was so disappointed when I got the May/June issue. So glad it is back for July/August and September/October. Please keep them in the magazines.

Third, and most important, do NOT go paperless! Too many homesteading magazines have gone paperless and it is so nice to have a real copy. When I think of homesteading magazines, I do not think of them being on a screen. I love seeing *Countryside* in the mailbox. It is so nice to sit outside in the fresh air and read your great magazine. Young people still love *Countryside*, just like me. (I'm in my 20s.)

Thank you so much for a great homesteading magazine. I will be a subscriber as long as you do not go paperless. Keep up the great work at *Countryside & Small Stock Journal*!

— Mary

Upcycled Seed Starter

I saved my strawberry container from the store, and thought, what a good idea to use it to plant my seeds. Lay soil down, then add seeds and put more soil on top, place a container under it (it does have slits) close the lid, and you have your own little greenhouse.

— Dianna Johnson, Lima, Ohio

In Response to Take the Sting Out of Bug Bites (July/August 2020)

Applying milk to the swollen area helps draw the venom out and reduces the pain. Also, a great remedy for mosquito bites and the unbearable itch is to apply white toothpaste. Not a gel, it needs to be any cheap white paste.

— Doreen DiAmore



Our Finicky Wrens

Here in Wilmington, North Carolina, we have noticed over the past few months that the Carolina wren is becoming far more aggressive, shooing away the other guys. We fill the feeder with black oil sunflower seeds from Lowe's Home Improvement. We have a great view of the feeder as it hangs a couple of feet from our window. At first, we thought that the wrens were very busy throwing out the chaff that the seed company sells you with the seed. But when we watch closely, they are throwing out all the sunflower seeds until they come across a piece of a peanut — a few of which are also in the seed.

So, our feeder now gets emptied quickly, and all the other birds miss out. We have tried shooing away the wrens, but they just hang on all the harder with a defiant look on their faces.

We are wondering if any of your other readers have experienced similar wren problems, and how they solved them.

Kind Regards
— Patrick W. Ager

“Undoubtedly the BEST, down-to-earth, practical magazine for rural folks. Began purchasing *Countryside* in the early 1970s and have been a devoted subscriber ever since. I’m the proud owner of five decades of *Countryside* issues.”

— Kimo James Thielges

Three Eggs in a Nest

I was eight years old and had a girlfriend the same age and a brother who was three years younger. My friend had an uncle who owned a grocery store next door to my mother’s cafe and my dad’s barber shop.

In those days, grocery stores sometimes had a chicken coop out behind their store. Farm women would bring in their produce to be sold to town women. Things such as frying-sized chickens, cocky roosters, and hens waiting to set. They brought in eggs for setting hens and also regular eggs.

We three children played house in the backyard of the café. One day, my friend and my brother went over to the chicken coop next door, shooed a hen off a nest, and brought the three eggs they found under her back to me.

I was making mud pies — stirring dirt and water in a can. I immediately broke the eggs and added their contents to my mixture, stirred it good, and spread it on three half-gallon bucket lids. I then set my “pies” in the hot sun to dry.

About that time, my mother came out to check on us. She saw the broken egg shells and she asked, “Who stole the eggs? How are we to pay for the eggs?”

My friend’s uncle then came. My mother and the uncle decided the deserved punishment would be to work it off. They marched us right over to the chicken coop. We three thieves cleaned the old straw out of the nests, carried fresh, clean straw to the coop and fluffed and fluffed, and patted that straw until we were told, “Enough!”

This story reminds me of a picture I saw once. A little girl sitting beside a makeshift roadside stand and a sign that read, “FOR SALE. MUD PIES DIRT CHEAP.” If we had been innovative children, we could have made a profit from our sinful ways. As it was, we grew up to be lawful.

— Pauline McKenzie, Florida

NOVEMBER/DECEMBER QUESTION OF THE MONTH

Do you ever look through your old photos, see ones of your ancestors, and imagine being right there with them building the homestead, plowing fields, and making hay (the hard way), etc.?

We would love to hear your stories, see your photos, and share with the rest of the *Countryside* community.

Send your stories and photos to:

Countryside Editor

P.O. Box 566, Medford, WI 54451

Or email to: editor@countrysidemag.com





Frozen Inventions

I enjoyed reading your canning guide. I have been canning for over 50 years and I have invented a couple of interesting things.

CORN: Do NOT fully husk the corn. Leave about ½ of the husks on the corn. Process each cob in the microwave for five minutes. Let cool and place on cookie sheets to freeze. After they are frozen, put into bags. In the winter, take however many cobs out of your bag and let them partially thaw. Put in the microwave for four minutes. Take off the husks and enjoy! I have been doing this for years and because the cobs never touch water, they taste like fresh corn!

ASPARAGUS: Do not wash! Trim ends and place the asparagus on a cookie sheet and freeze. Once frozen, place into bags. Cook from frozen. I roll three to four spears in chicken luncheon meat. Place in oven pan and make a cheese sauce to pour over. Cook at 300 degrees F for approximately 30-35 minutes.

Also, it works good to cut some of the asparagus into chunks before freezing and when you want to use them, put frozen into frying pan with a little butter and cook just until tender. Do not overcook!

— Donna Turcotte
Armstrong, BC Canada

"Thank you for sending the latest issue. I imagine you are still hearing the applause! The photos popped and the stories were crammed with great information."

Best wishes,
— Julia

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Farm Equipment Winter Maintenance

BY ANITA B. STONE



FARM EQUIPMENT IS NECESSARY for the efficiency and survival of farms and homesteads. So, it is important to take special care of any equipment you own that is critical for harvest and in the coming months, to help prevent costly breakdowns.

- The first order of business is to stock up on supplies and spares and have all maintenance agreements handy. Also be sure you have access to a mechanic who can perform maintenance procedures or repairs should you need them.
- Keep all records of services and work done in a service handbook or journal where they can be easily located.
- Make easy-to-read notes. These records could mean extra dollars when it is time to trade or sell a piece of equipment.
- Farm equipment left outside can deteriorate fast. Ideally, utilize a workshop for your maintenance jobs. Make sure the shop can accommodate the largest piece of farm equipment and that it has doors of corresponding size to move the equipment in and out easily.
- Clean the equipment, dry, and lubricate it when necessary and get it indoors. If you do not have room to park the equipment indoors, then choose the most appropriate available cover.

- Keeping moisture away from bearings and major components will help prevent rust. Avoid using water on seals containing bearings.
- Remove crop residue from engine compartments or you risk a fire when you start it up. Surface dirt and rust often hide serious deterioration. All surfaces of any equipment should be periodically cleaned and inspected. Regularly clean straw and chaff deposits from the engine compartment and around belts and pulleys to reduce the risk of fire.
- Pay attention to cutter blades and cylinder pans on forage harvesters and knotters on balers.
- Grease metal parts or use a rust-preventative solvent.
- Consider an oil analysis to make sure your machinery is not harboring any problems and to reassure any equipment is running properly. The results may reveal an oil problem, contamination, or another problematic situation such as difficulties due to changing the oil too often or too infrequently.
- Indoors, allocate a five-foot perimeter around the equipment for a service area and a four-foot perimeter around the workspace to allow for workbenches. Also, make sure there is adequate insulation, lighting, heating, and ventilation in the work area.

ENGINES

Engines are generally most powerful and fuel-efficient when they are tuned properly. Whether your equipment is fueled by diesel or gas, your dealer can use modern equipment to test the efficiency of your engines. The cost should be recoverable from fuel economies and the peak performance of your machinery.

For harvesters, wheel spindles and bearings require proper lubrication to prevent severe wear and eventual failure. Spindle and bearing grease should be inspected for proper levels and cleanliness prior to each use. Underinflated tires will result in rapid wear and sidewall damage. All tires should be checked for proper inflation and surface condition prior to each use. Routinely check and remove rocks and other obstructions from the fields. Foreign objects can result in breakage or damage to the cutting surfaces and cutting drivetrain.

ELECTRONICS

Electronics and GPS guidance systems tend to be more fragile than the mechanical systems. Keep these systems cool, clean, and dry. Monitor the electrical connections, keeping them tight. Do not allow wires to bundle up and become entangled in other equipment. Overvoltage will almost always damage electronics and control boards.

EFFICIENCY

Operate combines or harvesters at the recommended speed. The faster the equipment operates, the more fuel it uses. Ensure the harvester gas cap fits properly. Caps that are damaged, loose, or missing will cause fuel to vaporize.

Make sure all safety guards are in position and correctly fitted before starting work. Do not run the combine with the guards raised or removed.

Combines and harvesters may have obstructive vision to the rear of the equipment. So, extra care is needed when driving in reverse. Sounding the horn before starting the engine or driving in reverse can alert others. Make sure all audible warnings are maintained and are in working condition.

It is important to routinely replace worn components on a harvester or combine. Worn components can place increased strain on other parts and almost

Worn components can place increased strain on other parts and almost always result in poor performance.

always result in poor performance. Poorly functioning equipment leads to reduced harvest yield.

HARVESTING EQUIPMENT

Harvesting equipment varies, not only by type of crop, but also by the farmer's preference. Small grain crops such as corn, wheat, or soybeans and other field crops like potatoes, cotton, and animal forage often involve use of large and powerful harvesting equipment. Harvesting may be done by using a tractor and drawbar towed behind the tractor.

Large, high-powered, self-propelled harvesters and combines are also common. Simple forage harvesting involves cutting, discharging, gathering, and

baling prior to transport to storage for later use as animal feed. Harvesting grain crops not only involves cutting, but also involves threshing and charges the chaff back to the field. Every part used requires proper attention for proper functioning. It all begins with cleaning, inspecting, and keeping parts well-oiled as part of the whole task.

MANUFACTURER

The original equipment manufacturer (OEM) provides operation, maintenance, and repair guidelines. Copies of OEM applications, operation, inspection, maintenance, and repair guides are usually available at no charge from the OEM and the OEM website. Copies can be received from the place of purchase.

These maintenance details may sound extensive, expensive, and time consuming. But, if carried out as an integral part and standard of farm operations, winter maintenance of equipment will bring handsome rewards. 🌱

ANITA B. STONE is an eco-friendly journalist who nourishes her traditional habit of nature and horticulture. Her love of the land and passion for teaching at the local community college and at senior retirement centers fills her time. She is always searching for new methods of improving the environment, growing food to benefit people, domestic animals, and wildlife. She is an author and Master Gardener in North Carolina, teaching others how to farm sensibly, making life easier and fulfilling, and admits she will always stay young-at-heart, just like her grandchildren.

How to Install a Snow Fence

BY REBECCA SANDERSON

WHAT IS A SNOW FENCE? How does it work, and is it feasible for you to build?

A snow fence can be as complicated or as simple as you want it to be. There are a few simple rules to follow, but a lot of choice when it comes to your unique circumstances.

When driving along a highway in winter, you might want to look around (safely, of course) for fences running parallel to the road. If those fences are not normally there in summer, then you may be looking at snow fences. In many places, the highway department uses signature orange plastic fencing with a large mesh pattern, set back quite a bit from the road. In other places, the snow fences are larger and more permanent. These may be made of wood, such as along Highway 80 in Wyoming. Some snow fences are living, made from trees or shrubs. While these may take a few years to be effective, they take less maintenance than most other snow fences.

HOW DOES IT WORK?

A snow fence is used to help prevent drifts of snow from forming across roadways. This does not happen because the fence stops the snow. Rather, the fence slows down the wind as it passes through, causing it to drop more of the snow on the downwind side of the fence. That is why they are set so far back from the road; so there is room for the snow to fall before

reaching the road. While most snow fences are made to prevent snow from building up as much on roadways, they can also be made to direct snow to accumulate in certain areas for water use in warmer weather.

There are so many options when it comes to snow fences on your homesteading land. Your local hardware store is likely to have the supplies for a snow fence, whether you choose plastic mesh or to build a wooden fence. As long as the open space is around 40-50% of the total area of the fence side, it will work as a snow fence. You want a little bit more solid (plastic or wood) than open space in the fence to slow down the wind better. When you secure the fence, remember that it will be placed against the prevailing wind and must be strong enough to withstand that. Metal T-posts are a lot stronger than U-posts and make a good base for plastic mesh fencing. You shouldn't need much else outside of your basic farm tools and equipment.

LOGISTICS AND INSTALLATION

When planning a snow fence, there is a little bit of math involved. A higher fence will naturally cause more snow to drop in the drift area. However, a taller fence also extends the area in which the snow will be dropped. A general rule is that a fence must be 35 times its height away from whatever it is protecting. If a fence is one meter high, then it must be 35 meters away from the road. A two-meter-high fence would



Some snow fences are temporary while others are living, made from trees or shrubs.

need to be 70 meters away, and so forth. The fence must also have a little distance between the bottom of the fence and the ground so it does not simply become buried beneath the snow. A snow fence needs 10-15% of its height to be the space between it and the ground. Terrain that is rougher with rocks, dense grass, or small shrubs needs higher clearance. For example, if you had plastic snow fencing four feet high, you need five to seven inches of clearance beneath.

For the posts of a snow fence, $\frac{1}{3}$ of the post needs to be buried. Your four-foot fence over five inches of clearance would need a seven-foot post, set two-and-a-half feet into the ground. Posts should also not be too far apart; highway departments recommend eight feet apart using the four-foot fencing. However, the end posts are only placed six feet away from the last post, and they are further secured with wire staked into the ground for added stability. Be sure that you attach the fencing on the upwind side of the post to prevent tearing, and some wooden slats and zip ties may go a lot further than metal nails or staples. Using hardware too small for the job is a common fencing mistake. Zip ties would also help with taking the fence down each spring to be stored for the next winter. Because plastic degrades so quickly in the sun, storing plastic snow fencing during the warmer months will help it last longer.

A wooden, permanent fence would follow much of these same protocols such as amount of open versus solid space, measurements, and stability. Wooden slats can be horizontal or vertical. Some highway departments use very large triangle-shaped snow fences that are semi-portable, but they may be overkill for your homesteading needs.

When installing your snow fence, you will need to know which direction the prevailing wind comes from for your area during winter. While the wind differs with the weather, most areas have a direction from which the wind most commonly comes, although it may change with the seasons. How to tell what direction your prevailing wind comes from? Well, looking at a few young trees that weren't staked may give a clue. Otherwise, you could ask your local extension office or consult data from weather stations.

Snow fences have been proven to reduce the cost of road maintenance including snow removal. They are also very effective in the prevention of auto accidents and deaths because the roadways are clearer. One study found that the cost of snow removal for highways was 100 times that of the cost of putting up a snow fence. That doesn't even factor in the wear-and-tear that sanding and salting does to a road let alone the cost, financial, and emotional effects of auto accidents.

While you can make a multi-purpose fence that acts as a snow fence, the most effective snow fence does follow the before-stated guidelines. Whether to protect roadways or to gather extra snow for future water use, a snow fence is a very effective tool in directing the deposit of snowfall. 🌱

RESOURCES

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REBECCA SANDERSON grew up in a very small town in Idaho with a backyard full of chickens, goats, sometimes sheep and ducks, and other random animals in addition to the cats and dogs. She is now married with two little girls and loves the homesteading life! Her husband is very supportive (tolerant) of her continued experiments in making many items from scratch and he even helps sometimes.



Grandma Knows Best

TRIED-AND-TRUE TOOLS
FOR YOUR KITCHEN

BY RITA HEIKENFELD

WHEN EACH OF US NINE KIDS LEFT home, Mom gave us several items, one of which was a cast iron skillet. I still have that skillet and it gets daily use. Since then, I've inherited several more and have given them to my daughters-in-law who cherish them as much as I do.

Grandma's kitchen "back in the day" had so many hand-powered gadgets and equipment that have stood the test of time. In fact, some of these are true heirlooms, like my iron skillets or my Feemster slicer, or even my aluminum angel food cakepan with "feet."

I enjoy using these "off the grid" kitchen items. I don't have to worry about replacing batteries or wonder if I can still prepare a meal for my family if the electricity goes out.

Here's some of my tried-and-true kitchen items, some of which are older than I am, but still wonderfully useful and accurate. I wonder how many of you have seen any of these treasures at yard sales, second hand stores, or antique shops? The prices are always much lower than their newer counterparts, plus lots of them were made right here in the good ole USA. There are a few "new kids on the block" here, as well. But only a few. I guess that says volumes, doesn't it, for Grandma's kitchen? As the saying goes, "Everything old is new again," and that makes perfect sense to me.



Adjustable Steamer

No need for a steamer insert for your three-quart pan. This adjustable steamer fits any size pan and opens like a flower. Plus, it has feet on the bottom so your veggies steam nicely. It doesn't take up much room, as it stores flat.



Apple Corer/Slicer

This makes such quick and easy work when you've got a lot of apples to slice. The even pieces make peeling easy. I save my apple peels for drying. They are delicious when added to a cup of tea.



Bench Scraper

This stainless-steel gadget not only chops, but scoops up. It also scrapes dough off the counter.



Box Grater

Sure, I have my microplane rasp graters but honestly, the box grater takes the place of six, count 'em six, microplanes. You can zest citrus, make Parmesan curls, even grate chocolate on this multi-purpose gadget.



Cookie/Ice Cream Scoops

Used in restaurant kitchens for eons. I have several different-sized stainless-steel scoops. They are indispensable for measuring out muffin and cupcake batter. They are the only utensil I use when making cookies, as well.

My large one is perfect for scooping out mashed potatoes or rice. My smaller one digs the cores out of apples and pear halves easily.



Corn Kernel Remover

These are hot items right now, believe it or not! Another heirloom item from my mom. They easily and completely remove corn from the cob.



Feemster Slicer

Take away my Cuisinart, my mandoline, even my Benriner v-shaped slicer, but leave my Feemster veggie slicer alone. No kidding, when I make pickles, this is the gadget I use. It has a carbon steel blade

that is still sharp after half a century of use. When my mom taught me how to make pickles back in the 70s, she gave me one, and where did she buy it? At the second-hand store! This slicer makes beautiful, paper thin slices of cucumber for tea sandwiches.



Hand-Dialed Minute Timer

This has a place of honor on my stove. Wind it up, and when it rings, check the food. Even the little ones know how to use it.

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High-Quality Scissors

My Joyce Chen scissors can go from garden to kitchen. They are both right- and left-handed with flexible, dishwasher-safe handles. They easily cut through the back of a chicken and are efficient for cutting herbs. Oh, and one more thing: they are excellent for trimming hair. But you didn't hear me say that ...



Manual Grinder

The nuts we use for our traditional holiday baklava are ground in this truly ancient grinder. It also does double duty for grinding meat and veggies. Mom would grind up her lamb and veggies for kibbie every Sunday in hers. My mom gave me this a few years after we were married, when she first taught me how to make baklava.



Cast Iron Skillets

Mine are ancient ones, made in the USA by Griswold and Lodge. They are sand cast and the interior and exteriors are smooth as glass. Yes, they require some upkeep, but minimal. And they never wear out when properly cared for and can be used for cooking even over an open flame. If you find one that is rusted or crusty, never fear. It can be brought back to a useful life. (See my video on caring for cast iron online at iamcountryside.com/canning-kitchen/best-kitchen-gadgets)



Hand-Turned Peppermill

I wouldn't trade my heirloom Peppermate® mill for any new electric one. And I have used the electric ones. Don't like them, either. The Peppermate® has variable grinds. There's nothing like the aroma of freshly ground pepper.



Peelers

I like the French wide blade peeler. They used to be sold only in high-end kitchen stores. Now you can find them everywhere. Peels a wide area.



Manual Can Opener

I don't like electric can openers. They just seem to harbor bacteria. My manual one is rinsed and dried — only takes a minute — every time I use it.



Potato Masher

This was part of my first set of kitchen utensils when I moved away from home and is still the best utensil for making guacamole, breaking up ground meat in the skillet and, oh yeah — mashing potatoes!



Manual Chopper

The only thing that has been annoying on this gem is the wooden handle that occasionally falls off of the stainless-steel handle. My husband, Frank, glued it again. Makes quick work of chopping and dicing onions and garlic.



Pyrex® Glass Measuring Cups

Yes, I have some high-quality plastic measures that allow me to check the contents easily but I still mostly use the glass ones. Even the oldest ones are heavy duty and microwaving in them is a snap.



Rotary Beater

The grandkids love using these to beat whipped cream. We have contests to see which child gets the cream whipped the fastest. Next on the agenda is making butter with them. And did I mention a rotary beater makes the fluffiest scrambled eggs?



Spatulas

Spoonulas are for me. I started out years ago using these heat-resistant spoon-shaped spatulas with removable handles for easy washing. I remember my mom's first rubber spatula — it wasn't heat-proof but it was oh so easy to get into the corners of the jars and edges of the pan.



Spoons

Wooden spoons are indispensable. I love my olive wood spoons from Lebanon. They are great for stirring sauces since they don't conduct heat like a stainless-steel spoon.



Thermometers

When I first started making brittles and toffees, I used one pan: my yellow enameled cast iron pan that I bought during our first year of marriage at an outlet store. I could tell by looking inside when I had to pull the candy off the stove. But that didn't work for caramels, or true hot fudge sauces. My elderly neighbor, John, gifted me with

a box of thermometers. I added them to my collection of analogs, old-fashioned stick thermometers which require no batteries.



Tongs

Here's where I veer off the beaten track a bit. I like tongs with silicone edges and with narrow "grips" so that I can easily pick up a few items from the skillet or grab a pork roast with them.

If you have any of these gadgets, I'm sure you appreciate them as often as I do. If there are any you do not have, I suggest you keep your eyes peeled at garage sales, auctions, or second-hand stores. You won't regret your purchase!



RITA HEIKENFELD is a certified modern herbalist, culinary educator, and author. She's a former adjunct professor at UC. Contact Rita at: rita@communitypress.com or see her website abouteating.com



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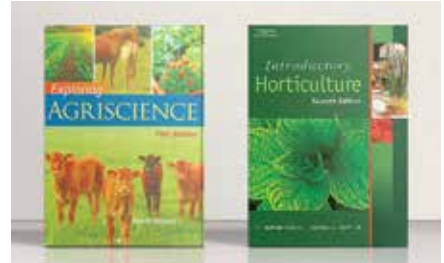


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15 EASY BEEKEEPING PROJECTS FOR WINTER

BY RUSTY BURLEW

JUST WHEN YOU THINK WINTER WILL NEVER end, you suddenly awaken to an azure sky. You hear sounds you haven't heard in months: frogs, birds, kids. Without warning, honey bees you haven't seen since fall are circling overhead, stretching their wings and looking for nectar.

Right then, you remember the hole in your bee veil, the unassembled honey supers still packed in a box, the new brood chamber you haven't painted. You also remember you haven't ordered mite treatments, and you wonder if you have the equipment you'll need to make a split.

The panicky feeling you get when the work seems overwhelming is not fun, and it can spoil the blue-sky euphoria. To prevent that sinking feeling, here's a list of beekeeping projects you can tackle in the winter while your bees are tucked away in their hives.

1 Paint your hive tool. I once estimated that I spent about 40% of my beekeeping time looking for my hive tool. I scour the ground, retrace my steps, reopen hives, and pat my pockets. Things happen fast in a bee hive, so hive tools are not your first priority until you need them in a hurry. The best solution for me has been bright pink paint. Pick any color you like as long as it catches your eye.

2 Buy a butterfly net and learn how to use it. My butterfly net is my second most indispensable tool. I use it for catching bees that get in the

house, and for pulling bees out of puddles and pools. But its most important function is catching yellowjacket and hornet queens. Every queen you catch in early spring is potentially one less colony your bees will have to deal with in the fall. A little practice can save you a lot of frustration later.

3 Design your honey label. Why not have a honey label that is unique to you and your apiary? Modern printing companies that allow you to upload your own file are inexpensive and fun to use. Get together with your family and design a label you love. Cute or unique labels sell lots of honey, so put in the time now to be ready for your next harvest.

4 Render your beeswax. All summer long I toss bits and pieces of beeswax in a bucket. By fall, I usually have enough to make the very messy rendering process. You can make gifts, household products, or your own starter strips for your spring bees. Or, if you use plastic foundation, you can paint them with a fresh layer of your own beeswax.

5 Make a swarm charm. Yes, rendering wax is messy, and if you melt brood combs you will be left with an unsettling byproduct called slungum. In spite of its appearance, slungum makes a great swarm lure. Simply dip an old rag in melted slungum and let it harden. In spring, throw a rope over a tree limb near your hives and hang the charm 15-20 feet from the ground. With any luck, an escaping swarm will settle on your charm while scout bees search for a

new home. When it does, just untie your rope and lower the swarm into a cardboard box.

6 Rough up the interior of empty bee boxes. If you have any empty brood boxes, take advantage of the winter season to rough up the interior surfaces, using something like rough-grit sandpaper. Honey bees smooth out rough surfaces with propolis, and propolis has antimicrobial properties that help keep colonies healthy.

7 Try a new honey flavor. The holidays are a great time to try a new-to-you honey and share it with friends. Get online and search for something out of your geographic area. Try to describe its flavor and imagine how you might pair it with cheese or fruit.

8 Prepare for tax time. If you’re running your bees as a business, remember that tax time and swarm season coincide. It’s best to collect your documents and run your numbers in the winter. Then, come spring, your bees can get all the attention they need.

9 Stock up on supplies. The holidays are filled with all sorts of deals, so be sure to check on supplies you will need in spring. You may be able to find

honey jars, straining cloths, mite treatments, foundation, and even sugar on sale. Not only can you find good deals, but you save time when you need it most.

10 Repair your bee suit. The veil of my bee suit had a tear in the black mesh fabric. I was meaning to mend it, but I kept putting it off. Last week, while checking on winter stores, I kept seeing a bee in my peripheral vision. I thought, “That’s funny, she looks like she’s on the inside.” Turns out, she was. And she proved it. Ouch! So go get a needle and thread — don’t wait.

11 Join iNaturalist. iNaturalist is a site that can help you identify just about anything that lives. If you see a plant, a bug, a mushroom, or a bird, just snap a photo with your smart phone and upload it. Specialists in many different fields will help you identify whatever it is. What’s the name of the plant your bees find so enthralling? Just click and learn.

12 Choose a try-it. Every year I try one new experiment that will improve my knowledge of beekeeping. It can be something easy like a new kind of forage plant, or something difficult like raising queens. It doesn’t matter

if you are successful or not. The point is to learn something new. I use the winter months to prepare for the next year’s try-it.

13 Rethink your hive location. If you had any doubts or misgivings about your hive location, winter is a good time to make a switch. Since the bees are inside for the winter, you won’t have problems with re-orientation come spring. Just close off the entrances, tie the hive together with ratchet straps, and move the whole thing at once.

14 Read at least one beekeeping book. Beekeepers are compulsive readers, so select a good read for those cozy winter evenings. It can be a how-to book, a memoir, or a biology of bees. Or expand your reading to include other pollinators or the biology of plants.

15 Build pollinator housing. Remember all those hollow-stemmed plants you saved? Now is the time to take your collection of lovage, teasel, and joe-pye weed and turn them into tubes for spring pollinators. If you have no stems, just use paper straws. It’s a fun project to tackle over a mug of hot chocolate. 🍯

Cute or unique labels sell lots of honey, so put in the time now to be ready for your next harvest.





What Bugs Your Bees in Winter?

BY RUSTY BURLEW

EVEN BEFORE WE OPEN OUR FIRST BEEHIVE, we are warned about pests that may live within. Small hive beetles, wax moths, and varroa mites are things we dread, so early in our training we learn how to deal with them. But beekeepers are often dismayed to find an array of other critters living inside a hive, organisms no one mentioned in bee school. What should you do about them?

Remember that a bee hive is a haven in the unforgiving outdoors. It is warm, dry, protective, and comes with a fully stocked pantry! No wonder so many animals find them irresistible. Each beekeeper will have their own set of challenges because the roster of squatters will vary with the local environment.

Most of the creatures you find in a hive are minor inconveniences and pose no long-term threat to your colony. Some, like mice and shrews, you definitely need to get rid of. Others, like most invertebrates, appear when the colony is clustered in winter and disappear when the colony becomes active

in the spring. Although they are harmless, no one wants to see things like earwigs in a bee hive!

SPIDERS

For me, the biggest problem in winter is spiders. I have Langstroth hives with telescoping covers,

the kind that usually come as standard equipment. Between the cover and the side is a space about $\frac{3}{8}$ -inch wide. Where I live, that space is coveted by western black widows. Ugh.

Black widows pose no harm to your bees and, in any case, they are not actually inside the hive. Nevertheless, I always wear gloves when pulling off the outer cover, and then I clear the spiders away with my hive tool. No doubt, other kinds of spiders will find this cozy space attractive, so remember to check before you grab one unaware.

Before you toss the cover on the ground, remember to look inside. Depending on the season, the cover may contain spiders, ants, earwigs, small slugs, or mysterious larvae. Take a quick mental inventory of this hive-top zoo before

Remember that a bee hive is a haven in the unforgiving outdoors. It is warm, dry, protective, and comes with a fully stocked pantry!

you scrape it into the grass, always checking for your queen before you dump. Why queens like to hang out there, I have no idea, but I've seen them many times.

ANTS

Whether or not ants are a problem depends on the species. Most ants are just opportunists looking for an easy meal, although some ants, like the Argentine variety, can run a colony out of the hive. Ant problems are usually worse in southern areas, and the type of ant varies with locale. Whether ants are a problem in your area is a good question for your local beekeepers' club or your mentor. But stay calm: North America is home to about 1,000 species of ants, but very few are a problem for beekeepers.

BETLES

I get more mail about beetles than any other insect. It seems that when a beekeeper sees a beetle in the hive, she automatically assumes it's a hive beetle. But as with ants, there is no reason to panic. According to recent estimates, North America boasts upward of 30,000 species of beetles, but only one of those is a problem in bee hives. Once you learn to recognize a small hive beetle, you can dismiss the rest.

EARWIGS

Earwigs also come in many varieties, but beekeepers are most likely to see the common earwig, *Forficula auricularia*, introduced from Europe in 1907. These insects are nocturnal, hiding in small cracks and crevices during the day and feeding at night. They are considered scavengers, and will eat live plants, dead and decaying plant material, and small insects such as aphids. They use tight spaces in the hive for protection, but are not considered a threat to honey bees.

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STINK BUGS

Recently, beekeepers have reported seeing brown marmorated stink bugs in the hive. This crop pest (*Halyomorpha halys*) was accidentally introduced to the US in 1998, but it has already spread across the continent. It is a sucking insect that can do extensive damage to plants and, like the earwig, it uses the hive as a convenient hiding place.

These insects survive the cold months by finding shelter in homes, door frames, beneath siding, and in barns and garages. Once they find a

suitable hiding place, they normally go into hibernation for the winter. But if they get too warm, they may awaken and begin walking or flying around. Apparently, the warmth of a bee hive is enough to rouse them because beekeepers see them strolling across the top bars while the colony clusters below.

SPRINGTAILS

Most creatures in a bee hive try to hide from their hosts, and springtails are no exception. Because springtails prefer moist environments and love to eat



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Mice will build nests between the frames or on top of the frames and then take advantage of the honey supply. The colony can easily die of starvation if the mice are allowed to stay.

pollen, they are often found on a bottom board or varroa tray. Springtails are scavengers that eat spores, fungus, animal remains, live plants, bacteria, and pollen. A damp, detritus-covered bottom board is perfect for a springtail, and you can sometimes see them leap and frolic in the decaying matter.

Apparently, springtails bring out the child in otherwise staid adult human beings. If you nudge one of these tiny creatures with your hive tool, it will jump four to eight inches high, exploding like a kernel of popcorn or a spring-loaded seedpod. Their energy and speed is startling, so don't miss an opportunity to play in the detritus yourself.

MICE AND SHREWS

If you happen to find either mice or shrews, they should be cleared out of your hive as soon as possible. Mice will build nests between the frames or on top of the frames and then take advantage of the honey supply. The colony can easily die of starvation if the mice are allowed to stay. Often, the first hint of mice is bits of moss on the bottom board

which the mice bring in for nest building. Pools of honey can also be a clue to mouse damage. The best mouse detection tool is an infrared camera because it shows you exactly where the nest is.

Shrews are very small mammals that can go through a normal mouse guard. They live primarily in northern areas and invade bee hives in the winter. A shrew grabs a cold, sluggish bee from the outside of the cluster, removes its head, and eats the contents of the thorax. Shrews leave lots of parts behind, including the abdomen, wings, and empty thorax. A quarter-inch mesh across the hive entrance is small enough to keep them out.

So many animals in so little space! What other visitors have you seen in your bee hives? 🐜

RUSTY BURLEW is a master beekeeper in Washington State with an undergraduate degree in agronomic crops and a master's degree in environmental studies with an emphasis on pollination ecology. Rusty owns HoneyBeeSuite.com, and is the director of the Native Bee Conservancy of Washington State.



Can I Feed Frames of Honey Back to My Colony?

Laurie Housel writes:

I live in the NC Piedmont. I prepared my hives for winter by removing the top supers and adding a quilt frame and a candy board. These are two first-year hives. The honey was not capped last month. This month it's all capped including eight full frames in the supers and four that are about half full. These frames were treated for varroa so technically I can't harvest it. I was going to give them back to the bees in the spring as a head start. Can someone verify that I am supposed to freeze the honey to kill any larvae or eggs (e.g. beetles)? How long? How quickly? After they are frozen, can I defrost them and store them? I don't think I have enough freezer capacity for all these frames.

There are also a few frames with only a little honey. Can I just set these by the hives for them to clean up? The bees are still active and I see them, bringing in pollen.

Congratulations! It sounds like you have made excellent preparations for winter.

You mention that you can't use your honey for human consumption because it was exposed to varroa treatment. This is usually the case, but always read the fine print on your package insert. Some preparations, especially those where formic acid is the active ingredient, have no such restriction, and you can harvest the honey as usual. Most package inserts can be found online for those of us who lose them.

In any case, the frames of honey can be fed back to the bees, either now or later. Freezing the frames is certainly not necessary for storage, but it does ensure that any parasites on the frames are killed. Freezing kills organisms because water expands as it freezes. The water expanding inside individual cells causes the cells to burst, which kills the organism. Since honey contains very little water, the honey cells maintain their size, meaning the honey comb is not damaged.


If you haven't had a problem with beetles or wax moths, you may not need to freeze, but I always recommend it as a precaution. To be effective, you must freeze the frames soon after they are removed from the hive because the growth cycle of these pests is short. Eggs grow into larvae and then adults very quickly.

The length of time you need to freeze the honeycombs depends on two things: the temperature of your freezer and the number of frames you add at one time. A colder freezer simply freezes things more quickly, but the addition of lots of warm frames all at once means it will take longer for the freezer to get everything frozen.

The cells of the pest organism will burst as soon as they are frozen solid, so they only need to reach the solid point momentarily before they can be removed from the freezer. Generally, I freeze two or three frames overnight. After about 24 hours, I take those out and put in two more. I have a small but very cold freezer, so the rotation method works well. Your situation may be different, so you need to experiment to see how long it takes.

When you defrost the frames at room temperature, condensation will form on the honey. You want to avoid this, if you can. The best way I have found is to wrap the frames in plastic wrap, freeze them, and then thaw them with the plastic wrap still in place. This assures the condensation will be on the outside of the plastic instead of on the honeycomb itself. Once the condensation evaporates, you can remove the wrap and store the frames in a cool and dry place.

However, if you remove the wrap and store the frames where moths or beetles can access them, the pests will lay their eggs again and take you back to square one. On the other hand, if you store honeycombs in a damp environment, such as inside a plastic storage container in a cold garage, you can get mold on the frames. A perfect storage environment is cool and dry, gets some ventilation, and is protected from pests. A garage or basement can work, as long as it's pest-free and doesn't have large fluctuations in temperature that causes condensation to form.

I would definitely not leave the partial frames outside for the bees. Depending on your local environment, those frames could attract raccoons, bears, skunks, mice, voles, opossums, other insects, and spiders. It's best to put the frames in a super above the brood or just store them along with the others. 

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Cattle Panel Trellis

BY ROMIE HOLL

AS I GET OLDER, the desire to get on my knees to work in the garden becomes less, so I needed to figure out an inexpensive way to avoid all of the bending and crawling on the ground. All of my grape vines were within three and a half feet from the ground, so picking the grapes and trimming the vines took a long time, not to mention my back and knees were talking to me when finished.

Grapes need a heavy, strong trellis, so I decided I would use cattle panels and build my own. If you don't know what cattle panels are, they are made from very heavy-gauge wire (roughly 1/8-inch in diameter), and are 16 feet long. The cattle panels are 50 inches tall and have roughly eight-inch squares between rows and columns. (There are other panels to choose from: for example, hog panels are 36 inches tall and have smaller holes.)

I like the cattle panels for three reasons:

- The extra height means I need to buy fewer of them (they are roughly \$25-\$27 where I live).
- They are plenty strong to hold the grapes.
- They are galvanized and will outlast my lifetime.

By placing one panel vertically, that gave me three to four feet before the start of the arch on the trellis, depending on how much overlap was used. This much vertical structure will allow me to walk under the grapes, pick the fruit, or trim the vines. And if the panels are overlapped by two inches (giving 48 inches), four panels will be needed for the arch. So, for a 16-foot trellis, I will need six panels (\$120 worth).

Now, how wide can I make it? For the arch, I wanted at least a one-foot overlap to provide strength. After laying it out, the trellis could be 12 feet wide without cutting any of the panels.

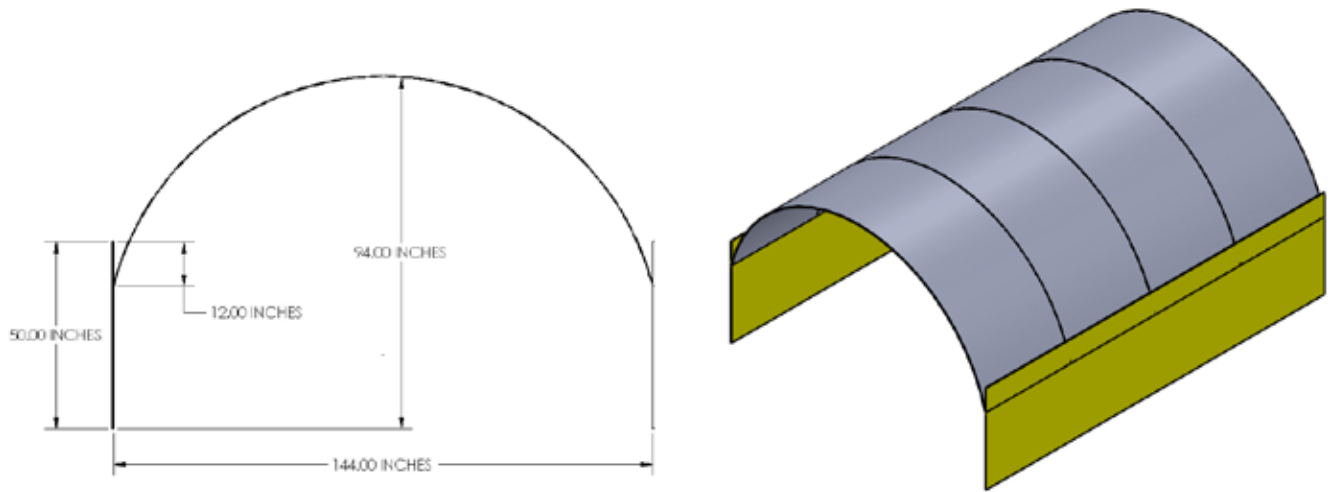
After measuring the existing grape vines, I calculated that the new trellis will need to be 32 feet long, and I will need two of them. This means 24 panels total. I bought 28 panels as I would rather have too many than not enough.

I built the trellis in early spring before the grapes started to grow. I removed the vines from the old trellis with care and I gently laid them on the ground. I drove pipes into the ground every four to five feet to support the vertical panels.

When I placed the vertical panels, I made sure to put them on the inside and the pipes on the outside. This will give the most strength to the trellis. I used plastic zip ties to hold the vertical panels in place, and after all the vertical panels were done, I went back through and used heavy 12-gauge wire to tie them permanently in place.

Removing the old trellis, pounding the new poles in the ground, and installing the vertical panels took three hours. I was done for the day and the animals were ready to be fed.

The next day, it was time to start the arch section of the panels. I carried a panel to the far end and put a corner on the ground against the vertical panel to hold it in place. I then went to the other end and it made an arch with very little effort. Once both end pieces of the panels were on the ground, they were placed at the



end of the vertical panels. This was done six more times for a total of seven per row. I purposely left one panel out of each row at this time.

The next steps can be done by yourself but having a partner will help. Starting on one end, I lifted a panel and used plastic zip ties to hold it in place. Then on the same panel, I went to the other side, lifted it, and wired it in place. Going on to the next panel, I overlapped it to the first panel as I lifted the first side (trying to keep a two-inch overlap). I did this two more times on that end of the row. Then I walked down to the other end of the row and started on that side. Once all arches were done that were placed in the row, there was a big gap. Both ends of the arches matched perfectly with the ends of the vertical supports. The final arch bridged the gap left behind. My rows were nowhere near perfect, so there was more of an overlap than the two inches. But once the grapes start growing, I won't see it.

To permanently tie the arches to each other as well as the vertical panels, hog clips and



Above: I drove pipes into the ground every four to five feet to support the vertical panels. When you place the vertical panels, make sure you put them on the inside and the pipes on the outside. This will give the most strength to the trellis.

Left: Arches are now attached.



Top: Trellis construction completed.

Middle Left: Attaching C-shaped hog clips.

Middle Right: Heavy 12-gauge wire holding the panels permanently in place.

Bottom: Being careful to not separate the vines from each other, I tied them to the trellis. I used baling twine for this. Not only is it cheap and strong, it biodegrades in time.



pliers were used. These are heavy-duty C-shaped clips. The pliers have a groove in them to hold the clips until they are squeezed into place. The hog clips were installed roughly 18 inches apart.

Today's project work was done and the animals wanted to get fed again.


The next step is to take scissors and cut off all of the plastic zip ties. I ended up with a grocery bag full.

Since the trellis was built before the grape vines were growing and were still stiff, the project was done for now.

A month later, the grape vines were leafing out and the vines were flexible again. It was now time to finish this project. Being careful to not break off the brittle young shoots, I tied them to the trellis. I used baling twine for this. Not only is it cheap and strong, it also biodegrades in time. When

tying the vines, I left plenty of room for future growth. I left about an inch bigger than the vine.

In the summer, it's nice seeing all of the grapes growing and noticing how easy they'll be to pick when they're ripe. With this arch trellis, it is much easier to trim the vines as needed. The trellis lifts the vines away from the ground, making it easier to weed-wack the grass away.

The extra panels that I bought were not needed for the grapes, but will be used to grow my peas, beans, cucumbers, etc. in the garden. 

ROMIE HOLL helped his father with the pigs, chickens, and bees while growing up, and was taught to use two hands while weeding the gardens. Currently he works in engineering, designing items for MRI machines. When at home, Romie works in the yard, balancing his life between physical and mental health. His two children were raised the same way.



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Christmas Tree Alternatives for Your Changing Traditions

BY MARISSA AMES

IT ALL FELT SO FAKE. And I don't mean just the PVC bristles sprouting from twisted wire. There was no evergreen aroma, no sense of satisfaction from wrestling six feet of Douglas fir into a tiny corner. No snow melted on the carpet, tracked into the house after a family excursion into the mountains.

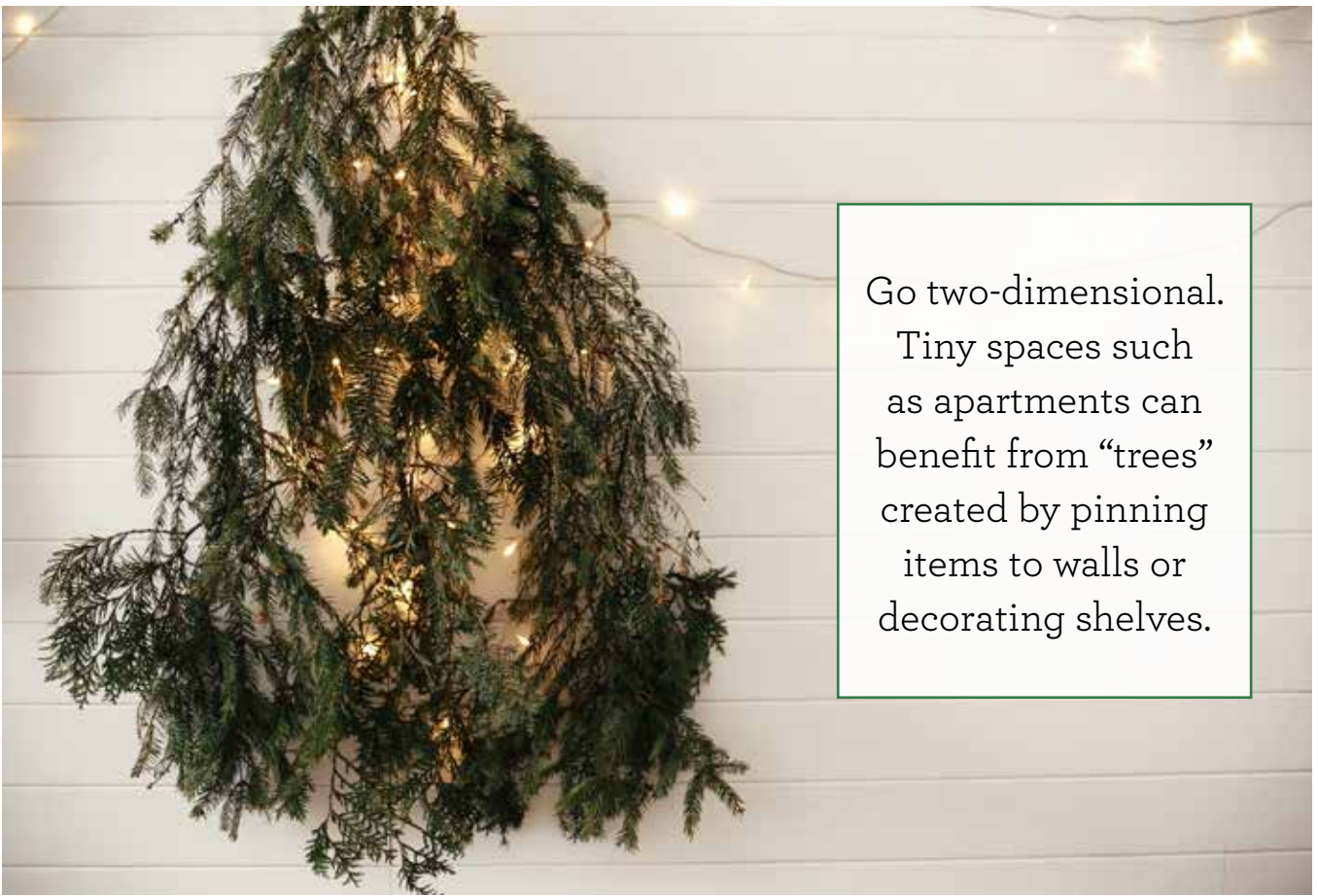
IS THIS REALLY CHRISTMAS?

It took me a few years to create my own traditions. When I was 10 years old, we moved from the Naval base in Orlando, Florida. We left the ragged, fake tree behind and headed toward towering conifers in the Rocky Mountains. My father had chosen Salmon, Idaho as his place of retirement from 22 years in the military. There was no shortage of Christmas trees there.

The day after Thanksgiving, we'd all load into the four-wheel-drive, sleds and hot cocoa sitting atop the emergency chains. It was never a long drive into the mountains, since late November meant deep snow on dirt roads. First, we'd choose the perfect tree: six feet or less, either lodgepole pine or Douglas fir, full from top to bottom. The tree lay strapped to the roof as we sledded down the snowy slopes. And we didn't rest at home until lights twinkled, and kitschy, homemade ornaments hung far enough from the bulbs that they didn't start fires.

Salmon's single department store sold Christmas trees. But those came from farms, most likely out of state, and traveled several days over mountain passes to arrive. Mom and Dad didn't want a dead, dried-out fire hazard when \$5 bought a tag for a fresh tree and a day of snowy fun.

But within a tiny apartment in Reno, Nevada, I looked forlornly at my three-foot conglomeration of plastic and electricity. Even the best candles couldn't capture the aroma of fresh Douglas fir. But my disappointment melted away as my children ran into



Go two-dimensional. Tiny spaces such as apartments can benefit from “trees” created by pinning items to walls or decorating shelves.

the room and their eyes lit up brighter than those miniature bulbs. They didn't know about sledding in the mountains or what the holidays were supposed to smell like. Their mom had brought a Christmas tree, just for them, and that was enough.

CHANGING TRADITIONS ARE STILL TRADITIONS

Who was I fooling? Even Mom and Dad didn't always have the fresh-cut tree and snow on their boots.

When three of their five kids became teenagers, life got busier. Christmas was still a priceless tradition but we just didn't have time for all of it. Then the three oldest moved out and Mom got a job outside the home.

I called her on the first Christmas that I couldn't spend at home. She had a tree but it came at a price. Unable to four-wheel into the mountains, she asked Dad to cut down one of the evergreens she had planted on Arbor Day several years ago. Where 10 pines

used to line the yard, nine now stood. Though Mom didn't say she grieved, I heard the tone in her voice. I understood the sacrifice she had made so the two kids still at home could carry on the tradition.

But even Mom acknowledged that traditions change. The next year, I came home to see a five-foot-tall sagebrush in the living room, flocked white over minty green-blue leaves. Silver garlands intermingled with blue lights and blue ornaments. It was stunning. And Mom was proud of both her tree and ingenuity. No landscaping had to die because huge sagebrush is plentiful in Idaho.

WHY DOES IT NEED TO BE PINE OR FIR?

Traditional Christmas trees are conifers; Martin Luther is said to have added lighted candles to an evergreen, and the first known representation of a Christmas tree is on a French sculpture from 1576. And the tradition was easy to keep, since evergreens were

plentiful at that time in Europe and the early United States.

Artificial trees came of necessity. Goose feathers, dyed green and arranged in tree-shape, addressed deforestation within Germany. They sold in department stores in the 1920s. The first tree made of brush bristles came in the 1930s and aluminum trees glistened in Chicago in 1958. These sculptures allowed families to maintain traditions in small dwellings, away from forests, and without spending money year after year. Though critics argue that fake trees don't accurately represent Christmas, popularity of artificial trees has grown.

ENVIRONMENTAL IMPACT OF CHRISTMAS TREES

You can't win, can you?

Those growing natural trees argue that the plastic ones, non-recyclable and non-biodegradable, harm the environment. But other trade groups argue



Decorating houseplants, using branches and other found greens to create trees, creating trees out of household objects, such as books.

back: what about deforestation and the sacrifice of growing an evergreen to six feet, only to kill it?

Both industries have adjusted to address the issues. Lead was often used to stabilize PVC, but studies have shown that older trees made of PVC eventually degrade. Lead poses a health risk, especially to young children. But use of lead to stabilize PVC has now been banned in China, where most of the artificial trees originate.

Responsible and regenerative production of live trees has also improved the industry. While they grow, they provide wildlife habitat; after Christmas, they can be recycled to again become habitat within lakes or rural areas.

If you want to go out in nature and cut your own tree, you need to follow certain rules. Always buy a tag and harvest in permissible zones. Money spent on tree tags funds agencies which care for forests. Groves may contain several species of conifer, some of which are rare, ancient, or endangered. Learning which trees are permitted for harvest protects these species.

If you're worried about contributing to any of these issues, consider several alternatives.

CHRISTMAS TREE ALTERNATIVES

If you don't want a PVC tree or to bring a cut evergreen home, what other options do you have?

Of course, you could grow trees on your own land, using the saplings as windbreaks or landscaping until they decorate your home. Or you can leave your evergreens outside to eventually tower above your roof, stringing lights and garlands each year.

Consider potted trees from greenhouses. After a couple of months in your living room, plant it outside.

Make use of autumn cleanup. Who says Christmas trees must be evergreen? Arrange dry branches, trimmed from your trees, in the shape of a sapling within an empty pot. Fill the pot with heavy materials to keep branches upright then lay festive cloth over it. Now drape strands of miniature lights from the bare branches and hang tinsel or ornaments from the stronger limbs. When the holidays are over, dispose of the branches in whatever way you had originally planned.

Houseplants can serve as trees. Miniature banana plants may not produce fruit but they look cute draped with lightweight garlands. Place sparkling

ornaments on potted topiaries. Make a tiered tower with boxes then purchase enough seasonal poinsettias to cover all the tiers in a pyramid shape, setting the pretty golden variety at the very top.

Avoid allergies and arrange inorganic materials in the shape of a conifer. Internet searches show cute “trees” made with books or wrapped boxes.

Go two-dimensional. Tiny spaces such as apartments can benefit from “trees” created by pinning items to walls or decorating shelves. The same concept can serve in years when infants or toddlers may pull larger trees over. Tack garlands onto drywall in a tiered triangle, hanging ornaments from push pins. Or move enough books on a shelf to fit mason jars stuffed with miniature lights; use at least three or four shelves so the jar count can increase with each lower level, creating the shape of a pine.

OUR CHANGING TRADITIONS

My family’s tree sits in a cardboard box within an outdoor shed. Once a year, it tops a small table nestled within the Bay window of my tiny, historic house. Multicolored lights glow from the white PVC boughs, hailing passers-by. Gifts fill the space between the table and the window.

We’re now 18-year fake tree veterans. But it no longer feels fake. My husband feels as I do: we don’t want to spend money on a tree that is already half-dead on arrival, creating a fire hazard if we don’t turn off the lights before we leave the house. Our tree cost \$15. That leaves more money for other traditions, such as baking cookies or binge-watching all the old holiday movies on Netflix.

Part of accepting our changing traditions was acknowledging that we don’t live within the rural paradise of our Idaho childhoods. There isn’t three feet of snow, we have to drive an hour before we need four-wheel-drive, and the career of at-home mom hasn’t been an option. Putting up the tree can involve one hour, after work and school, before dinner is ready. We’re fine with that. We have more time to care for the little farm, attend to each other, and to ensure this tradition is cared for, no matter how busy we get.

But if anyone knows of a candle that actually smells like Douglas fir, please let me know. 🌲

Editor of *Goat Journal* and *Backyard Poultry* magazines, **Marissa Ames** runs a small homestead in Fallon, Nevada, where she focuses on saving and propagating rare breeds of goats and garden vegetables. She and her husband, Russ, travel to Africa where they serve as agricultural advisors for the nonprofit I Am Zambia. She spends her free time eating lunch.

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RECYCLING YOUR CHRISTMAS TREE

After Christmas, dumpsters appear in parking lots of metropolitan areas. Soon they fill up with trunks and limbs, the needles dried up and falling to the bottom of the bin. Tree recycling is often a free service, sponsored by public works, universities, or wildlife advocates. Some feed into wood chippers and become mulch to protect the soil. Others sink to the bottom of lakes, becoming shelters so fish can breed and reproduce.

Research programs available within your location. If dumpsters are unavailable, curbside pickup may be. There are often size restrictions. Most counties also have drop-off locations, where you can leave up to two or three trees per household at no charge.

If you have rural acreage, consider recycling your own tree. Unflocked limbs make great fuel for the fireplace. Wood chips can mix with manure and decompose, within a couple of years, into fertile soil. If you have a private pond, sink the tree into the water to serve as fish and frog habitat. You can even leave the entire tree in your lightly wooded areas as shelter for smaller wildlife such as squirrels, rabbits, or snakes. Stand it upright within your backyard and hang it with strung popcorn for the birds. Bury it sideways on a slope to prevent erosion.

Remove all tinsel, ornaments, and hooks. Even a tiny strand of tinsel can bind up in a bird’s crop. If you intend to recycle your tree, consider that before flocking it. Many recycling centers won’t take flocked trees and some flocking is toxic.



The California Pepper Tree

BY CHRISTOPHER NYERGES

THE CALIFORNIA PEPPER TREE (*Schinus molle*) is widespread in Southern California and Arizona, and some surrounding states. It is a large, stately tree with feathery, fern-like leaves that droop from the large limbs, giving it a very graceful appearance. It is somewhat misnamed since it is not from California — I have been told that it's originally from Brazil — and it is not the plant where we normally get pepper (as in “salt and pepper”). Otherwise, it is perfectly named!

I have always liked the appearance of this tree — it has a quality that I would call “Southern.” You can easily

imagine one of these large trees next to some old Southern estate, alongside a weeping willow tree.

Eventually, people want to know if the little pink “peppers” from this tree are edible. Though not botanically related to the usual peppers we use as a dinner spice, you actually can take these little seeds and use them as condiments in the same way you'd use regular peppercorns.

The California pepper tree seeds are small, like the size of a BB. There is a pink papery outer shell, and within there is a hard seed. The flavor is delicate and enjoyable, but these are much more potent than ordinary peppers. These seeds must be first ground, and then added sparingly into soups, bread batters, stews, and other foods. Go moderate at first until you experience how much of the pepper you can tolerate.

When we were first experimenting with this seed, we once added a bit too much to some soup, and they were not finely ground. One guest, author Dave Hereford, went into a short choking fit, laughing and choking at the same time. Everyone was very concerned, but Dave told us not to worry, that he really enjoyed the flavor of the soup and the peppers.

After we pick the pink seeds off the ground or off the tree, we set them in an uncovered bowl for a few weeks for them to dry and season. The pinkness will eventually fade and this is the better time to use the seeds for seasoning. You should remove all the stems before grinding, but you don't need to remove the pink outer shell of the seed.

It's hard to believe that a spice can be surrounded with any controversy, but there has been a lot of talk about this seed. Julia Child once tried some and said



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This is an easy-to-grow tree that tolerates drought, making it a desirable landscape tree.

that she found them bland and didn't recommend them. Also, some people get an allergic reaction to these seeds. In fact, *Schinus molle* is in a botanical family that has other members that cause skin and other reactions when touched or eaten. Because of this, there once was a voluntary FDA ban on stores selling these seeds, but the FDA chose to not force the labeling of this product as unsafe because it didn't meet their guidelines for such labeling.

I spoke with Dr. James Adams, USC pharmacologist, and author of *Healing with Medicinal Plants of the West*. For nearly 20 years, Dr. Adams studied with Cecilia Garcia, noted Chumash medicine woman.

Dr. Adams sparingly uses the California pepper seeds in his cooking, and likes them. He points out that approximately one in every thousand people are allergic to the seeds. In contrast, about one in every four people are allergic to poison oak oil.

According to the University of California, the seeds and leaves of both the California pepper (*Schinus molle*) and the Brazilian pepper (*Schinus terebinthifolius*) can cause allergic reactions. They list both as minor toxic garden plants. Interestingly, when the seeds from *S. molle* are grown in Spain, there is not the same level of allergic reaction as the seeds grown in California. The reason is currently unknown, but likely the result of different soil types and weather which might produce more or less of the active chemicals in the tree.

This is an easy-to-grow tree that tolerates drought, making it a desirable landscape tree. On the other hand, just as many gardeners dislike the fact that the limbs get so large that they occasionally drop, and that the leaves and small red seeds constantly drop.

Sometimes woodworkers will make beautiful bowls and cups from the wood of this tree. And since the tree gets so large and might require periodic prunings, the wood can be available even if it is not cut down.

This is a great tree to know if you happen



to live in its zone (8-10). It is a fairly widespread tree, and is also easily grown. I have even seen these pink peppers in some specialty stores, either mixed with regular pepper or alone.

If you don't have any near where you live and would like to try some, one package of the seeds (with postage) is just \$8 from WTI (seed division), 5835 Burwood Ave., Highland Park, CA 90042. If you live in the Los Angeles area, you can get packages of these seeds every Tuesday at the Highland Park Farmers Market, at Avenue 58 and Figueroa, at "Julie's" booth. Just try a little at first, and grind the seeds well, and see how you like it. 🌱

CHRISTOPHER NYERGES is the founder of the School of Self-Reliance, where he has been teaching self-reliance and survival skills since 1974. He's the author of over 20 books, including *Foraging Wild Edible Plants of North America*, *How to Survive Anywhere*, and *Extreme Simplicity: Homesteading in the City*. He continues to study and practice ethno-botany where he lives in Southern California with his wife.

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STEP-BY-STEP TURKEY PROCESSING

BY JEREMY CHARTIER

BUTCHERING TURKEYS FOR THE HOLIDAY season is a tradition on many homesteads, and for a good reason. Perhaps you're looking for the freshest, most tender bird possible with only a simple turkey brine. Maybe you want to butcher turkeys at home, so you know exactly how your food was grown. Perhaps you decided to start raising turkey poults to add a profit center to your farm. In any case, butchering turkeys on the homestead may be a great option for you.

BUTCHERING TURKEYS FOR YOURSELF

If you plan on butchering turkeys for personal consumption, then I presume you're not planning on processing all that many. If you're not concerned about the perfect presentation of a whole roasted turkey, then knowing how to field dress a turkey will save you lots of time.

FIELD DRESSING A TURKEY

Field dressing cuts out the unnecessary and time-consuming parts of butchering turkeys.

You don't need much beyond a clean place to work and a sharp knife. A hunter's knife or a deboning knife should serve you well.

To field dress a deceased turkey, place the bird on its back with the breast bone facing up. Cut the skin along the breast bone from neck to tail, taking care not to cut the crop or the vent in the process. Pull the skin, feathers and all, down on either side to expose the breast meat.

Separate the breast meat from the frame of the bird by cutting it from either side of the breast bone and ribs.

Once you've removed the breast meat, remove the legs at the hock joint with a knife. Don't cut through the bone, but instead cut the skin and tendons so you can separate the joint. Then, just like the breast bone, cut and pull the skin to expose the drumsticks. Cut the connective tissue and twist both drumsticks from their socket.

Butchering turkeys at home is an education unto itself, one that I'm glad to have received. If you intend to attempt this yourself, do your research.

BUTCHERING TURKEYS FOR OTHERS

Butchering turkeys for other people is a far more complicated process. You can skate by with limited or marginal equipment if you're processing very few birds, but if you're handling more than six birds, you owe it to yourself to buy, build, or borrow proper equipment for the job.

LOCAL PROCESSORS

If you can't afford to buy, build, or borrow equipment, look for a local processor that butchers turkeys. I've met many a small farmer who wound up stuck with turkeys they couldn't process because they didn't do their research, so be sure you have a processor available if that's the plan. These unfortunate souls usually gave the birds away or had to learn how to keep turkeys healthy in winter, all because they incorrectly assumed there was a local processor that would work with them.

LEGAL ISSUES

The USDA Custom Slaughter exemption allows the end consumer of the animal in question to bring it to a custom processor (such as you) to be butchered. Operating properly under the USDA's Custom Slaughter exemption is somewhat tricky. Be sure to research and fully understand the law, both federal and state, before you attempt it.

LEARN THE PROCESS

The process of butchering turkeys is somewhat involved, albeit not impossible. This article should be considered an informational overview since there are many little things I can't cover in one article. Seek local guidance. Find a farmer who butchers turkeys on the farm and help them when they process their birds to learn the process first hand.

A stand-up drum plucker works, but it can be a workout to use.

THE TOOLS

The tools I use for butchering turkeys are straightforward: some sharp knives, several short hoses with valves, some bits of rope, pruning loppers, an exceptionally unsafe lamp cord with "gator clamps" attached to the business end, plastic tubs, buckets, and a scale.

There are professional job-specific knives available on the market such as pin feather knives, sticking knives, and such, but I find a good, sharp deboning knife does the job. Have several knives, since stopping to sharpen a dull knife takes longer than simply reaching for a fresh one.

THE CREW

If you're planning on butchering turkeys en masse, you'll need some helping hands. Many times, I find willing hands to help on the line either by bribery (pizza and a turkey), volunteers who

want to learn how to butcher turkeys, or fellow farmers who have birds to process. Many hands make for quick work, so be sure you have a crew ready.

DOING THE DEED

Some farmers use a kill cone, which is an inverted cone you place the bird in upside down to hold it as you bleed it. They work, but I find them to be expensive, and one size does not fit all. I prefer to hang birds by the legs with a simple length of rope that has a "toggle" tied at the end of it. A quick wrap and turn of the toggle keep my birds suspended safely. I like the rope and toggle method instead of kill cones or shackles because it's cheaper and more comfortable for the bird.

I don't recommend using my crude, dangerous but effective

method of stunning, despite the fact that I'm about to explain it. You can exsanguinate your birds while conscious, but I prefer to use my highly unsafe lamp cord to stun my birds before bleeding them. Once hung, I attach one "gator" clip to the skin near the tail or vent, and the other on the snood. I stand back, plug the cord in for 10 to 15 seconds, unplug, and then bleed the bird while it's unconscious. Did I mention this is dangerous? Don't try this at home, kids.

Tub pluckers make a world of difference. If you can get one, it will save a lot of effort.

SCALDING

To pluck your turkey, you need to loosen the muscles that hold the feathers in place. You do this by scalding the deceased bird in hot water. Soak the bird in the hot

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Left: A stand-up drum plucker works, but it can be a workout to use.

Top Right: Use a sharp knife to sever the tendons and separate the leg at the hock joint.

Bottom Right: Tub pluckers make a world of difference.



water bath until the wing feathers pluck with marginal effort.

I use a water tank set on a robust bayou burner to achieve 145 degrees F. Thermostatically controlled scalders are a marvelous tool to have, but I'm stuck fidgeting with a propane burner and 40-gallon tank of hot water. It's not ideal, but with persistence and constant temperature monitoring, it works.

HOW TO PLUCK A TURKEY

Unless you plan to hand-pluck your birds, you'll need a plucker. Professional plucker machines are expensive, even in the used market. I'm fortunate to have acquired two stand-up pluckers. One of these pluckers runs on 110 volts and the second one runs on 220 volts. Because turkeys are heavy, I use the 220-volt unit for turkeys.

If fortune has shone upon you, you may find yourself in possession of a tub plucker. Drop a scalded bird into this fantastic machine, let it spin, and remove a plucked bird. It's a back saver compared to stand-up pluckers.

Use a sharp knife to sever the tendons and separate the leg at the hock joint.

THE POPE'S NOSE

Now that you've gotten down to a featherless mass of turkey, it's time to eviscerate. I start by cutting the legs off at the hock joint, then I skin the neck and use the loppers to remove the neck at the base. Don't forget to cut off the "Pope's Nose," aka the tail stump off the bird. I have absolutely no idea why they call it the Pope's Nose, but I've been told this by so many old farmers that I've stopped questioning the term.

EVICERATION

Now that the legs and neck are gone, you need to open the back of the bird, being sure to cut around the vent and not rupture any internal organs, especially the intestines. Reach inside the bird as it sits breast-bone-up, following the breast bone to the front. Grab and pull the entire viscera out with your hand.

You'll have to cut or pull the trachea out and reach between the ribs in the back to remove the lungs. I use my fingers for lung extraction, but they do make lung scrapers if you prefer a tool for the job. I suggest putting your small-handed helpers on the evisceration table

since people like me who have big mitts have issues with this part.

CHILLING

Immediately after your bird is eviscerated and rinsed clean, immerse it into a chill tank. You want those birds to chill quickly and thoroughly for storage. Don't underestimate how much ice you'll need to chill these birds, because it goes very fast.

Butchering turkeys at home is an education unto itself, one that I'm glad to have received. If you intend to attempt this yourself, do your research. There are a great many things I don't have space in this article to discuss, but hopefully, it gave you a general overview of the process. 🍗

At 12 years old, **JEREMY CHARTIER** became involved with his local 4-H group and showed livestock until his college years. After graduating from the Ratcliffe Hicks School of Agriculture at UConn, he joined University of Maine's Poultry Service Provider training program. Today he sells pullets to farmers, is a 4-H poultry showmanship judge, and writes about his passion for farming.



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What's the Best Chicken Coop Light?

BY REBECCA SANDERSON

READER-SUGGESTED STORY

A READER ASKED US IF ANY STUDIES HAVE BEEN DONE REGARDING WHETHER INCANDESCENT, LED, OR FLUORESCENT LIGHTING WAS BETTER FOR KEEPING CHICKENS LAYING IN THE WINTER. SO, WE SEARCHED FOR ANSWERS!

WHEN WE SUPPLEMENT LIGHT TO OUR CHICKENS in winter, does it matter what type of bulb we use? Between incandescent, fluorescent, and LED (light-emitting diode) bulbs, there are benefits and drawbacks to each, but do the chickens have a preference? How should that light be set up?

Chickens are very sensitive to light. In addition to perceiving light through their eyes, they also have a photoreceptor in their hypothalamus gland that perceives light through the thinner parts of a chicken's skull (Jácome, Rossi, & Borille, 2014). Light is what signals a hen to lay eggs. Once daylight hours reach 14 hours per day, hens begin to make more hormones that stimulate egg production. This peaks when there are 16 hours of daylight each day as this is usually the ideal time to lay eggs for hatching chicks. Those chicks can then grow throughout the summer and be strong before winter. Many modern breeds have been developed to continue producing high numbers of eggs throughout the winter, but most traditional breeds will take a couple of days to absorb enough sunlight to stimulate the production of an egg in the darkness of wintertime. Fortunately, with the luxuries of electricity, we can provide artificial light to stimulate the hens and keep them producing well even through the winter.

TYPE OF LIGHT

Large poultry operations sometimes participate in studies to determine how to maximize their egg output while keeping their chickens healthy. Most studies that have been done recently, compare LED to fluorescent lighting. They don't compare incandescent because the large operations rarely use that form of light. Incandescent costs too much in comparison for them to care whether there is a slight difference in egg-laying

Know how long the light needs to be on to reach a maximum total of 16 hours of supplemented and natural light combined. Giving more than 16 hours of light in a day will actually decrease production.

potential. What these studies between LED and fluorescent lights show is that there is little, if any difference in egg output when comparing lights of the same color spectrum (Long, Yang, Wang, Xin, & Ning, 2014). One study found that hens under LED lights were a little more prone to feather pecking, while another found that hens were calmer under LED lights. The hypothesis behind this increased calm is that because chickens have such sensitivity to light, the slight flickering of fluorescent bulbs may have been irritating to them. Fluorescent lights may not hold up to the dust of a chicken coop as well as LED bulbs. While LEDs are more expensive, they last a very long time and can significantly lower your electric costs. Both fluorescent and LED also don't produce the heat that traditional incandescent bulbs do. While you may want to give your girls a little more warmth in wintertime, doing so is a huge fire hazard.

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BY MATTHEW WOLPE & KEVIN McELROY

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When light is supplemented to chickens, it must be in the “warm” spectrum and include at least equal red in proportion to the other colors, if not more. No “cool white” lights for your girls!

COLOR OF LIGHT

Some very interesting studies used LED lights to compare a laying hen’s response to monochromatic light, that is, a single color. The “white” light that we perceive from the sun and attempt to mimic in our lightbulbs is actually all the colors together. With LED lights set to green, red, blue, or white in different hen houses, the scientists took careful measurements of egg size, shape, aspects of nutritional value, and output. It was found that the hens under only green light produced more sturdy eggshells. Hens under blue light produced progressively rounder eggs. The group in the white light produced the largest eggs in comparison, and the group in red light produced smaller eggs, but in greater yield. There were no significant differences in nutritional aspects of the eggs (Chen, Er, Wang, & Cao, 2007). Other studies have shown that when light is supplemented to hens, it must be in the “warm” spectrum and include at least equal red in proportion to the other colors, if not more (Baxter, Joseph, Osborne, & Bédécarrats, 2014). No “cool white” lights for your girls!

HOW TO IMPLEMENT

Before you supplement light for your hens, research when your area receives 16 hours of sunlight per day, and when that begins to decline. Know how long the light needs to be on to reach a maximum total of 16 hours of supplemented and natural light combined. This will change throughout the autumn, winter, and into next spring. Giving more than 16 hours of light in a day will actually decrease production. Second, invest in a timer to be sure that the light is consistent each day. It is best to supplement light in the predawn hours rather than after sunset. Chickens don’t see well in the dark, and if the light suddenly turns off plunging them into complete darkness, they will be unable to find their roost and may panic. If your area is already experiencing less than 16 hours of sunlight, introduce the supplemented light gradually. Also, do not suddenly take away the supplemented light as this can throw your chickens into a molt when the weather is too cold. The light source should be close enough to shine directly on your chickens without being so close that they

may accidentally bump it even when excited. It should also be kept far away from any water because a single drop can cause a hot bulb to shatter, endangering your chickens.


A REASON NOT TO SUPPLEMENT

While you may think, “Why wouldn’t I want as many eggs as possible, year-round?” Nature may say otherwise. To everything there is a season, and winter is often a time to rest and recuperate. Hens that are forced to produce at their maximum potential even through the winter often burn out at a younger age than hens that are allowed to rest during the natural period. Your hens will still produce eggs in winter, just not as often. You may come to think of eggs as a seasonal crop, much like most other foods on the homestead.

CONCLUSION

Although it doesn’t seem to matter to the chickens which type of lightbulb we use, they do seem to prefer red light more than others. This should be given in the morning to avoid confusion and panic when the light suddenly turns

To everything there is a season, and winter is often a time to rest and recuperate. Hens that are forced to produce at their maximum potential even through the winter often burn out at a younger age than hens that are allowed to rest during the natural period.

off at night. But, if you choose not to supplement light during winter, your hens can enjoy a season of rest before the busy egg-hatching, chick-rearing, lots-of-foraging summer. Either way, whether or not to supplement light is your choice. 

RESOURCES

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HOW TO BREAK UP A BROODY HEN

By Doug Ottinger



There may be times when a broody hen is not in your best interest. Broodiness is infectious. Once one hen starts setting in earnest, it is highly likely that another hen will also start. And then another. Before long, there goes your egg production, most likely for several weeks. How do you break a broody hen?

First, you may not be able to. If a hen has gone truly broody, there may be nothing you can do except bide your time and let nature take its course. Bantam breeds can be notoriously hard to break (this is one aspect that can make Bantams so valuable as setters and mothers). The best thing you might be able to do is to separate the hen from the rest of the flock until the mothering urge is over ... sometimes a full six weeks. The urge to set on eggs is controlled by deeply-imbedded hormones and biochemical levels in the cells of the brain and rest of the body.

If you do have a broody hen that you want to try to break, these methods are worth a try:

1. Separate her from the flock. If her brooding hormones are not at extremely high levels, a change of area may be enough of a disruption to break her broody cycle.

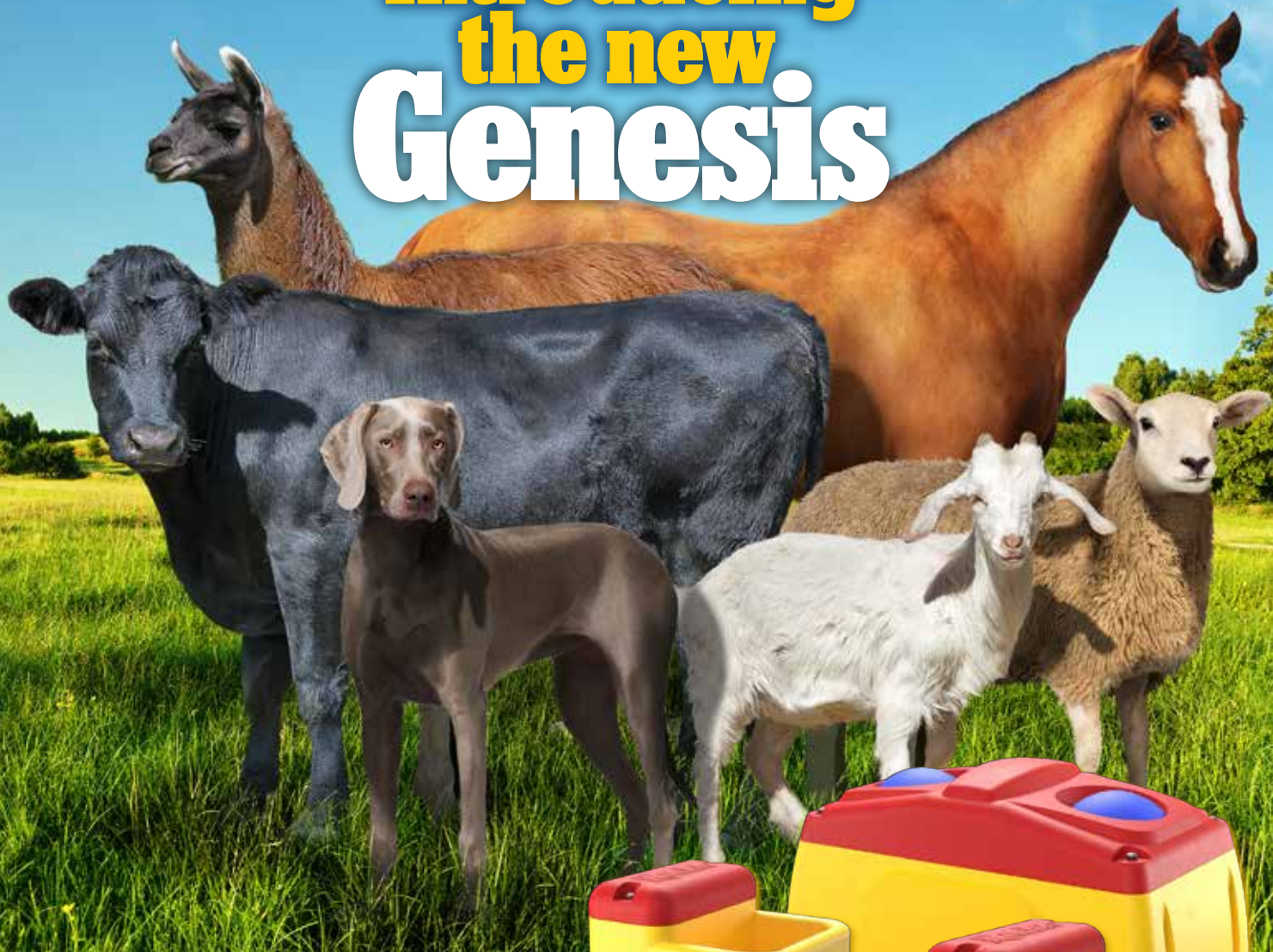
2. If the simple change of area does not work, some people say that placing her in a wire-bottom cage, with food and water for a few days, in a well-lit area works. However, some hens, especially Bantams, may continue to set, no matter what. They will simply continue their broodiness and setting on the wire floor. Nonetheless, this technique does work in many cases and is well worth trying.

3. Some people say that simply removing a broody hen from the nest

several times each day or locking her in the chicken yard away from the regular nesting areas during the day works well. If you are dealing with a hen that has gone into the full setting mode however, removing her from the nest, even multiple times, may not be effective. Hens in a full-setting mode, especially Bantams, will often just return to the nest, regardless of how many times they are removed.

4. There are also a few other theories out there that I have found to be dubious at best. One of the first methods I ever heard about as a teenager was to dunk the setting hens in cold water. Are you familiar with the saying, "Mad as a wet hen?" I am. I also learned early on where that saying came from. I did not find it to be the least bit effective. I still swear that my little Sebright hens decided to set longer and harder just to get even with me!

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Seven Essentials for Healthy, Happy Hogs

How to Encourage Healthy Behavior

BY TAMSIN COOPER

PIGS ARE NATURALLY ACTIVE AND CURIOUS animals that enjoy exploring their environment. They also have certain comfort behaviors that they perform to maintain good health. Hogs ranging freely can usually satisfy these needs, especially if they are heritage breeds in an environment to which they are adapted. The selection focus of modern breeds has been toward faster growth, larger litters and, in consequence, survival traits have diminished. However, when returned to a natural environment, even large white hogs expressed their natural inclination to build nests for farrowing. In confinement, pigs often lack the opportunity to satisfy their behavioral needs and inquisitive minds. This can lead to boredom, frustration, and damaging habits. We can help pigs to meet their own needs and feel comfortable in their environment by supplying the following essentials.

1. SUITABLE NUTRITION

Pigs are omnivores, needing to consume 10 essential amino acids. They would naturally acquire 10% of their diet from animal sources, such as worms, insects, and small vertebrates, with the rest coming from a rich variety of plant sources, including nuts, acorns, grain, grasses, roots, berries, shoots, herbs, and bark. For such flexible feeding, pigs have developed the desire to explore, dig, and forage. As production demands have increased, sows have become more reliant on high-energy sources to meet their biological needs for growth and lactation. Consequently, they have also evolved great appetites. We can buy specially balanced feeds to provide all their nutritional needs.

However, these formula mixes are rapidly consumed, and the pig’s urge to forage is left unsatisfied. Non-lactating breeding females are most severely affected when their ration is restricted to prevent obesity. Higher-fiber diets and more foraging opportunities can satisfy hunger and behavioral needs.

Clean water is highly important for hog health to avoid constipation. Pigs enjoy playing in water and use it to keep cool, so it quickly becomes dirty. It will need changing a couple of times a day.

2. FORAGING OPPORTUNITIES

For an omnivore to get a well-balanced diet in the wild, they need to be smart so that they can learn how to find and acquire the best nutrition. Pigs occupy their sharp minds by foraging, digging, and exploring. The snout is highly sensitive and enjoys rooting in soft material, such as dirt. When given the choice, pigs prefer peat and mixed rooting materials to straw or silage alone. Without new and interesting items or areas to explore, pigs become bored and develop repetitive behaviors that are often harmful, such as ear-chewing and tail-biting. Pigs in barren pens become less able to recover from stressful events, such as weaning, handling, and transportation.

If open range is not available, we can avoid these problems by providing enrichment. Suitable toys are ones that pigs can chew, manipulate with their snouts and mouths, or safely destroy. For example, balls, dog toys, fresh straw, fibrous vegetables, and planks of wood are much appreciated. However, they need to be replaced frequently, as the novelty wears off. When kept in spacious pens with plenty of bedding and toys, piglets play more often and develop better coping mechanisms and stress resilience.

3. APPROPRIATE COMPANIONSHIP

Pigs are selective about the company they keep, and piglets and sows need familiar companions around them. In the wild, boars and feral pigs live in groups of female relatives and their young. Males disperse and live alone or in bachelor groups when sexually mature. They aggressively dislike newcomers. On the farm, we should aim to keep pigs in familiar groups and avoid introductions as much as possible except for mating purposes.

Within a familiar group, a hierarchy is established to avoid fighting. However, it is not as stable as in some species and conflict will be frequent. Aggression mainly occurs around feed or when new members are introduced to

a group. Low-ranking animals may be put off coming for feed if they are frequently bullied. The problem is that such animals may not gain all the nutrition they need. In addition, pigs are inclined to perform actions communally, so that excluded animals will



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feel frustrated. The solution is to provide plenty of space around the feed area, escape routes for animals to flee aggression, and partitions for vulnerable animals to hide behind while feeding.

Up to the age of three weeks old, piglets are happy to socialize with other litters. Those that have this opportunity are more tolerant of unfamiliar pigs at a later age. Otherwise, mixing pigs older than this is a recipe for fighting. The natural weaning age for piglets is four months. Piglets separated from their dam earlier suffer stress. They may get diarrhea, stop gaining weight, and resort to belly-nosing their companions. Piglets develop better coping mechanisms and social skills when raised on a dam who is free to move at will, and having areas to explore, fresh bedding, and opportunities to mix with other litters.

4. SHELTER AND MUD-BATH

Pigs need shelter to escape the elements, particularly heat and sunshine. As they do not sweat, hogs overheat easily, and are prone to sunburn. They need to take steps to cool down at temperatures over 74 degrees F. This means shade, a cool surface to lie on, and a mud or water bath. If pigs are too hot, they space themselves

out, lying on their sides. Mud not only cools the skin, but provides a protective layer against the sun.

5. DUNGING AREA

Naturally very clean animals, pigs will use a designated spot to defecate and urinate if given the opportunity. Even by five days old, piglets meet this need outside the nest. Where space is subdivided, adults use the cooler section for this purpose.

6. NEST

Two to three days before farrowing, a sow will leave the herd to seek out a nest site. She finds a warm, sheltered spot near water and digs a shallow bowl. Then she collects bedding material and arranges it in a nest. If it is cold, she will build a thick nest of branches lined with grasses and ferns. In warmer climates, she prepares a lighter bed. Free-range and penned sows will form a similar nest if provided with appropriate material, such as straw. If she can find nothing suitable, she will continue to attempt nest-building even as she starts to give birth, becoming stressed and unsettled. She will remain around the nest for a couple of days, frequently suckling her young, until she leads them back to the

herd. Domestic sows benefit from a private stall or arc with nesting material from a couple of days before farrowing until a week after.

7. ADEQUATE SPACE

When housed in a pen, pigs need space to distance themselves from one another and their dung. Even sows need to escape the attention of their piglets at times. Ideally, the pen should be divided into distinct areas to provide for different activities: a soft, dry, clean area for resting where occupants will not be disturbed; a spacious feeding area with escape routes; a cool dunging area; and a rooting zone/playground. Aim for an interesting environment with a choice of activities to keep your hogs happy and comfortable. 🌱

Source: Jensen, P. ed., 2017. The Ethology of Domestic Animals: An Introductory Text. CABI.

TAMSIN COOPER is a smallholder and goat keeper in France. She follows the latest research on behavior, welfare and sustainability, and mentors on animal welfare courses.

Find her at goatwriter.com.

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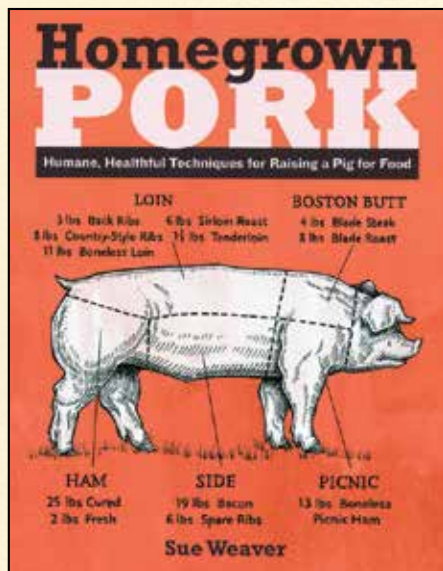
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BY SUE WEAVER

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WINTER WATER SYSTEMS

BY HEATHER SMITH THOMAS



IN SOME CLIMATES, KEEPING STOCK WATER ice-free can be frustrating during colder months. Tank heaters work well if a person has access to electricity, but some pastures are far from a power source. Some people use propane heaters and haul propane bottles or big propane tanks for the heaters.

There are many innovations to keep unheated water tanks from freezing over. One strategy is an insulated tank. Concrete tanks, partly buried, take advantage of ground heat, to keep water warmer so it won't freeze. These tanks have a cover, with a small opening for cattle to drink. You can open a portion of the tank, and the rest is partially buried and mounded over the top. With a lid, you can open it up to work on the float if necessary. Even if ice forms on the open part, water underneath is warmer and ice doesn't get very thick. If the tank faces south, it catches more sun, and you can paint the front concrete wall black to absorb more sunshine heat.

Another method to keep water from freezing is an overflow system, where water runs continually into the tank and out again, piped from a spring. If weather is below zero you might get a thin layer of ice but circulating water keeps it from getting so thick that it's a chore to break. You'd only have to check it if weather got below a certain temperature. If there's a large flow (rather than just a trickle) the volume of moving water won't freeze until weather is severely cold.

NOSE PUMP

Jim Anderson, a rancher near Rimbey, Alberta, solved the problem of stock water for regions with no electricity, or temperatures down to 40 below

zero. His innovation, which he's been marketing for more than 20 years, is a piston pump, like the old-fashioned well where you move the handle up and down. He modified this so cattle could push a lever with their nose, which raises and lowers the piston in a cylinder, the same as a handle used to do.

The three-inch cylinder is inside a larger pipe that captures warmth from the ground. Most people use a road culvert at least 24-inch diameter, set vertically and down at least 20 feet. The bigger the culvert, the more ground heat rises, to keep the water pipe in the center warm.

The culvert has two feet sticking above ground and the waterer is a small basin on top of the vertical culvert. The water source can be a shallow well, a nearby pond, or buried collection tank. Many ranchers use a fenced-off pond or dugout that collects run-off. Water from the pond is piped horizontally underground to the bottom of the vertical culvert, where it rises to the same level as the pond surface, but will not freeze.

With the pond fenced off, cattle can't pollute it or fall through ice when trying to drink. The upright pipe is designed to drain back down several feet after a cow quits pumping, so there's never any water left standing in the top part of the pipe to freeze.

SOLAR-POWERED SYSTEMS

Today, there are solar-powered units that can operate a pump in a well. One system works off a motion detector. When cattle walk up to it, the pump starts running and they can drink from a small tub at the top of the well. The pump runs for a short time and



A nose pump enables cattle to push a lever with their nose, which raises and lowers the piston in a cylinder.

shuts off after the cow moves away. One system runs the pump from a wet well that gets water from a dugout (similar to the nose pump, except cattle don't have to provide the power to pump it). The pump is in the shallow well and doesn't have to pump water very far. When it shuts off after the cow leaves, any water left in the tub drains back down into the well, so there is none left in the tub to freeze.

Another type of system runs a pump with solar power from a regular ground well and can be piped underground (below frost level) to a winterized trough that works off a float system. One rancher put in a trough with six drinking holes. He can cover or open as many as needed, depending on how many cows are watered with it.

The trough itself has about six inches of insulation. As long as there is fresh water coming in all the time, it doesn't freeze. The drinking holes go through the insulated cover. Cattle drinking throughout the day, lowering the water level to activate the float valve and bring more water into the trough, usually keeps it from freezing. Occasionally, those

holes freeze over at night when cattle aren't drinking much, and you may have to knock the ice out of the drinking tubes, but as long as fresh water comes in regularly, the trough won't freeze up.

With any of these systems you still have to check them and make sure they are working and free of ice. With solar-powered systems, you have to make sure the batteries stay good and the valve switch in the tank doesn't get knocked off kilter.

TIRE TROUGHS AND SPRINGS

Gerald and Pat Vandervalk of Clareshom, Alberta, utilize springs on their ranch, and tire troughs. Gerald now makes and sells his water troughs, made from big tires. Springs run continually, and water from a spring is generally about 50 to 60 degrees F year-round and doesn't freeze as quickly as water in a river or stream.

If it's a small spring (not much volume) you might have to partially cover the trough or use a smaller trough with less surface area to freeze. He uses different sized tires to make the troughs. If it's a slow flow and a small trough, he puts a 90-degree angle in the pipe

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Top: A water tank with electric tank heater can keep the water from freezing.

Top Right: This water trough in a high mountain pasture is fed by a spring. The tank is small and the water runs through it fairly swiftly, keeping it from freezing except in extremely sub-zero weather.

Bottom: A Vandervalk tire trough.

where water comes in, which shoots the water across the surface and it never freezes at that spot. This gives cattle access to some open water where they can drink.

He uses concrete for the bottom, and black poly pipe up through the concrete. Most of these troughs are designed for springs, so he has three pipes coming through — the intake and two overflows. If you have a lot of water in your spring, it takes two overflows to handle the excess water so the trough won't overflow, especially if water is coming in with pressure (such as gravity flow). Another reason for the second pipe is that sometimes people take overflow water from the trough and pipe it down a hill and across the fence to another pasture. Some people use these troughs with a solar watering system, and a pump. To keep from overflowing they need to cut the intake pipe off a bit, so a float can be put on.

Another way of preventing ice buildup is to cut several slots in the top part of the side walls of a tire trough, big enough for a cow's head, and then put a tube (like an inner tube from a tractor tire) at each hole, going down into the water. This makes less surface area on top of the trough, and where a cow sticks her nose down through that slot, the tube goes down into the water. The cattle are always pulling warmer water off the bottom. 🌱

HEATHER SMITH THOMAS ranches with her husband near Salmon, Idaho, raising cattle and a few horses. She has a B.A. in English and history. She has raised and trained horses for 50 years, and has been writing freelance articles and books nearly that long, publishing 20 books and more than 9,000 articles for horse and livestock publications.

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MILES COVERED

ONE SHEEP PRODUCER'S JOURNEY WORKING WITH STOCK DOGS

BY DENISE RACKLEY

LIGHT OF EARLY MORNING SPARKLES off dew covered grass. All is quiet except for the sounds of sheep munching the remaining grass before winter snows cover everything in a frozen blanket of white. Among the sheep, Sara walks contently, steam rising from the cup clasped snugly in her hands, as she contemplates the future of her flock. The mental to-do list lengthens in correlation to the emptying coffee cup. As she drains the last of the needed liquid caffeine from her cup, she glances to Miles. Laying at the gate, her new partner is watching and waiting for the smallest indication that it's time to work. Once the Cartwright house is quiet, when Adam (husband) and the kids are off to school and work, this is how Sara prefers to start her day. Her sheep production journey began years ago.

Sara grew up on her family farm near Fort Wayne, Indiana. She fondly remembers her childhood and lessons learned from working beside her dad. The love of sheep has stuck with her. Her dad raised Hereford, Hereford-cross cattle, and commercial white-faced ewes, a mix of Polypay and Columbia. A traditional management system was used; early shed lambing and grazing during the growing season.

Now on her own place after 10 years away from the area, life has her circling back to those lessons she learned as a child and to a flock of her own. Growing up, marriage, and children enables her to see things a bit differently. With an empty nest looming in the near future, Sara feels this is the time to grow her flock.

Like many small flocks, Sara's flock was easily managed with rattling a bucket of corn until the flock grew to more than 50 ewes. Rotational grazing with electronet worked well except for the days the flock needed to be moved. Taking down the fence, rolling it up,

then replacing the fence around fresh grass, required letting the sheep loose. The real challenge of convincing ewes to move calmly back to the confines of the fence then began. The whole family was beckoned to pasture to complete the job at hand. Kids running, yelling, waving arms, and two adults giving contradicting directions. Stressed sheep and arguments resulted from the chaos. Raising sheep became stressful instead of an enjoyable endeavor. The flock became more than Sara could easily manage alone. The stress of having family members assist wasn't a great option, even though the kids would soon be gone, making extra hands hard to come by.

Selling lambs directly off the farm, Sara had more customers than she had lambs. She wanted to

expand her flock, but management changes needed to happen first. A knowledgeable hired hand who was also affordable would need to be found. Sara, a long-time subscriber to *sheep!* magazine, had been reading about stock dogs, thinking that might be a viable answer to her dilemma. She enjoyed dogs and had the time at home to train one. "Couldn't be that hard," she figured. "Not ever seeing a stock dog help with chores, I had an extremely rudimentary idea of what the dog would be capable of and what I wanted in a dog," Sara remembers.

Sara, fond of Australian Shepherds, searched for a pup from "working lines." Finding a litter that sounded good, she bought a pup, Leo, hoping he would provide the needed

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assistance with rotational grazing. Sara used Leo with hit-or-miss success. She decided getting help to train Leo would teach her how to communicate getting him to do the things she needed. Making an appointment for a lesson, Sara and Leo made the four-hour trip south to Clearfield Stockdogs.

“Actually, seeing a demonstration of trained dogs working the stock, I began to envision how I could use dogs at home making my life easier. Denice’s dogs made it seem so simple; gathering sheep and moving them anywhere they were asked. In no time at all, with no stress, the flock was moved,” Sara remembers.

Sara needed to understand how her position affects the dog and “feel” the correct way to move. The best way to do that was to work a young dog of mine. Jess, an eight-month-old Border Collie, was working simply from natural instinct. The only commands she knew were *sshhh* to go to sheep and *here* to come to me. Jess naturally keeps sheep in one group, changing her position, balancing sheep to the handler. Anywhere Sara walked, Jess puts herself in position pushing the sheep toward her.

Sara was impressed with the amount of sheer

desire and instinct that made moving sheep easy with Jess. Sara returned to attend the first in a series of three Success with Stockdogs workshops. This SARE (Sustainable Agriculture Research and Education) supported workshop brought 18 livestock producers and their dogs to the farm to work with clinician Jack Knox. Jack grew up in Scotland, spending the majority of his life as a shepherd. He travels the U.S.

and Canada holding stock dog training and handling clinics. Rather than teaching dogs to obey commands when working, Jack believes that by using the dog’s mind and its natural ability and instinct, you gain a competent partner able to make the right choices for you and your stock without being told every step. Correcting the wrong bits, leaving the good stuff alone, allows you use the dog’s skill set and their strengths to your benefit.

Having a wide array of producers at the workshop — cow/calf, grazing stocker cattle, small wool flocks, commercial

sheep flocks, and poultry production, along with their dogs; Australian Cattle Dogs, Australian Shepherds, Border Collies, as well as an English Shepherd and a McNab — enabled the participants to witness the

“I had mistakenly thought any herding breed could work stock with the right training. I viewed stock work as an obedience activity rather than an activity driven by instinct.”

differences in the way the dogs approached and worked stock.

Sara had many a-ha moments that changed her perspective and thoughts about stock dogs. "I had mistakenly thought that any herding breed could work stock with the right training. I viewed stock work as an obedience activity rather than an activity driven by instinct. The clinic proved some dogs are very capable of working stock, others simply don't have the needed skill set. Actually, this was very freeing to me. I no longer felt like I needed to do things to keep my dog interested in stock, or that it was my lack of knowledge inhibiting the dog. Seeing Jack work every dog, removed the variable of each individual's knowledge and experience from the equation, leaving just the dog. Either they had the want-to and instinct to work stock well, or they didn't." Sara commented the level of instinct and natural ability was evident in individuals as were the differences in the way the breeds worked. The cattle dogs and Aussies moved sheep by physical pressure, "It was body driven and it unsettled the sheep. The Border Collies moved sheep with their eyes and their presence enabling the sheep to remain calm. "During the clinic, Sara worked both Leo and a young Aussie. Both dogs showed a bit of interest, but that interest wasn't sustained.

"I enjoy many things about Aussies but they simply don't have the depth of ability and demeanor that puts the sheep at ease that I want and need in a working dog. No amount of obedience training on stock could ever replace the instinct and knowledge bred into a good working dog."

Sara, wanting to take advantage of the learning opportunity, asked to work a dog of mine. This enabled Sara to focus on things she needed



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Rather than teaching dogs to obey commands when working, Jack believes that by using the dog's mind, and its natural ability and instinct, you gain a competent partner able to make the right choices for you and your stock without being told every step.



to learn to work a dog rather than trying to keep the dog interested in sheep. "The clinic convinced me that if I want help with my growing flock, I need a dog that really wants to work and knows stock. I also need a dog working in a way that calms the sheep rather than adds stress. A trained dog with experience would be the best choice, enabling me to learn from the dog while putting him to use every day. The dog could teach me and my sheep."

The three-day workshop enables participants to gain more insight and experience each day into what is needed to work a dog on stock. Jack has been working stock with the help of dogs his entire life. Knowing how to communicate with the dog is second nature to him. Using tone, position, movement, encouragement, and correction, he is able to make huge strides forward training a dog. It looks simple when Jack is doing the training but it really is far from simple.

Sara returned home from the

clinic convinced that an experienced Border Collie to assist her with the daily management of her flock was the way to move forward. Much quicker than Sara anticipated, Miles was working beside her. "There is a learning curve for all of us — me, my sheep, and Miles. Things didn't go exactly as I envisioned. We hit road bumps. We have lots to figure out yet. Sheep that are not used to being worked by a dog and a handler not sure how to work a dog, or even what to ask, will add challenges, but I am excited about the possibilities." Within minutes, Sara was hooked. "Miles is already a huge help. He made my life easier on day one and continues to do so each day." Sara says a trained dog with experience was the right purchase for her and her flock. She feels like the purchase price was well worth the immediate help that Miles provides, while also teaching her lessons about sheep and stock dogs that will be useful in the future. Sara says, "I am money ahead, there are less headaches.

Miles is more forgiving than family members. I am able to sort out the problems since he is trained; if it is me, the sheep, or the dog not understanding. I don't believe it's possible to train a dog using its instinct until you have years of experience working with a dog and stock. There are many nuances that I need to learn; when to encourage versus correct, or when to be quiet waiting on the dog. Even in the short time Miles has been here, he has already reduced the stress on the stock and us. Chores take less time and are more enjoyable."

In conclusion Sara says, "I was at a crossroads. I needed help with the daily management of the flock. I had to find the most cost-effective and time-efficient way to grow the operation. Miles is the answer for us. He has the genetics and experience that are imperative for the job. I have wanted to transition to an accelerated lambing program, now I believe I have the needed help to ensure success."

A couple of weeks after Miles

joined the Cartwrights, Sara fell and broke her arm. Miles immediately stepped in becoming not only Sara's legs, but her arm that morning. He gathered the flock and pushed them into the electronet. Sara closed the fence, no corn needed. "Not sure what I would have done without him. I can tell you that I wouldn't have been carrying a bucket." Sara's husband has stepped in by taking care of the majority of chores. Adam was a bit reluctant when Sara first told him her plan to buy a trained Border Collie, but no longer. Miles fell right in step with him. The two are enjoying working sheep together. It sounds to me like Miles converted him quickly and seems to be working on the neighbors as well. Currently, Adam is looking for more bred ewes to add to 'his' flock.

"It's amazing how quickly things can change. We don't hardly go into pastures without Miles. I will never again be without a working Border Collie," Sara says.

Welcome to sheep management with a good working dog beside you. 🐕

DENISE RACKLEY raises sheep using stockdogs on her farm in Indiana. She also trains stockdogs for other producers. She received SARE support to hold workshops and provide online training to assist livestock producers in using and benefiting from stockdogs.

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Goat Care Calendar

BY LACEY HUGHETT

Edit this schedule with your specific dates and goals. Once you have a calendar that works for you, it will help keep you on track when things get hectic.

Monthly maintenance: Each month, assess each goat individually. Record FAMACHA and the Body Condition Scores (BCS). Check coat for

bugs or dandruff. Check the feet for overgrowth or problems. Trim all hooves. Check the eyes, ears, nose, and mouth for any obvious issues. Consider doing an at-home fecal float test before and after deworming to determine resistance and coverage, then deworm according to needs. During the cold months, ensure goats are fed enough and have good shelter.

January

Check does for pregnancy 45-90 days after breeding. Administer CD&T vaccine six to eight weeks prior to kidding.

In wet months, watch for hoof rot. When weather changes rapidly from hot to cold, watch for pneumonia.

February

Check does for signs of miscarriage or early labor. Prepare kidding areas and a kidding kit.

External parasites prefer cold, dark, and damp environments.

March

Check does for labor signs and into kidding areas. When kids are born, dip umbilical cords in iodine solution. Record labor details and kid health to the does' records.

Predators are attracted to the scent of birth. Be sure kids get enough nutrition. Monitor for floppy kid syndrome or respiratory illness.

April

Assess does frequently for mastitis. Give kids' first CD&T vaccination

at one month old. Provide supplemental feed to lactating does based on BCS. Band males.

Watch for goat pink eye as conditions get warmer and dusty.

May

Give kids their second CD&T vaccine. Dose kids correctly for wormers, as underdosing can lead to resistance.

Consider traps or sprays if it is a bad year for flies.

June

Start to wean kids. Monitor does for mastitis.

Determine which animals to sell or process. Determine the following year's goals. Continue to monitor for symptoms of common goat diseases.

July

Worm kids if necessary, according to weight. Create individual records for the kids you intend to keep; sell or process those you don't.

Watch for heatstroke.

August

Continue milking does.

Monitor for common diseases and heatstroke.

September

Test all goats over six months for CAE, CL, Johne's disease, and brucellosis.

Obtain a high BCS for any breeding animals. Separate does not putting on or maintaining weight.

October

When does show signs of heat, place the buck in their pen for 42 days. Only breed doelings if at 60-70% of their expected adult weight and showing signs of heat.

Watch for exhaustion from the buck.

November

Ensure goats get enough food in colder weather.

Watch for foot rot. Fix drafty shelters.

December

Watch for respiratory illness.

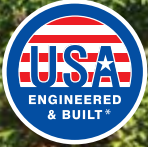




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Homemade Bone Broth Recipe and Canning Tips

BY ANN ACCETTA-SCOTT



A DELICIOUS HOMEMADE bone broth is worth its weight in gold. Organic bone broth is not only healthy for human consumption, but also for your four-legged pets.

BENEFITS OF ORGANIC BONE BROTH

There is a long list of reasons why bone broth has gained popularity in the last decade. Because of its high popularity, it is now available for purchase as a powder form. However, nothing beats making homemade broth from the livestock that you've raised. The benefits of consuming a small amount each day is great:

- ▶ **Anti-inflammatory** — Consuming bone broth daily is an easy way to get anti-inflammatory amino acids into the body.
- ▶ **Promotes strong joint health** — Bone broth contains hyaluronic acid, glucosamine, chondroitin, and other glycosaminoglycans.
- ▶ **Aids in digestion** — The broth helps food to easily be digested due to being hydrophilic.
- ▶ **Contains essential minerals** — Calcium, magnesium, and phosphorus are absorbed into the body easier.
- ▶ **Beneficial to good gut health** — Gelatin and other minerals found in bone broth assist with gas, diarrhea, and constipation, while maintaining healthy microbes in the gut.
- ▶ **Assists in detoxifying the body** — Amino acids glycine and proline found in bone broth aid the liver by removing toxins from the body.

- ▶ **Aids in weight loss** — The broth fills the stomach without many added calories. It is filled with collagen which helps burn fat.
- ▶ **Good skin** — Bone broth contains hyaluronic acid and collagen, which may assist in minimizing fine lines and wrinkles when consumed daily.

SELECTING BONES FOR BONE BROTH

Living the life we do allows us the option to use various types of bones for making bone broth. However, bones from organic, pastured, and grass-fed animals are the best choice. Do not be afraid to mix and match the type of bones to use, feel free to experiment.

BONES RICH IN CARTILAGE

Bones rich in cartilage help to promote healthy joints. Livestock feet, such as cow, lamb, and pig provide a large amount of cartilage and are perfect for making an organic bone broth. A pig's foot added to broth not only adds cartilage, it is flavorless and does not alter the flavor of what's being prepared.

POULTRY FEET PROVIDE GELATIN

Many homesteaders who raise poultry for meat are unsure as to what to do with the feet, mainly because they do not know how to properly prepare them. Poultry feet add gelatin to soups and stews, including homemade bone broth. Gelatin is rich in protein and has a unique amino acid profile. Consuming gelatin may reduce joint and bone pain and increase brain function.

ADDING FLAVOR

Chicken bones can be quite bland, producing a weak tasting broth, hence why beef and pork bones are preferred.

Making homemade broth using a chicken carcass will, at times, create a weaker flavored bone broth. To increase the flavor of the broth, add the wings and thigh bones to the roasting and slow cooking process. When preparing a bone broth made from beef or pork bones, adding oxtail, shank, or short ribs to the roasting and slow cooking process will create a much richer flavored end product.

HERBS AND SPICES

I couldn't imagine making an organic bone broth without the use of herbs and spices. These

items not only add flavor to the broth, they also contribute medicinal qualities as well:

- Oregano
- Thyme
- Sage
- Rosemary
- Garlic
- Onions
- Whole peppercorn.



TYPE OF BONES FOR BONE BROTH

The most popular types of bones used to make homemade bone broth are beef, pig, and poultry bones. However, goat, lamb, rabbit, and venison bones are also excellent options.

Beef, lamb, pig, rabbit, goat, venison bones — Use the knuckles, joints, feet, neck, and marrow bones. The feet of these animals are also rich in cartilage.

Poultry bones — the carcass, including necks, backs, and feet from chickens, turkeys, guineas, and waterfowl make for an excellent homemade bone broth. Also, the addition of poultry feet provides gelatin to all types of homemade broth.

HOMEMADE BONE BROTH RECIPE

What is exciting about making this recipe is the ability to modify the ingredients list. Feel free to adjust the type of herbs, spices, and vegetables used. Many individuals save vegetable scraps for the purpose of making broth. However, there are times when a simple, savory broth is desired. For these times, roasted bones, garlic, and whole peppercorns are all that is needed.

The most popular types of bones used to make homemade bone broth are beef, pig, and poultry bones.

Bone Broth

Yield will vary based on the type and density of the bones used. Prepare for a full canner, but do not be disappointed if only a few jars are produced.

INGREDIENTS

4 pounds bones from organic, pasture raised, grass-fed animals
 3 large carrots, washed and chopped into 2-inch pieces
 2 large yellow onions, skin on and quartered
 Rosemary, 6 to 8 fresh sprigs or 3 tablespoons dried
 Sage, 6 fresh stems or 3 tablespoons dried
 Thyme, 1 handful fresh or 3 tablespoons dried
 Italian parsley or lovage, 1 handful fresh or 3 tablespoons dried
 4 bay leaves
 2 heads fresh garlic, skin on and cut in half crosswise
 Whole peppercorns, 3 tablespoons
 Poultry feet, 10 cleaned
 ¼ cup apple cider vinegar
 Water, enough to cover the bones

EQUIPMENT

Large electric roaster oven or 10-quart stockpot
 Baking sheet
 Soup ladle
 Jar funnel
 Fine mesh sieve for jars
 Pressure canner
 Quart or pint-size mason jars

INSTRUCTIONS

1. Preheat oven to 450 degrees F. Place bones onto a baking sheet, roast for 20 minutes. Flip the bones and continue to roast for an additional 20 minutes.
2. Add the roasted bones, vegetables, herbs, spices, and apple cider vinegar to the electric roaster oven or stockpot.
3. Next, add enough water to slightly cover the bones, bring to a boil for 10 minutes, reduce stovetop burner to a low simmer, add lid. In a roaster oven, set temperature to 400 degrees F, bring to a boil for 10 minutes, reduce heat to 165 degrees F, add lid.
4. Allow the bones to cook for 12 to 48 hours, adding additional water as needed.

NOTE: A minimum of 12 hours is required to contain amazing health benefits, whereas, 24 to 48 hours allows for the full extraction of calcium, minerals, collagen, and gelatin. How to determine when the broth is done is up to you. Look at the color (rich and dark), the flavor, and the shape of the bone (soft bones means there's nothing left to extract).



PRESSURE CANNING BONE BROTH

1. Prepare pressure canner.
2. Place the jar funnel and a small fine mesh sieve onto a mason jar. Using a ladle, slowly add liquid to the sieve, making sure no solid food enters the jar, leave 1-inch headspace.
3. Wipe the rim of jars using a clean dishcloth and white vinegar, place warmed lids and rings on top, screw to fingertip tight.
4. Process broth 20 minutes for pints, 25 minutes for quarts, making sure to adjust the processing time based on your altitude. (Check your canner's owner's manual for details on altitudes.)
5. Remove jars from the pressure canner and allow to rest for 12 hours. Store any unsealed jars in the refrigerator and use them as quickly as possible.
6. Wash sealed jars with warm soapy water, date jars, and store in a cool, dark location. Will last at least 18 months.

Homemade bone broth can be sipped, used in soups and stews, or frozen into ice cube trays. This food is not only beneficial to the body, but also quite delicious to consume as a meal! 🌱

ANN ACCETTA-SCOTT homesteads on two acres in Washington State, raising poultry, goats, and rabbits. She is an educator and encourager of all who are seeking to live a more sustainable lifestyle. Ann is also the face behind the website *A Farm Girl in the Making* and author of *The Farm Girl's Guide to Preserving the Harvest*.

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Pomona's Apple Pie Jam



Apple Ingredients

- 3–4 lbs of apples (9–12 medium apples)
- ¼ cup – ½ cup water

Jam Ingredients

- 4 cups of cooked apple sauce
- 2 tsp calcium water
- ¼ cup lemon juice
- ½ tsp cinnamon
- ¼ tsp nutmeg
- ¼ tsp allspice
- ½ cup – 1 cup honey
or ¾ cup – 2 cups sugar
- 2 tsp Pomona's Pectin powder

Before You Begin

Prepare apples — Peel, core, and chop apples and put in a sauce pan with the water. Bring to a simmer and simmer covered, stirring and mashing occasionally, until you have chunky or smooth apple sauce. Remove from heat and measure out 4 cups of apple sauce.

Prepare calcium water — To do this, combine ½ teaspoon calcium powder (in the small packet in your box of Pomona's pectin) with ½ cup water in a small, clear jar with a lid. Shake well. Calcium water should be stored in the refrigerator for future use.

Directions

- 1 Wash jars, lids, and bands. Place jars in canner, fill canner 2/3 full with water, bring to a boil.
- 2 Put measured amount of apple sauce into sauce pan.
- 3 Add calcium water, lemon juice, and spices, and mix well.
- 4 Measure sugar or room temperature honey into a bowl. Thoroughly mix pectin powder into sweetener. Set aside.
- 5 Bring fruit mixture to a full boil. Add pectin-sweetener mixture, stirring vigorously for 1 to 2 minutes to dissolve the pectin while the jam comes back up to a boil. Once the jam returns to a full boil, remove it from the heat.
- 6 Fill hot jars to ¼" of top. Wipe rims clean. Screw on 2-piece lids. Put filled jars in boiling water to cover. Boil 10 minutes (add 1 minute more for every 1,000 ft. above sea level). Remove from water. Let jars cool. Check seals; lids should be sucked down. Eat within 1 year. Lasts 3 weeks once opened.

Option: Feel free to use whatever spice mix you would normally use to make apple pie. Spices should not exceed 1 teaspoon. If you leave out all of the spices, you will have plain Apple Jam, delicious in its own right.



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Make Your Own Lefse

BY BECKY PEDERSON



LEFSE IS A TRADITIONAL, soft Norwegian flatbread in which the main ingredient is often potatoes, although there are regional variations in the way lefse is made and eaten. I have fond memories of making lefse at my grandma's house back in the early to mid 1950s. Grandma would gather wood to get her wood-burning cookstove really hot. On the top of her cookstove is where the lefse was fried. It was so good and to add to the goodness, Grandma churned her own butter. Oh what delicious memories!

INGREDIENTS

2 lbs dry, mealy potatoes – I use Russet Burbanks
3 tablespoons lard
2 teaspoons salt
1 teaspoon sugar
¼ cup half and half
1 cup flour

INSTRUCTIONS

1. Peel potatoes. Cook in lightly salted water until tender. Drain well and mash.

2. Add lard, salt, sugar, and cream. Mix well. Cool but do not cover while cooling, as the heat will produce steam, causing the mixture to become watery. When the mixture is cool, force through a potato ricer. Work a cup of flour into the mixture.

3. With your hands, form potato rolls on a flat, wax paper-covered surface. There will be two rolls about the size of a stick of salami.

4. Cover a cutting board with wax paper and place the potato rolls on the board. Refrigerate overnight. When totally cool, cover loosely with wax paper.

5. The next day, prepare your cloth-covered pastry board. Rub a cup of flour into the surface of the pastry board and also rub some flour into your stocking-covered rolling pin.

6. Slice about an inch section from a potato roll. Have a dish with flour in it and lightly dust the one-inch potato roll with flour.

7. Place section of potato roll in the center of the pastry board. Gently roll out into a circle. Use a lefse turning stick to remove

rolled piece from pastry board to a griddle. Griddle should be set at 400 degrees F.

8. Fry until brown spots appear on one side. Flip over and fry the other side. Remove piece to a dishtowel and cover with a second towel so the pieces steam to become soft.

9. When cool, store covered in refrigerator or wrap and freeze.

Lefse is so good with butter spread on it, sprinkled with sugar, and warmed a bit to melt it all together. Or you can go the traditional way and eat it with lutefisk. Either way, lefse is a great treat during the holidays or any time of the year. Enjoy! 🍴

BECKY PEDERSON lived in Wisconsin and was an old-fashioned type of person who had always cooked and baked all of her goods from scratch. She was an avid flower and vegetable gardener who also enjoyed canning, sewing, crocheting, deer hunting, playing her saxophone (amongst many other instruments), and spending time with her family. Becky lost her battle with cancer in February 2020.



Oatmeal Scotchies

BY HANNAH N. MCCLURE



ONE OF MY FAVORITE WAYS TO GIFT throughout the holiday season is with home-baked goodies. From chocolate cherry candies to mini banana bread loaves and all the cookies in-between, nothing is sweeter than baked with love goodies. A family favorite is my Oatmeal Scotchies. They're great for shaking up the holiday cookie exchange as it isn't the first cookie most think to bake. I hope you and yours enjoy this warm delight this holiday season.


WHAT YOU'LL NEED:

- ½ cup softened salted butter (1 stick)
- 1 tablespoon Crisco shortening
- 1 cup packed brown sugar
- ¼ cup granulated sugar
- 2 large eggs
- 1 tablespoon vanilla
- 1 tablespoon ground flaxseed
- 1 tablespoon ground cinnamon
- ½ teaspoon nutmeg
- ½ teaspoon cloves
- ½ teaspoon sea salt
- 1 teaspoon baking soda
- 1½ cups all-purpose flour
- 3 cups quick oats
- 1 cup butterscotch morsels
- ⅓ cup cinnamon morsels*

**Cinnamon morsels can be found at bulk food shops. If unable to find, add 1 teaspoon more cinnamon or continue without.*

NOW LET'S BAKE!

- 1.** In a large mixing bowl or electric mixer, beat together butter, Crisco, and sugars until blended. Add in eggs and vanilla and mix until well-incorporated. Next, mix in flaxseed, spices, sea salt, baking soda, and flour. Once combined, add in oats, one cup at a time until combined. Stir in morsels by hand with a spoon.
- 2.** On parchment-paper-lined cookie sheet, spoon out cookie dough to desired size (I use a small ice cream/cookie scoop), spaced about 1 to 1½ inches apart.
- 3.** Bake for 7 minutes at 350 degrees F.

Cookies should be soft with golden brown edges. Let cool before serving or putting into gift tins. 

HANNAH N. MCCLURE is an old soul homemaker and mother of four from Ohio. Gardening, keeping bees, sewing, raising chickens/seasonal hogs, and baking/cooking from scratch are a few things she enjoys in her homemaking. Always learning and always chasing her littles.

Find her on Instagram @muddyoakhenhouse

Soapmaking Troubleshooting

Why Did My Soap Turn Brown ...
and Other Questions Answered.

BY MELANIE TEEGARDEN
PHOTOS BY TIFFANY STRONG

SOAPMAKING can be an ongoing learning experience. If you find yourself wondering, “why did my soap turn brown,” learning that the common fragrance oil component, vanillin, causes browning will help you to predict the behavior of your next batch. Part of the art of creating good soap is being able to control the batter and produce a consistently pleasing result. Granted, most soap mistakes can be salvaged to create usable, if not beautiful soap. Troubleshooting is vital to the process of becoming a proficient soap maker. One of the most gratifying parts of soapmaking, troubleshooting helps you to better control future batches. Next time you will know the answer to “Why did my soap turn brown?” (It’s the vanillin!)

FALSE TRACE SOAP

False trace soap is one common problem that can happen. When it has only come to false trace, soap has a higher than normal risk of separating in the mold. This looks like a layer of oil on top of, or under, a crust of caustic soap. What does false trace soap look like? It is soap batter, often at room temperature or cooler, that thickens without having fully reached emulsion state. When you stir a false trace soap, there will still be a swirl of unincorporated oil spinning through the bowl. False trace soap often occurs very quickly after mixing the oils and lye, and sometimes even before the use of the stick blender. There may be lumps of thicker soap in a thinner batter. To prevent false trace soap, use a higher soapmaking temperature, around 100-130 degrees F. This will prevent the butters in your recipe from thickening up before emulsification is reached. If you experience false trace soap, keep blending! To save the soap, you need to reach full emulsification. The soap will probably get quite thick. Keep pulsing with the stick blender and alternating with the hand mixing as needed. You may need to use the Spoon Plop Method to get it into the mold. Another alternative



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Air bubbles in the batter.

is to heat the batter in short bursts of 30 seconds in the microwave, to increase the temperature enough to re-melt the butters in the batter before blending to full trace.

SOAP SEIZING

When a misbehaving fragrance oil or too much honey causes soap seizing, you may suddenly find yourself with soap-on-a-stick.

If this happens, it is very important not to try to glop it into the mold as-is. There would be a strong risk of lye pockets and fragrance pockets in the resulting soap.

Instead, leave the soap in the bowl and do your best to encourage it to reach a full gel — a heating pad or a pan of hot water underneath can be helpful. Keep watching it for a full gel state, which will make the batter become soft and runny again. At that point, you can thoroughly mix your soap batter and pour. To prevent soap



Oils going rancid and turning yellow.

seizing, the best protection is to research your fragrances before using them. Not only do they need to be safe for soapmaking, but the seller should answer questions about acceleration, ricing, and discoloration in cold or hot process

Part of the art of creating good soap is being able to control the batter and produce a consistently pleasing result.

soap. If the seller does not provide this information for a fragrance oil, it is worth your time to look up the comments from other users to see what their experiences have been before you invest in a fragrance oil that might cause problems. To prevent soap seizing from too much honey, simply do not use

more than one teaspoon of honey per pound of base oils in your honey soap recipe.

TOO MUCH FRAGRANCE OIL IN SOAP

Adding too much fragrance oil in soap can also be a source of problems. Besides being too strong of a fragrance, too much fragrance



Partial gel ring.



Unmolded while too soft.



Overheating and cracking on edges.

oil is not safe for skin use. Each fragrance oil has a Recommended Maximum Usage Rate specifically for soap. Make sure you always adhere to these guidelines to prevent possible skin reactions from your soap fragrance. Another problem of too much fragrance oil in soap is that the fragrance can separate out, creating a strongly odorous, oily sludge in the finished soap. Unfortunately, adding too much fragrance oil in soap results in a soap that cannot be saved as-is. Even if you hot process the soap and therefore burn off some of the extra fragrance oil, there is no way to measure whether or not enough has been burned off to make it safe. An option for salvaging this soap is to shred it and use the shreds as “confetti” in an unscented soap batch.

LYE-HEAVY SOAP

Producing lye-heavy soap is another possibility. This one is difficult to save unless you know how much extra lye you used. A possibility is rebatching the soap in a crockpot on low heat, adding extra oil one ounce at a time and cooking until the batter tests at a safe pH of 9-10. The problem with this approach is that it is hard to know exactly how much superfat the finished soap contains. It may still be a low superfat soap, which means it might be drying to the skin although it is safe to use. In most cases, a lye-heavy soap is best called a loss to be safe.

PARTIAL GEL

Partial gel can occur when a soap heats up in the middle but does not heat up enough to spread the gel phase all the way to the edges of the soap. The result is a circle of darker, slightly translucent-looking soap in the center of each bar. Never fear, this is perfectly benign

and the resulting circle of gelled soap is simply a cosmetic issue.

OVERHEATING

Problems with full gel can include overheating, heat tunnels, and cracking. Once your soap has gelled to the point where it will soon reach the edges, it is a good idea to cool it down in a refrigerator or freezer to prevent overheating, which can result in heat tunnels and cracking. Dry heat tunnels are simply a cosmetic issue and the resulting soap is fine to use. However, sometimes heat tunnels can ooze oil or contain lye crystals. In this case, the part of the soap affected must be cut off and discarded for safety. Cracking of the surface of the soap is also just a cosmetic concern, and often can be smoothed out once the soap cools down a bit. If the cracks are small and just starting when you intervene, they will often close up on their own.

Keeping good notes of your soap-making experiences is a good idea. This will help you learn to avoid pitfalls such as soap unexpectedly turning brown, overheating, seizing, or partially gelling. Making sure to avoid all distractions while soaping can prevent problems such as a lye-heavy soap or too much fragrance oil in soap. With a little experience and the benefits of your notes, you can develop soap recipes that come out consistently time after time. 🌿

MELANIE TEEGARDEN has been proprietor of Althaea Soaps & Herbals for 14 years. She has run an international website selling bath and body products to individuals and spas since 2006. In addition to her home-based business, Melanie also teaches soapmaking classes in her community of Johnson City, Tennessee, and is the resident expert for Home Soapmaking at iamcountryside.com.

Six Healthy Digestion Hacks

BY JENNIFER VANBENSCHOTEN

WINTERTIME IS WHEN OUR bodies naturally want to hibernate. Just like the black bears that come to visit us here in the Adirondacks, once the days get shorter and the nights get colder, our bodies want to heed the call of hibernation, too. While we don't necessarily have to spend the entire winter snuggled under warm blankets by a roaring fire (which doesn't really sound that bad, right?), we might also start to notice that our digestion feels off during the winter.

In Ayurveda, wintertime is seen to be a time of cold, upward-moving energy in nature. And since our bodies are a part of nature, they respond just like other animals to that kind of energy. During the winter, you might notice a lack of appetite or slower digestion as our bodies adapt to what they can sense around them. Digestion is also a key part of keeping your immune system healthy, and when we can help keep our digestion running smoothly, we can help keep our immune system working properly, too.

Of course, lots of things can affect our digestion during any time of the year.

Eat warm, well-cooked foods. Salads are great, but cold, raw foods are naturally harder to digest. If your digestion is already weak, you're probably not going to get a lot of nutrients out of that food.

Instead of cold, raw vegetable salads, opt instead for warm stews and roasted vegetables. Vegetarian stews are naturally easier for us to digest, so go easy on the meat, too. If you love soup, go ahead and indulge in a pot of your favorite homemade soup — they're naturally easy to digest, and a good bowl of soup can provide us with complete nutrition as well as being easy for our bodies to process.

Use digestive-boosting herbs in your cooking. Herbs don't just impart amazing flavor into our favorite dishes, they can also keep our digestive system running smoothly. My favorite all-purpose combination of herbs for cooking includes a healthy dose of fennel, cumin, and coriander. Use whole seeds if you can get them, and toast them lightly in a skillet before including in your favorite vegetable dishes.

Ginger, garlic, and onion can also





help boost your body's ability to digest food, but use them sparingly in your cooking. Remember, garlic and onion are medicine, not just ingredients, and more is not always better. And just like other vegetables and food, make sure that your onions and garlic are well-cooked before you eat them to avoid any unpleasant digestive symptoms.

Get moving. Believe it or not, mild to moderate exercise can make a huge difference in digestion! When you move your body, you increase the flow of downward-moving energy, and that can help stimulate peristalsis, or the movement of food through your digestive system. You don't have to go out and join a gym or run a marathon, either ... just 15-20 minutes of brisk walking every day can help your body get more out of your meals.

Drink your water. Dehydration can lead to a whole host of things from headaches to nausea, but did you also know that it can also inhibit your body's ability to absorb nutrients from food? Drinking at least a liter a day of filtered water keeps things moving in the right direction when it comes to digestion.

Starting your day with a glass of room temperature water with a squirt of fresh lemon is an old Ayurvedic remedy that can help jumpstart your digestion and wake you up at the same time.

Reduce stress around meal times. In Ayurveda, *HOW* you eat is just as important as *WHAT* you eat. Are you eating in front of the TV every night? Shoveling down your food in the car as you run between appointments and errands? While our bodies can manage to pull off many biological processes at the same time, when it comes to digestion, multitasking can actually make us sick. If you find yourself stressed about meal times, that stress can make it harder to digest your meals. When it comes time for dinner time, make it a stress-

free experience: soothing music, nourishing food, and a good mindset about eating can make a huge difference in how we experience and process our food.

Timing is everything. Our bodies respond to what scientists call circadian rhythms, meaning that certain bodily processes are stronger at different times throughout the day. This also applies to our digestive processes and our metabolism. Remember the last time you ate a huge meal late at night and then couldn't sleep?

Make sure you have time to eat something well-cooked and warm for breakfast, like a bowl of oatmeal or other whole-grain hot cereal, or even just a baked apple with cardamom and ginger. Our digestive powers are at their highest at lunchtime, so, you can feel free to make this a larger meal and include hard-to-digest foods like meat, cheese, and other animal products. Dinner time is when our bodies naturally start to unwind for the day and things slow down, so make dinners light but filling and focus on those well-cooked vegetarian meals we talked about in the first hack. Sometimes a good dinner of your favorite breakfast foods like scrambled eggs and hot cereal with a dollop of nut butter make the perfect meal to end your day.

Successfully hacking your digestion requires a little more than just taking a couple of probiotics, but the results are well worth it! 🍵

In the heart of the Adirondack mountains, **JENNIFER VANBENSCHOTEN** raises chickens for eggs, keeps bees for honey, and grows her own food. Jennifer enjoys scratch cooking, writing creative nonfiction and poetry, teaching yoga, and creating handmade beaded jewelry.

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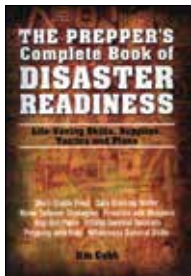


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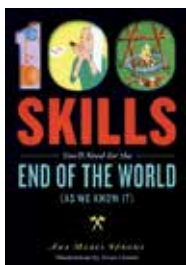
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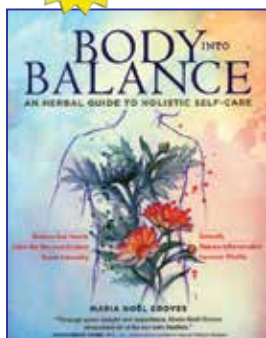
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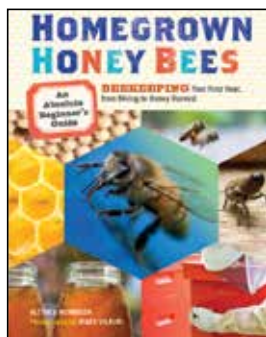


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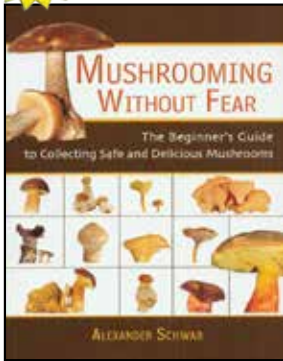
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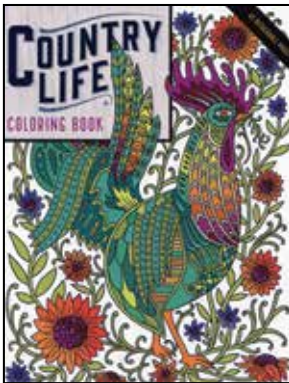
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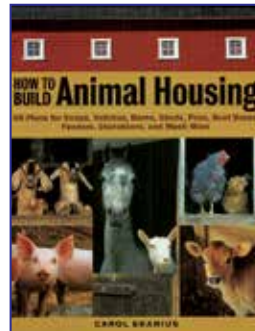


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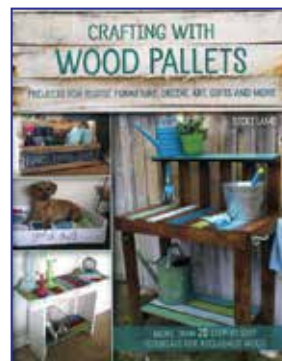
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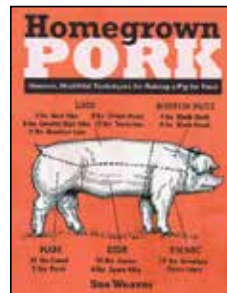
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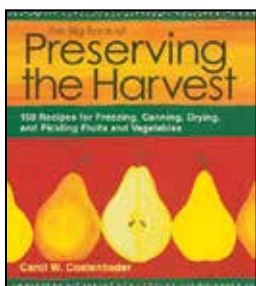
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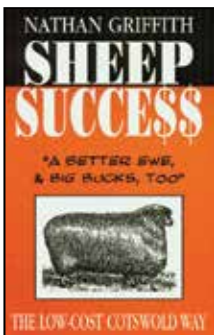
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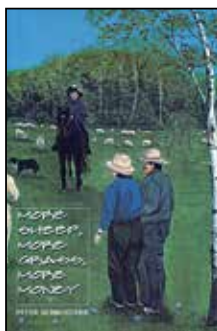
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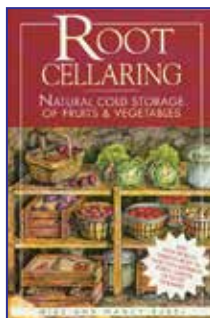
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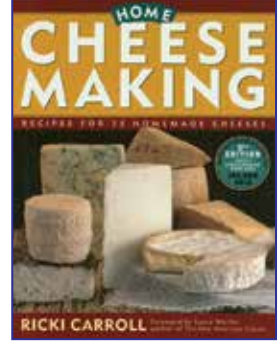
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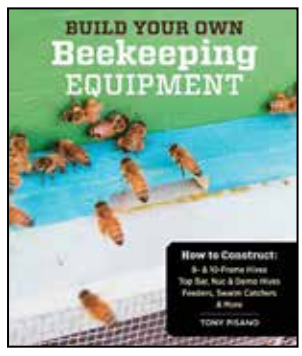
With probiotic-rich foods increasingly recognized as essential to gut health, yogurt and kefir are gaining popularity as a source of protein and beneficial bacteria. Cheesemaker and small-scale dairy producer Gianaclis Caldwell opens the door for fermentation enthusiasts and dairy devotees to make and use yogurt and kefir in the home kitchen. She explores the many culture choices and techniques for working with cow, goat, sheep, water buffalo, and even some plant milks. 224 pages. **\$19.95**

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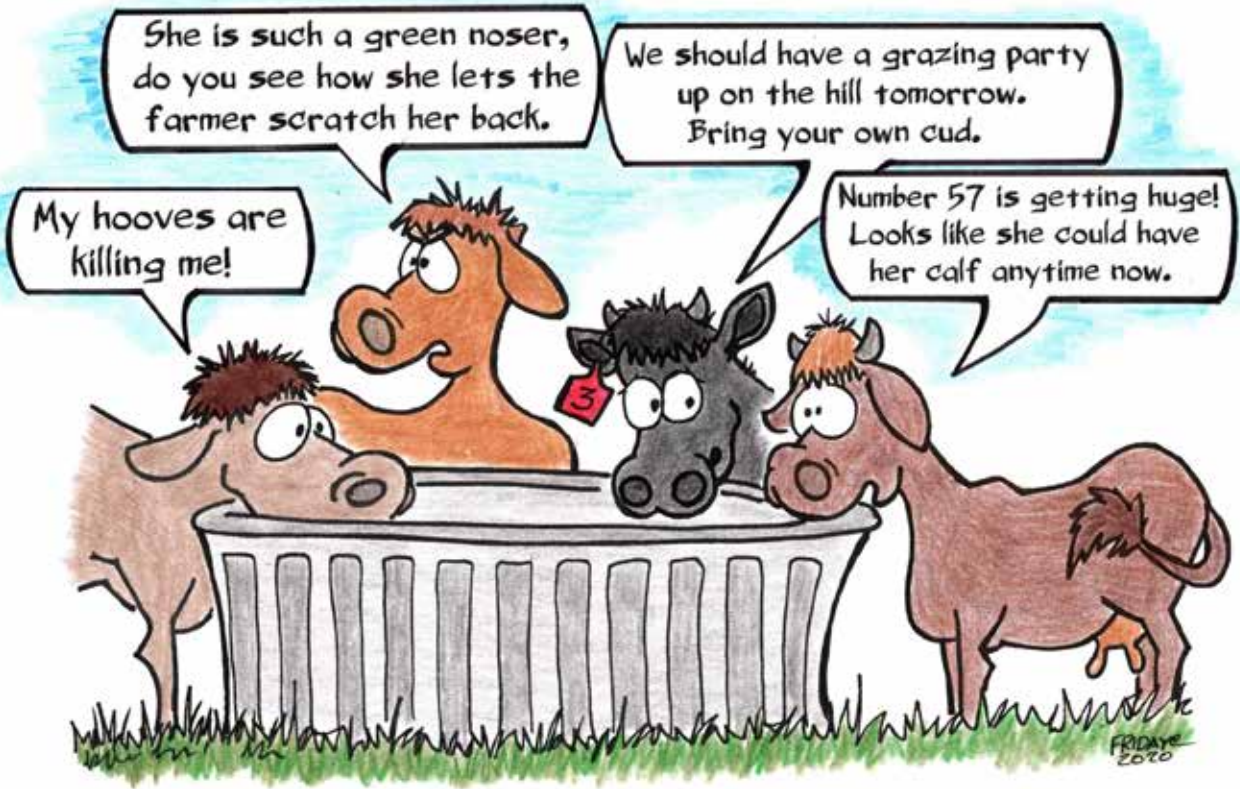
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*The winner will be chosen randomly from all the correct submissions returned by December 1, 2020.
The winner of the September/October Reader Contest will be announced in the
January/February 2021 issue as new submissions are still flooding in!*



Win a *Countryside* Beanie! To submit, either:

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**Print, fill out, then take a
picture and email to:**
editor@countrysidemag.com

**Be sure to include your contact information so we can
inform you if you won the *Countryside* beanie.**

Poor Will's COUNTRYSIDE almanack

LATE FALL AND EARLY WINTER OF 2020

BY W. L. FELKER

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
Today's end of Daylight Savings Time could cause animals and family to be out of sorts because of the change in their daily schedule. 1	The change to Standard Time makes commuters' after-work travel more dangerous because of darkness and deer. 2	The waning moon favors clipping hair and feet, worming, cleaning stalls, tattooing, castrating goats born last spring, and giving vaccinations. 3	Sow your earliest bedding plants seeds under lights near the new moon (November 15, December 14, and January 13). 4	The physical condition of your cows in fall is critical for their health in winter. Assess their nutritional needs now before it is too late. 5	Don't put a heater in your chicken coop. Chickens don't need it, and it increases the likelihood of fire. Use abundant litter instead. 6	Take orders for all your Thanksgiving turkeys. Don't forget the "feather market;" dyed feathers can bring \$1.00 each. 7
Your chickens will need 13 to 14 hours of daylight for laying eggs. You can keep lights on in the coop that long to encourage laying. 8	Make sure your bees have enough ventilation to prevent moisture condensation within the hive. 9	For holiday shows, prepare rootings of pothos, spider plants, Christmas cacti, wandering Jew, and jade tree cuttings to enhance your displays. 10	If you are treating your herd for mites, get all the goats at once — since mites are contagious! That's true for sheep, too! 11	Fertilize trees and bushes after leafdrop is complete. Prune fruit bearing bushes. Wrap young trees against the coming cold. 12	Train your guinea fowl to roost in a coop or shelter with roosting bars at night in order to keep them safe from predators. 13	Prepare for bedding plant seeding under tomorrow's new moon. Use sterile soil (or bake it to kill bacteria). Keep soil moist and warm. 14
Today's new moon with perigee is likely to bring severe weather. Be ready for storms and a late hurricane. 15	Provide a dry run for your rabbits, and offer toys that will help them overcome boredom and be more active through winter. 16	Try a tablespoon of paprika and one of molasses for your winter rheumatism and your livestock's — especially before a cold front. 17	Carefully monitor nutrition of your pregnant animals — that's one of the major ways to prevent abortions. 18	Harvest honey from your beehives, but be sure that the bees have enough honey to make it through the winter. 19	Stock your medicine cabinet: tincture of iodine for disinfecting the navels of kids and lambs; hydrogen peroxide and alcohol for treating superficial cuts. 20	Consider ultrasounds to verify pregnancy of animals that were bred in September or October. The test is reliable at about 60 days from breeding. 21
Take special care feeding pregnant mares: horses bred in April begin their period of most rapid fetal development at this time of year. 22	Goat milk demands higher prices in winter. Goat and sheep milk cheese and soap make appealing gifts for holiday markets. 23	Complete sow breeding for early spring litters. Prepare farrowing quarters that are warm, have good ventilation, but are protected from the wind. 24	If you raise sheep, plan for the hothouse market, a winter period during which to market your fall lambs that are nine to 16 weeks old. 25	After today, the percentage of cloudy days rapidly increases over the average for early November, increasing the likelihood for S.A.D. Thanksgiving 26	Pregnant animals should be drinking more as their young develop. Regular weighing will help you watch their progress. 27	Rheumatism in livestock increases during the cold and damp weather. Watch for weight loss and lameness, two major signs of that disease. 28
You and your animals may need up to one third more feed in winter than in summer, but over-feeding is not good for beasts or people. 29	Today's full moon will add power to the November 28 cold front, greatly increasing the chances of an early blizzard or ice storm. 30	<h1>november</h1>				
<p>October 28 Muhammad's Birthday (Mawlid Al-Nabi): Sunni Muslims celebrate Muhammad's birthday today. November 5 Muhammad's Birthday (Mawlid Al-Nabi): Shia Muslims celebrate Muhammad's birthday on this date. November 26 Thanksgiving</p>						

Observe the daily circle of the sun,
 And the short year of each revolving moon:
 By them thou shalt foresee the following day,
 Nor shall a starry night thy hopes betray.

Poor Richard's Almanack, 1733

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
december		Explore the South for mistletoe after the fall the leaves come down. Mistletoe can favor cash as well as love!	Bring in oregano, rosemary, parsley, and thyme for winter seasonings. Stake weaker shrubs and trees. Mulch strawberries with straw.	Order sunflower, beet, Jerusalem artichoke, pumpkin, comfrey, carrot, kale, and turnip seeds for a goat browse garden.	Put an entrance reducer in your beehives to keep mice from entering. Set up windbreaks in front of your hives to lessen winter chill.	Start late-gestation rations for ewes and does bred in September. Be alert for unusual weight gains or losses.
		1	2	3	4	5
As you sell your produce for Christmas, explore how to supply the Hanukkah and Kwanza markets in your area.	Testing of stored forage soon can pay dividends by helping you prepare balanced winter rations for your flock and herd.	In the warm spells between high-pressure systems, watch for spoiled silage — a source of sick livestock in late fall and early winter.	Try to save your best quality feed supplies for the colder months, the months closest to late winter and early spring birthing time.	Explore solid state chargers for your fences to lessen the chance that an animal could receive a dangerous level of current.	Add nutrients to dormant pasture in order to produce better yields next spring.	Shear ewes due to lamb near the end of January.
6	7	8	9	Hanukkah starts 10	11	12
Taking advantage of the dark moon. Get your bedding plants planted under lights. Root grape vine cuttings, too.	Today's new moon will introduce early winter with storms and chill throughout the United States and Canada.	Keep plenty of lukewarm water available for your chickens when temperatures fall below freezing. And don't let any of your livestock's water freeze.	Consider offering seaweed or seaweed meal (or salt) in your sheeps' diet; it is said to make the wool fine and soft, and help prevent foot rot.	Chinese New Year takes place on February 12-17 next year (the Year of the Ox). Plan a marketing strategy for this niche.	Don't let your rabbits' water freeze. Resolve to bring your rabbits warmed water every day.	Tamp down the snow around younger fruit trees after each snowstorm to protect them from mice working under the surface.
13	14	15	16	17	Hanukkah ends 18	19
Reduce protein in the feed you give your chickens and increase feed quantity and carbohydrates for winter.	Pruning season gets underway as average highs drop into the 30s; it continues until the average highs climb once again past 40.	The worst winter weather usually comes in the third week of December, the first 20 days of January and the first two weeks of February.	The full moon on December 29 is likely to complicate New Year's travel and make the January 1 cold front extra cold.	Scours (or diarrhea) is a common ailment of sheep associated with prolonged wintry conditions. Be alert for overly moist and frequent droppings.	Keep Christmas candy, chocolates, onions, mince pie, candles, and raisins away from your pets. Stick to standard animal treats.	Separate your thinnest pregnant ewes and does now and give them a little extra attention in order to improve their body condition and reduce risk of abortion.
20	21	22	23	24 Christmas Eve	25 Christmas Day	26
Breed sheep and goats in early winter for "spring babies" that will be born the end of May.	Lay out business expense receipts. Review income and losses of 2020. Make plans to increase productivity and sales outreach in 2021.	During the moon's third quarter (after today's full moon), be careful of abortions in your more delicate livestock.	If you are drawing tourists to your dairy or petting area, breed for kids and lambs to be ready for the first wave of passers-by.	Precipitation and relatively mild conditions often occur before the last front of the calendar year. Then deep winter grips the nation for six weeks.	December 10 – 18 Hanukkah (Jewish Festival of Lights): Traditional lamb dishes for this feast are commonly "finger foods" such as ribs and kibbeh (torpedo-shaped dumplings made with spiced ground lamb and bulgur wheat). This eight-day festival offers many possibilities to market. December 25 Christmas: Milk-fed lambs below 20 pounds are favored for this market. December 26 Kwanza: Market specialty items for this celebration throughout December.	
27	28	29	30	31 New Years Eve		

THE PLANETS

Venus is the Morning Star, continuing to dominate the eastern sky before dawn. Mars in Pisces lies in the eastern sky in the early evening and moves across the sky throughout the night. Jupiter and Saturn continue in Sagittarius, setting near last light. In the dusk on December 21, a "Grand Conjunction" of Jupiter and Saturn will occur in the far west.

THE STARS

At midnight, the Milky Way runs from east to west across the sky. The stars of the Summer Triangle are setting in far west, and Orion is climbing up from the eastern horizon. Hercules is now setting in the northwest, and Castor and Pollux, the twins of Gemini are peeking over the tree line in the northeast. By sunrise, Orion has shifted to the center of the heavens. January's Leo and its brightest star, Regulus, have come up in the east, and the Great Square is following Hercules into the Pacific.

THE SHOOTING STARS

The S. Taurid meteor shower peaks on the night of November 4 and 5. The Leonid meteor shower reaches its best on the night of the 17th. The Geminid meteor shower lasts from December 7 to 17, and its peak occurs on December 13 and 14, bringing more than 100 shooting stars per hour. December's second shower, the Ursid meteors, will fall across the sky on December 21-22 at the rate of just a handful every hour.

METEOROLOGY

Weather history suggests that the cold waves of this period usually cross the Mississippi River on or about November 2, 6, 11, 16, 20, 24, and 28 and December 3, 8, 15, 20, 25, and 29. Snow or rain often occurs prior to the passage of each major front.

It is probable that lunar perigee on November 14 will strengthen the power of the new moon on November 15, and that the full moon on November 30, will bring stronger-than-average storms to the United States, complicating harvest and travel. Lunar perigee on December 12, combined with new moon on December 14, will serve up a fierce beginning to the winter months, and full moon on December 29 will intensify the final high-pressure system of the year with considerable precipitation, followed by deep cold. For more weather information, consult *Poor Will's Weather Book*, available on Amazon.

THE SUN

Daylight Saving Time ends on November 1. Set your clocks back one hour at 2:00 a.m. On November 20, the Sun enters its Early Winter sign of Sagittarius. Winter solstice occurs at 5:02 a.m. on December 21. The Sun enters the Deep Winter constellation of Capricorn on the same day. On December 24, the Sun begins to move toward summer solstice, but the days do not actually start to lengthen until December 26.

LUNAR FEEDING PATTERNS FOR PEOPLE AND BEASTS

When the moon is **above** the continental United States, creatures are typically most active. The second-most-active times occur when the moon is **below** the earth.

DATE	ABOVE	BELOW
November 1-7	Midnight to Dawn	Afternoons
November 8-14	Mornings	Evenings
November 15-20	Afternoons	Midnight to Dawn
November 21-29	Evenings	Mornings
November 30	Midnight to Dawn	Afternoons
December 1-6	Midnight to Dawn	Afternoons
December 7-13	Mornings	Evenings
December 14-20	Afternoons	Midnight to Dawn
December 21-29	Evenings	Mornings
December 30-31	Midnight to Dawn	Afternoons

PHASES OF THE MOON

As the Corn and Soybean Harvest Moon watches over the last of the grain and bean harvesting, the weather becomes less benign, and pastures usually produce less nutrition. It is then time for the Manger Moon to preside over the feeding of hay and supplements to keep livestock well-fed. Finally, the Stell Moon, under which homesteaders provide their animals with stells (or shelters), ushers in the challenges of winter.

November 8 | The Corn and Soybean Harvest Moon enters its fourth quarter at 8:42 a.m.

November 14 | The moon is at perigee (its position closest to Earth) at 6:49 a.m.

November 15 | The Manger Moon is new at 12:08 a.m.

November 21 | The moon enters its second quarter at 11:46 a.m.

November 26 | The moon reaches apogee (its position farthest from Earth) at 7:30 p.m.

November 30 | The moon is full at 4:30 a.m. and a penumbral lunar eclipse will be visible in North America.

December 7 | The moon enters its fourth quarter at 7:27 p.m.

December 12 | The moon is at perigee (its position closest to Earth) at 3:43 p.m.

December 14 | The Stell Moon is new at 11:17 a.m.

December 21 | The moon enters its second quarter at 6:42 p.m.

December 24 | The moon reaches apogee (its position farthest from Earth) at 11:33 a.m.

December 29 | The moon is full at 10:29 p.m.

THE SCKRAMBLER NOVEMBER/DECEMBER

HOMESTEADING TOOLS

Most homesteaders have some of these tools, but maybe not all. Any one of them could make a fine Christmas gift.

REMAH	CHSLIE
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EPLISR	SNDRAE
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LRDRI	PPILLHS
HWCNE	REVDRISCRW
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LICNEP	IILSGD VBLEE
EIFNK	EPALN
PENRACRET	MPSCLA
QSRUAE	TAMLE ECTORTED

A prize of \$5.00 will be awarded to 3rd, 11th, 27th, and 68th persons who send their correct responses to

**Poor Will
P.O. Box 431**

Yellow Springs, OH 45387

before the answers appear in *Countryside*.

WINNERS & ANSWERS JULY/AUGUST

Poor Will promised prizes of \$5.00 to the 10th, 25th and 56th readers who solved the puzzle. The 10th was Michael Laviolette of Woodville, TX. The 25th was Karen Moyer of Wilton, IA. Only 38 entries were received.

MEARDS/DREAMS	NEESS FO RUMOH/ SENSE OF HUMOR
SLANP/PLANS	WOHWONK/ KNOWHOW
PEOH/HOPE	SSSNBBTUORE/ STUBBORNNESS
NEYOM/MONEY	MISMOIPT/OPTIMISM
MIET/TIME	DOGO AEHLTH/ GOOD HEALTH
NALD/LAND	STUG/GUTH
YTIVITAECR/ CREATIVITY	IFAHT/FAITH
REPECNSISTE/ PERSISTENCE	RETEDMINNOITA/ DETERMINATION
IENCPAET/PATIENCE	VOEL/LOVE
ENDSIRF/FRIENDS	
XEIBLFILITY/ FLEXIBILITY	

The winners of the September/October puzzle will be announced in January/February issue.

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ITEM 62523 10644983 **LIMIT 1** - Exp. 11/8/20*

drillmaster 4-1/2" Angle Grinder ★★★★★ (6382)

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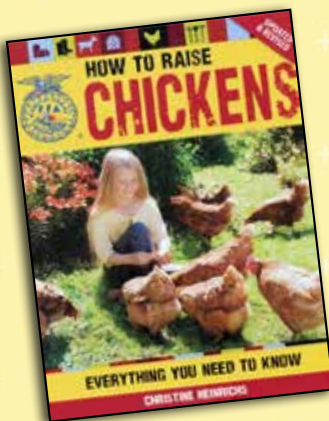
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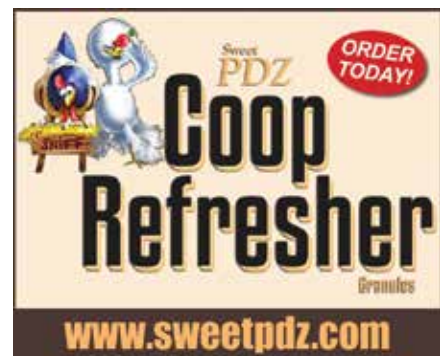
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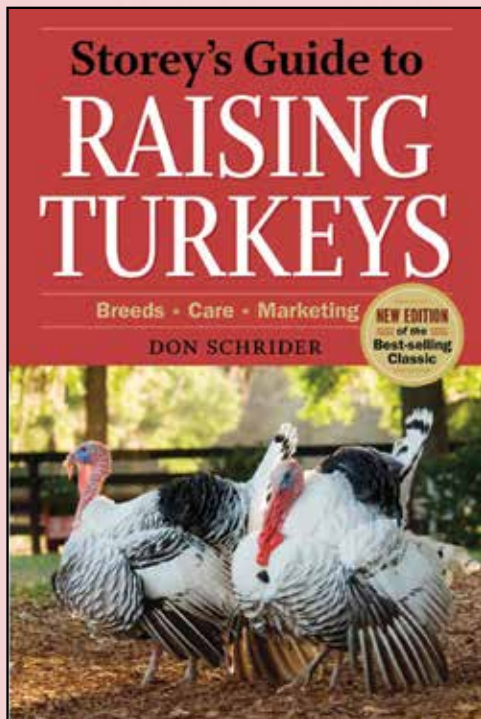
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