

The magazine of modern homesteading

COUNTRYSIDE

& Small Stock Journal

Volume 99 • Number 5

SEPTEMBER/OCTOBER 2015

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My granddaughter and her new friend.—Easter Mahon, Virginia

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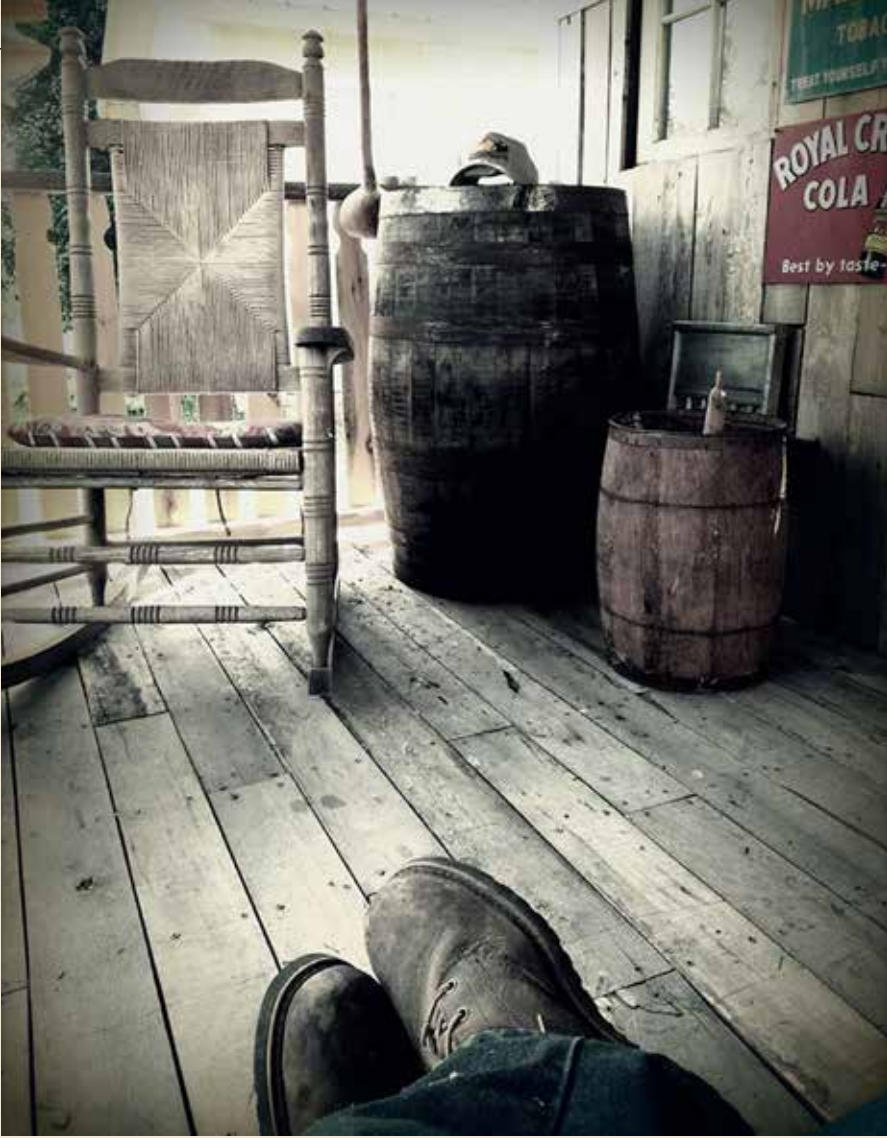
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This Screech Owl visited our back porch one evening and I was able to get a really close-up picture.
—Ruth Zook, Pennsylvania

This is my girlfriend Tinetta Cooper. She is legally blind and has slight mobility issues. She loves butterflies and can only see their movement as they fly by. Last fall I redid a small plot in our front yard to be a dedicated butterfly garden.
—John Bailey, Florida

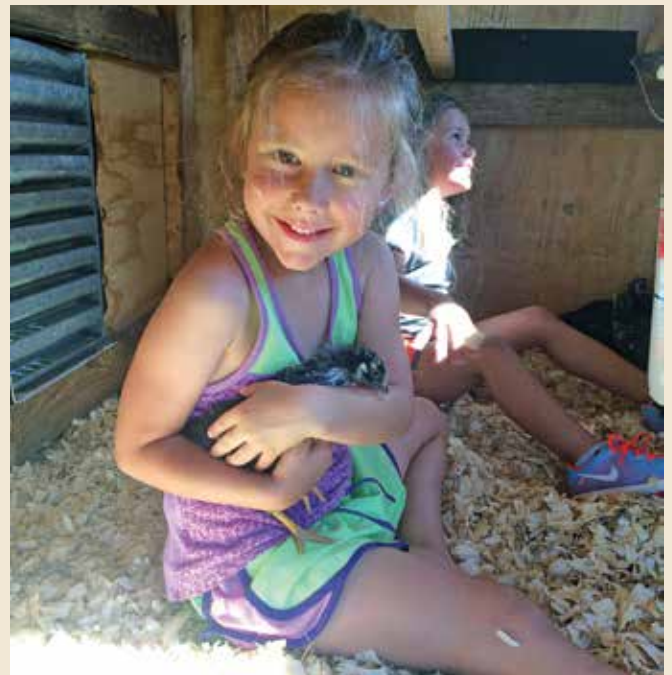




Here is a photo of me taking a break on the porch swing at our farm in Kentucky. —
[Marke Richardson, Kentucky](#)



Our Olde English Babydoll Southdown miniature sheep, is named Tuesday, the day after she was born. —
[Ted Sponsel, Alaska](#)



My granddaughters Bre and Bri. I call them my chick whisperers. —
[Mitch Minnis, Kansas](#)



We had a pet photographer come to our house over the holidays to do our annual family portrait, and she managed to get this fabulous shot of our beautiful Easter Egger rooster, Eggs Benedict. —Angela Rudd, North Carolina



Mamma goat with her kid. —Elfi Brandstatter, Maine



“Today’s Harvest” — I couldn’t resist snapping this photo of the day’s pickings from forest and garden.
— Jennifer Quinn, Virginia

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Cabin Pressure

I was on a plane last spring, flying out of the airport near my home in Boulder, Colorado, and out the window, I could see something startling—the pressures on small farmers, as clear as day. A ring of small farms dotted the city borders, all about 10-20 acres, many of which I pass on a daily basis. They sell vegetables, meat and eggs, are affordable, and are about the nicest people you could meet.



On the inside of the ring was, of course, residential development, butting right up against their acreages. Beyond their fencerows, large, commercial farms dominated. In fact, they stretched for the next 2,000 miles across the Midwest, only to be broken by the same urban-suburban-small-farm-large-farm pattern. With this visual in mind, you can literally understand why people say that small farms are being squeezed.

Anyway, this is nothing new, but the reminder about the pressures on small farms, even from 30,000 feet, is often still needed. It's why we chose this issue's cover stories, which feature descriptions of different homesteaders and small farmers who chose different ways to keep their farms alive. From agritourism to YouTube clinics to down-and-dirty hard work, they all have something in common: they are on the front lines in the fight to maintain their small farms, and they are holding their own.

RYAN SLABAUGH
Editor, COUNTRYSIDE

One heads-up: We have a new website at www.countrysidemag.com, and are updating it daily with stories, homesteading information and tons more, including videos, photo galleries and gardening tips. It's fun. If you are online, please join us.

Our Philosophy

It's not a single idea, but many ideas and attitudes, including a reverence for nature and a preference for country life; a desire for maximum personal self-reliance and creative leisure; a concern for family nurture and community cohesion; a belief that the primary reward of work should be well-being rather than money; a certain nostalgia for the supposed simplicities of the past and an anxiety about the technological and bureaucratic complexities of the present and the future; and a taste for the plain and functional.

COUNTRYSIDE reflects and supports the simple life, and calls its practitioners homesteaders.

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Recycle vs. Repurpose

COUNTRYSIDE: After reading the story “Hundreds of Buckets,” I think people don’t understand what the difference between recycling and repurposing. If the buckets were recycled, they would have been ground down and the plastic would have been used to make a new product. These were used to take up space in a wall or “repurposed.” In reality they were buried in a wall instead of the landfill and not recycled into a new product. By the way, I like your new format.

Duane Brown
Wisconsin

In Regards to One-Dimensional Medicine

COUNTRYSIDE: I am a registered nurse, doctor of chiropractic and acupuncturist with two very fun interesting hobbies—herbology and nutrition. In regards to the article “One-dimensional medicine” (May/June 2015), I have not encountered something so one-dimensional. As a child growing up my parents taught me a very important lesson, it goes something like this: “People are people the world around.” In medicine it applies as well, because there are good practitioners in every field, in every aspect of medicine, and there are bad ones too. In this article the author said that Big Pharma was not such a big problem, and that it had caught a bad rap and a bad reputation. I believe

it is a reputation that it deserves.

Pharmaceuticals serve a purpose in health care, especially in heroic medicine. At the moment in our current United States “health care” model it is an over-utilized tool. This tool kills often, injures often, is expensive and sometimes helps. The CDC states very clearly that prescription medication claims 44 deaths a day—that is over 16,000 deaths a year. A patient must be careful regardless of the practitioner that they go to because ultimately they have the responsibility of their own health.

The author says that in the United States the doctors are trained in complementary and alternative medicine (CAM), and that is not the case. They have very little training in CAM and their training is not geared toward learning these types of treatments. For example, I would not go to a beekeeper to ask about the health of my goats. The true dimension of health care is that all parties are necessary to advise and help the patient or these professions would not exist. An MD gets a three-hour elective course in nutrition, with outdated changing information based on the 1950s food guide pyramid. MDs receive very little or no biochemistry, much less how herbs and prescriptions interact. As a chiropractor I have received more biochemistry and nutrition with my standard education than a medical doctor does in their

standard education. Nurses receive more nutritional education than a medical doctor. There has been some indication that medical doctors are going to begin (sometime in the next five years) trying to educate their ranks in wellness and I am encouraged by this trend. At the moment, most MDs cannot keep up with the ever-increasing number of prescription medications available and prescribed to their patients with the ever-increasing pressure and stress of seeing more and more patients in less time. I cannot imagine that anyone really could. It is why there is such a need to specialize because then a doctor is only responsible for the foot that they are looking at or the heart they examine and not how the foot and the heart are connected. The author needs to do a little research on the education of the practitioners that she is down grading to quackery before she makes these statements.

In the article the author also gave two very extreme examples of people taking supplements beyond reason. And there is absolutely no reason for that whatsoever. In fact, that is much the same when a person is on 20-plus prescription medications and 10 or more over the counter, this is way out of control on both extremes. The average number of prescription medications per capita in the U.S. is 12 by the way, and I am on none so someone else is on 24.

In the article the author wrote that the expenditures of CAM were 33.9 billion and failed to document or even mention that as a country the U.S. spent 3.8 trillion in 2012, this figure has only gone up (estimated to raise by 7.5 percent every year). By the way, 33.9 billion is only 0.0089% of the 3.8 trillion spent in the U.S. yearly. So the “greedy little grubby fingers” of the CAM providers bellowing over this grand amount needs to be put into perspective, this is a ridiculously small portion of what is spent on health care of any kind in this country. Part of the reason that Big Pharma has gotten their reputation is because prescriptions that cost patients \$10 in other countries cost patients \$230-plus here in the U.S. There is no other explanation but price gouging that adequately covers this disparity on so many medications. Often pharmaceutical companies provide tainted heavy metal vaccinations to the nation with the convenient excuse of “we can package it without a sterile environment if we put mercury substitutes in the flu vaccine.” This saves them a dollar per vial of 10 doses. They also charge four times as much for the same vaccine without these deadly preservatives. I am in no way saying these companies should not make a profit. Last year Big Pharma made 18 percent profit, the same as the banking industry and twice as much as the oil and gas industry. The U.S. Big Pharma company Pfizer had a record 42 percent profit margin in 2014. At some point the drive to make a profit becomes profiteering. These are cold hard numbers reported and nothing to do with a cultural meme.

It is my personal opinion that in order for a patient to maintain and reach health they might need any or all of the available practitioners to remain in balance and healthy in body and spirit. The history of our health care demonstrates that we need naturopaths, medical doctors, and chiropractic physicians, nurses, Reiki healer, acupuncturist, nutritionists, herbologist, priests and shamans, usually not all at once. This is not an all-encompassing list, but it should demonstrate that no profes-

sion could include all the dimensions of any one person’s health care needs.

Dr. Marjorie Rhoads, D.C., RN

A Good Read

COUNTRYSIDE: I just finished reading the May/June 2015 edition and I want to applaud you on several articles. First, “More Pros Than Cons” by John Hibma: Finally an article that discusses the GMO controversy with solid scientific evidence and not just emotions. Don’t shoot the farmers who are trying to make a living with farming as their career—most farmers in our area are moderate to large-sized family farms, employing several people from the community. GMO crops have continued to make farming possible for them, their families and their employees!

Second, “The Truth About Farmsteading,” by Rhonda Crank: great article discussing the sad realities of farming. I often forget about that part of how the animal will get on my plate when I dream of raising my own meat. Ms. Crank discusses this hard reality in a real, yet positive and encouraging way. Wonderfully written and thought provoking!

Third, “Trading High Heels for Work Boots,” by Jill Wilmoth: I too traded in my dress shoes for worn out sneakers and work boots three years ago and my family and I do not regret it one bit. While the paycheck is substantially lower, the joy and satisfaction from growing and preserving nearly all of my family’s vegetable and fruit needs for the entire year makes it worth it. Great article, Ms. Wilmoth!

And finally, “A Father’s Day Tradition,” by Marshall Nych: My husband and I can completely relate to the joy and wonder of taking your daughter to the great outdoors. In my opinion, there isn’t a better way for child/parent relationships (and husband/wife relationships) to build and flourish than by getting outside together whether it is through exploring a trail, geocaching or finding the perfect fishing hole. Mr. Nych, you put into beautiful and eloquent words why my husband and I escape to the wild places with our 7-year-old daughter

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I hope to read more encouraging, uplifting, thought-provoking, and scientifically accurate articles like these in the future. Great job on this edition!

R. Chapman
Iowa

Ban GMOs

COUNTRYSIDE: Regarding the May/June issue, I would like to see a total ban on GMOs, not just labeling them. Every time they mess with nature they make a bigger problem than they started out with. Banning Monsanto would be the best thing for the health of the planet. Once they have destroyed the soil, how will they feed anyone? Chemicals are everywhere—water, air and ground.

We read **COUNTRYSIDE** cover-to-cover—great mag! Keep up the good work.

Al
Waterford, Maine

Oppose GMOs

COUNTRYSIDE: I was saddened and shocked to read this deceptive article. It did not address honestly the concerns of those opposed to genetically modified food. I would recommend everyone watch Deborah Koons Garcia’s documentary, “The Future of Food.” It shines a light on all the false arguments used by proponents of genetically modified crops and food.

If you would like to gain a broader perspective of the link between healthy soil and civilization I would also recommend: “Symphony of the Soil” by Deborah Koons Garcia; “Numbers the Nature of Plants” a film by Terrance Youk & Ann Armbrecht; “Restoration Agriculture in Practice” by Mark Shepard; and “The Growing Edge,” a documentary by Donna Read and Starhawk. May we restore health to this beautiful world!

Christine Dye
Kalispell, Montana

More GMO Info

COUNTRYSIDE: I was disappointed to see the pro-GMO dribble in your May/June issue. The article implies

that only misinformed people are against genetically mis-engineered foods. This is not the case.

Contrary to what the “expert” (GMO shill) says, GMOs are so totally different from cross-breeding that they aren’t even in the same ball field. The primitive gene insertion process damages hundreds of genes which then produce unknown proteins, some of which can cause cancer, or allergies, or gut issues, or damage to bodily organs.

David Suzuki is a world famous geneticist. He’s one of the top scientists in Canada; his textbook is one of the most widely-used in the world; he has published more than 30 books. As head of the David Suzuki Foundation, he’s both a promoter of science and a popularizer. So when David Suzuki speaks, I listen. Dr. David Suzuki says, “Anyone that says, ‘oh, we know that genetic engineered foods are perfectly safe,’ I say is either unbelievably stupid, or is deliberately lying.” That is what a world expert says about GMOs.

I hope you will have an article forthcoming giving the real story on dangers of GMOs to our ecosystem and life on this planet.

Several years back, I had IBS (irritable bowel syndrome) for years. As an experiment I took all GMOs out of my diet for one month. Within a few weeks my gut returned to normal. So I permanently switched to a non-GMO diet and for years now I have had a very healthy gut. On vacations, when organic restaurants are not available in the area, eating those GMO-contaminated foods cause gut issues again. Upon returning home and eating good foods, my gut becomes normal again after a few weeks.

GMOs are contaminating the biology of this planet with defective genes that can cause chronic illnesses. They need to be removed from the food supply.

Steve Gruchawka
Mississippi

Solution for Raw Milk

COUNTRYSIDE: Over the years I have read articles on raw milk. I have always felt if you wanted something you should be able to get it.

A few years ago our doctor, who

is an alternative doctor, and others worked with the state legislature to get an informed consent form for patients to sign. In essence it says that you know how you are being medically cared for and gives the health care provider protection from lawsuits.

If the farmers had protection from lawsuits by way of informed consent forms, patrons could purchase raw whole milk.

Here is a copy of the Ohio medical informed consent law: 4731.227 Using alternative medical treatments.

An individual authorized to practice medicine and surgery or osteopathic medicine and surgery may use alternative medical treatments if the individual has provided the information necessary to obtain informed consent from the patient and the treatment meets the standards enforced by the state medical board pursuant to section 4731.22 of the Revised Code and any rules adopted by the board. As used in this section, “alternative medical treatment” means care that is complementary to or different from conventional medical care but is reasonable when the benefits and risks of the alternative medical treatment and the conventional medical care are compared.

Kenneth Moore
Ohio

Raised on Raw Milk

COUNTRYSIDE: I really enjoy your magazine. I am a homesteader of 27 years. My late husband and I did it all from scratch and I loved every minute of it. We had little money, but a lot of love and the will power to work for what we wanted. I have no typewriter or internet.

After reading the article on raw milk, I had to respond, being raised on raw milk myself.

I drank raw milk for 67 years and nothing tastes better. We milked three and four cows—we churned the cream for butter and made our own cottage cheese. Everything we cooked at our house was seasoned with butter, lard, or country cured meat from hogs we butchered and cured. We didn’t know what oil or margarine was.

We had no electricity or running

water in our house. We kept our milk and butter in a homemade concrete milk box about 5-inches thick with a hole on each end so water could flow through. The milk box was at a spring about one mile from the house. We had a pipe coming from the spring into the milk box and the water would run out the lower end. That kept our milk and butter cold and fresh and we had it on the table three times a day. Someone had to go to the box and get the milk for each meal. All the jars and pots and the milk strainer were sterilized in boiling water before the milk was put in.

When I was around 12 years old we had a well dug in our yard. It was lined with rocks with a platform and box around it with lids. It had a pulley with a chain with a bucket on each end for water.

Papa moved the milk box by wagon from the spring to a tree near the well, and fixed a box with a pipe that ran water into the milk box. He closed one end of the box and we put water from the well into the milk box. Several times a day I had to drain the hot water out of the box and put cold water in the box—that was a job. The milk stayed cool and never soured. No one ever got sick. Later on we purchased an icebox and we used that to put ice in from the icehouse. We used the icebox for our milk, peppermint tea and pies in the summer. We never did put electric in the house, even though the electric company put lines right to our yard. When I was 16 we did get a party line telephone. *(Ed. note: For those of you who don't know, a party line is a telephone line that is shared between two or more neighbors. If you picked up the phone, you could hear others' conversations, which was very entertaining for nosy neighbors.)*

We washed our clothes on a washboard and used an outhouse for a bathroom. We all bathed every day—Mama said cleanliness was next to godliness. Being clean with milk and food was a must at our house.

In those days, if you had excess cream a creamery would buy it all. They picked up on Mondays and Fridays.

We kept a salt and a sulfur block in the pasture at all times for our cows and calves. If I knew someone who sold raw milk and butter and

were clean with it, I'd buy some. I still cook with butter and lard—no man-made spreads for me.

After I married my late husband, we purchased seven acres and homesteaded.

I will be 86 on my next birthday and I am still gardening. I feel fine, except for some arthritis.

Mama raised eight children on raw milk and I'm the youngest. All lived to be in their 80s, and my mother was 97 when she passed.

Elnora S.

West Virginia

Chiggers Don't Burrow

COUNTRYSIDE: I was hoping to dispel a myth about the curse that is "chiggers." Anyone who has ever had a bad case knows they are a plague on mankind. They do not, however, burrow into human skin and reside there for any length of time.

They bite, similar to a tick, with specialized mouthparts and then inject saliva and enzymes that cause a hardening of the surrounding tissue, which forms a small tube through which they can feed. After a brief drink, they leave. They do not crawl in and take up residence. By the time you feel the itch they are long gone. Therefore, any cures that tout the benefit of "driving them out" like bathing in bleach water or "smothering the chiggers" by putting clear nail polish over the bites, are just wasting one's time. Better to focus on something that will stop the itching like a topical antihistamine or drying cream than to spend time trying to evict invaders that jumped ship well before your efforts to cope with the aftermath of the attack begins.

Brandon Downing

A Trick for Bread

COUNTRYSIDE: I make almost 100 percent of the bread my family eats. My house is 60°F during the day in the winter and 55°F at night. My 30-year-old starter does not care for the temperature and is very sluggish as a result. I have struggled for years to figure out how to keep the starter warm overnight and the dough warm enough to rise more quickly. A couple of years ago I started seeing proofers in magazines, but they were much too

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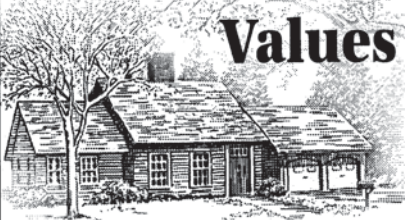
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expensive for me and too small. That got me to thinking hard. Necessity is the mother of invention, right?

We had an old, worn out ice chest, destined for the landfill. My husband ran an electrical cord through the drain hole and wired it to a porcelain light socket mounted on wood. We tried an incandescent light bulb first, and have settled on a florescent bulb.

At night, I mix up my starter and put it, as well as my flour, in the ice chest and plug in the light. In the coldest part of winter, I cover it with an old winter coat. In the morning, I knead my bread and put it back in the ice chest to rise. Once it has risen to the top of the bowl, I put it in loaf pans and put the pans on the wooden rack my husband made so I can get four loaves in the ice chest to rise. All in all, the dough has risen much more consistently since we started using our ice chest proofer and the only cost to us was the porcelain light socket.

M. Friesen
 Kansas

A Roundup Rebuttal

COUNTRYSIDE: I just received my July/August copy of COUNTRYSIDE magazine and had to write you immediately in regards to the rebuttal you printed in your feedback section of the original article about glyphosate in straw.

I should start this by saying that my husband is big ag; he plants, sprays, and we combine for other farmers. I am a heritage and organic farmer, and long story short, we were that way when we met, and because we love each other we get along just fine.

I can tell you 100 percent that the spraying of Roundup on not only wheat, but also oats, and happens regularly once it is dry and ready for harvest. It has nothing to do with using it as a desiccant, but to kill off any weeds or grass in the field so that it doesn't gum up the combine, to eliminate weed seeds in the grain, and to keep the green stuff out of the straw.

The fact that neither crop is "Roundup ready" is true, but it certainly gets used on both of them prior to harvest so yes, there is glyphosate on much of the wheat and oat straw out there,

but not all of it. That all depends on the farmer and if they're selling the straw, or if there's a weed issue. If they are selling the straw, keeping the "green stuff" out certainly warrants the cost to the farmer. And it gets sprayed with other chemicals and herbicides throughout the year, so those sprayer tracks "running over perfectly good wheat" as was mentioned, are already there from the start.

There is a lot of misinformation out there, but you can take this straight from the sprayer operator wife's mouth because I've personally seen it done many times. If you want to know what is really going on with our mass-produced food system, please do yourself and everyone you will share the information with a justice and talk to an actual farmer. That's where the truth lies, and it's not a story for the faint of heart. Let me end by saying that companies like Monsanto spend a lot of money discrediting people when the truth doesn't suit their agenda.

I hope this helps the other organic gardeners out there make an informed decision when choosing bedding for their critters or mulch for their garden.

Cheryl Wirz
 Antigo, Wisconsin

Nych Dissapoints

COUNTRYSIDE: I have subscribed to COUNTRYSIDE for many years and my mother before that (in the 70s) so the changes lately have taken some getting used to, but the article by Marshall Nych in the July/Aug 2015 issue is, to me, very disappointing, especially that you would print it. If it was meant as a joke I don't think it was very funny and if it was seriously written and this family actually does these things, well, I don't think COUNTRYSIDE should give them space in what is otherwise a quality magazine. Please continue to keep the standard high so we can trust COUNTRYSIDE to give us guidance on raising animals, gardens, hands on how to do articles and personal stories of a higher caliber than the Nych article represented.

Elizabeth A. Moore

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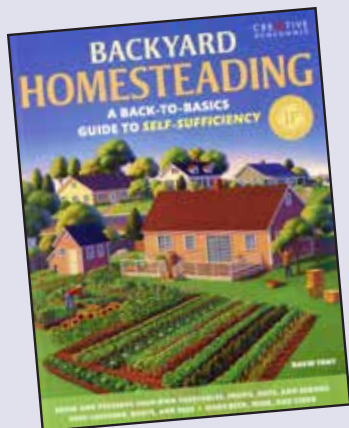
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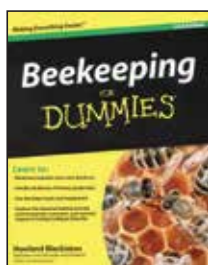
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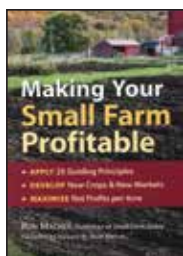


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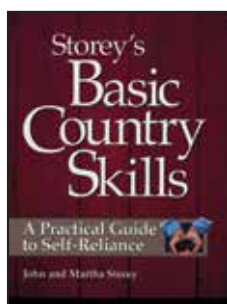


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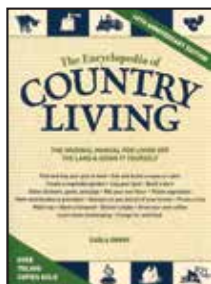


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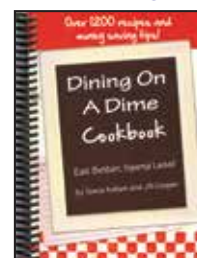


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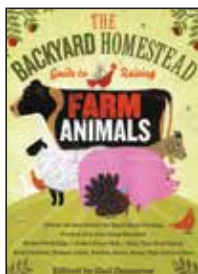
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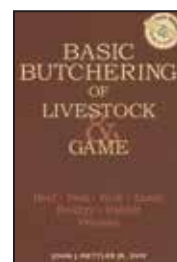
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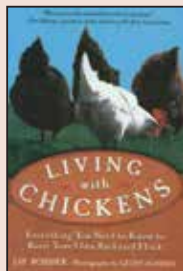
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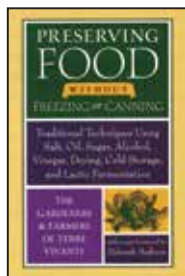


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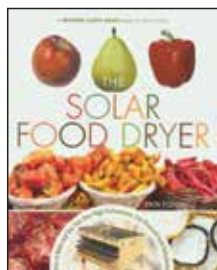


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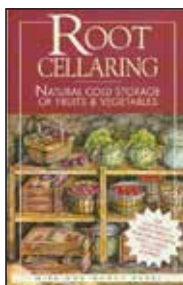


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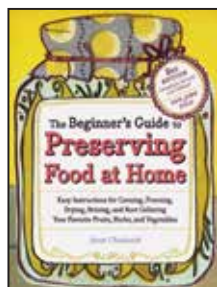


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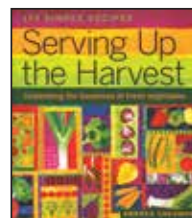


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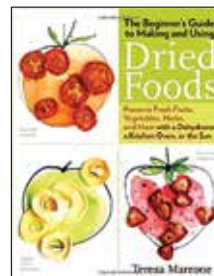


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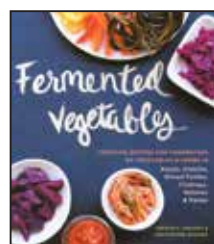
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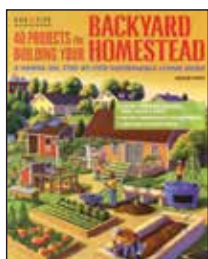
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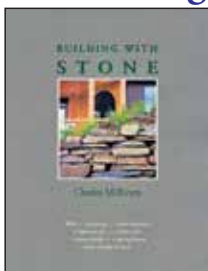
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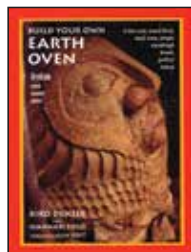
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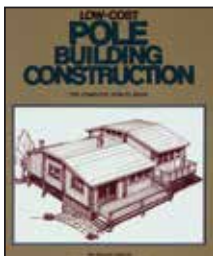
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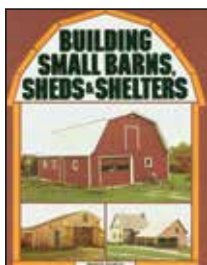
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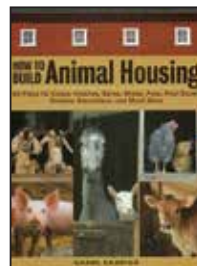
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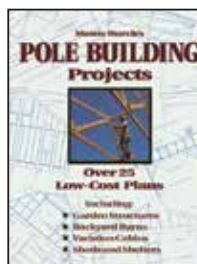
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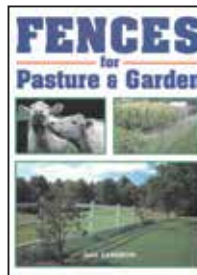
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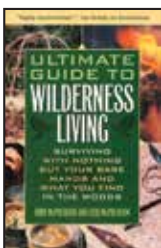
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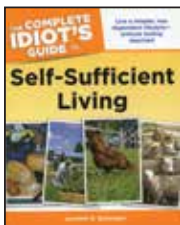
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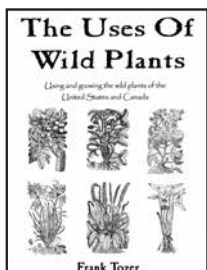
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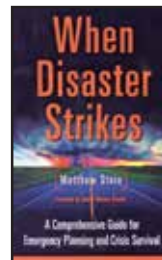
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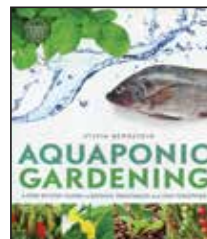


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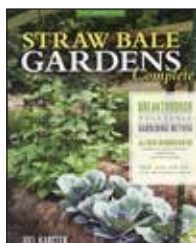


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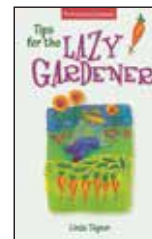


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Business Tips For Growing Goji Berries

BY DON
DAUGS

MY INTRODUCTION TO GOJI (WOLFBERRIES) came many years ago on a friend's ranch in the Utah West Desert. One fall day while deer hunting, I came upon a large clump of plants covered with teardrop shaped red berries. The rancher had no clue what they were or where they came from. They looked familiar, so I tasted one and sure enough: wolfberries. That fall, I transplanted a few plants to my garden and the next summer they were covered with fruit. Those few plants grew into a garden patch, which evolved into Phoenix Tears Nursery. We now produce thousands of bare root plants a year. I

retired in 2000 and now, at age 80, I have a love affair with wolfberries. They are among the most nutrient-dense foods.

OUR GOALS

Originally, our plan was to trademark the variety and restrict propagation. Having affection for the plants and their remarkable potential health benefits, we instead elected to set the goal of putting as many plants as possible in the hands of as many gardeners and growers as possible.

The second goal was to produce a quality product at a reasonable price, and the third and most amazing goal, was to provide reliable how-to information about growing these plants. Our website and a number of published magazine articles (see “Grow a Superfood: Goji Berries,” COUNTRYSIDE, May/June 2014), have provided answers for many interested people, but nothing is



better than talking to a live person.

It is not often that we get reports of plants not growing. Such instances are usually the result of poor watering, soil pH too low, or very high nitrogen. More typical is the following from a 2014 customer:

“I ordered three of your 2-year-old roots 8/9/14 and planted them in a raised bed (with salvia) around 8/22/14. I couldn’t decide where to put them and called you for help. I noticed they were loaded with buds about 10/5/14 and saw the first flowers today (10/8/14). I don’t know what frost does to blooms and fruit, but we are about a month away from our average first frost date, so I hope to see fruit this year, which amazes me since the plants are less than two inches tall and less than two months in the ground. Thanks for great plants.”

Most existing literature indicates that it is not possible to get fruit from first-year plants. This may be true

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Goji Berry Plants

See COUNTRYSIDE May/June 2014 for *Grow a Superfood: Goji Berries*. Hardy zones 3-10.



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IN THE GARDEN :: BERRIES

for their varieties, but we often get fruit, even from cuttings started in the spring.

OUR SUPPLIERS

We contract with a few other local growers to supply bare root plants. These growers are paid from 40 to 55 percent of the sale price, depending on the size of the plants. One of my granddaughters has a garden spot that produced more than \$2,000 worth of plants last summer and will do even better this coming summer. That plot is 50 feet by 30 feet in size. Not bad for a 12-year-old girl. Each grower manages plants in their own way. One grower mows plants off in the fall, thus producing a maximum of new shoots in the spring. We also obtain more mature plants from the West Desert site where the plants were originally found.

Our nursery site produces the majority of our plants, with emphasis on 1-year-old starts, but also includes large numbers of older plants. Our West Desert grower has a plant that we think is at least 100 years old. It is at the site of the first white settler in the area and is still producing fruit. Our plants are available year round. In the fall plants are dug, trimmed, and stored in refrigerators for winter shipping. The plants can be stored for up to six months at from 35 to 40°F.

OUR STAFF

Staffing for Phoenix Tears Nursery has been basically a two-person operation, a husband-wife team. My wife does all the record-keeping and office work. The importance of all the plant ordering, advertising, printing, mailing, and money details can't be overemphasized. All of the field and shipping related details are my responsibility. When large orders come in, part-time workers assist, and part-time workers also help with weeding.

For the hours we devote to the business, we are well paid.

OUR SALES

We go to market in a variety of ways. For the local plant market we have potted plants in various size containers, depending on the size of the plant. They sell from \$15 to \$50.

Commercial start-ups by our customers have varied in levels of success. Locally, one woman sells fresh fruit at a farmers market at \$5.95 for four ounces. Another person in Oklahoma is selling fresh fruit to a specialty restaurant for a much higher price. More and more restaurants are featuring locally grown food, and the goji fruit add-on is a chef's delight. These sorts of ventures are becoming fairly common. Another grower is contracting with Whole Foods for local sales and another has a website selling leaves for tea. We have three people who order large numbers of plants at wholesale prices and then resell them on their websites. A California grower has converted five acres of almonds to wolfberries, and another will produce more than 12,000 plants this year. He started with 600 plants three years ago. Our best customer has preordered 14,000 plants for the 2015 growing season, with a retail value of more than \$140,000.

With awareness of the goji and wolfberry names growing exponentially, now is a good time to add wolfberry growing to diversify and add to farm income. We recommend starting small and getting familiar with the plants before going big. Even the addition of as few as 15 plants in a garden, could add a low investment, high return crop. A mature row, starting with 15 plants can, under optimal conditions, produce 100 pounds of fresh fruit.

Anyone growing plants for bare root sale has the potential to tap this type of market. The same mature row of 15 plants will produce nearly 1,000 side shoots a year if managed appropriately. These shoots are what are normally sold by nurseries for from \$7 to more than \$15 each.

Do the math. Sending a bare root sample to all the nurseries in the state, with growing instructions, website information, and a price list, is on our to-do list for this spring.

SHIPPING

Smaller orders are shipped U.S. Postal Service Priority Mail. Using recycled cardboard boxes reduces shipping costs. Large orders are sent Fed Ex. There is a considerable savings if you have a Fed Ex account. Running a special, or informing previous customers of a special on plants or shipping, always increases sales. All plants shipped out of state must be trimmed, washed and are required to be soil free. Both field and processed plants are USDA inspected every three months. A nursery inspection certificate is required for every shipment going out of state.

MARKETING THE BERRY

Advertising for local sales is done on three regional free classified ad sites. This is not an area of emphasis, as it requires more labor than field grown plants. Our website is our main source of retail and wholesale customers. Prices posted on our website cover all available plant sizes and prices. The more you buy, the less they cost. This site serves everyone from the person wanting one plant, to the wholesaler who wants 500 or more plants for resale.

The website is enhanced by advertising in selected magazines. Feedback on our order forms indicates where the customer heard about us. Often the least expensive ads have been the most effective. One magazine that was very productive years ago has evolved to be the least productive this past year. It will be dropped and replaced with a trial in a few new magazines next year.

Farm tours have been a fun way to introduce wolfberry growing to prospective growers. We have had groups fly in from California and other travelers have made the nursery a stopping place. The two

groups who visited from California are both now producing wolfberries commercially. The consulting was free. We provide all the propagation and harvesting information needed to get started.

The same privilege is extended to the person who wants to buy one plant or the person who has purchased another variety and would like our insights on how to produce a better crop.

Pictures are great marketing tools. We often include a picture with our responses to email requests for information. One of these email pictures is of fruit on starts planted in April and fruiting in September.

An eight-page brochure is provided for all persons requesting a catalog. Our cookbook has also been a great success. We are now ready for our fourth printing. There are some Chinese cookbooks that include a few recipes using wolfberries, but there is no other book with more than 100 wolfberry recipes, including, drinks, salads, main dishes, muffins and desserts.

OUR QUALIFICATIONS

Local USDA extension office personnel have been sources of both help and support. The weekly "Greenhouse" program on a local radio station is hosted by an extension service horticulturist who has mentioned our program more than once, and he also played a role in Specialty Crop grant writing. Another extension agent comes to inspect the nursery operation every three months for insects and disease. Copies of his inspection certificate accompany every plant sold.

Our pest-free status is apparently related to plant type and our soil type. We can't be certified organic because the county sprays for mosquitoes within a half-mile of the nursery. Our only pest challenge has been powdery mildew. We were not able to harvest leaves one fall due to powdery mildew. We applied diatomaceous earth to the area and have not had a recurrence of the problem. ☺



5 Questions About The Goji Berry Business

HOW MUCH DO WE KNOW ABOUT THE BERRIES?

Two U.S.D.A. Specialty Crop grants provided funding for DNA identification and nutrient profiling. The plants are definitely *Lycium barbarum*, and the nutrients are as high as, or higher than, any fruit from China. This research was a major factor in the marketability of our plants.

WHAT ZONES DO THEY GROW IN?

Most sources list their plants as hardy zones 5 to 9. We have plants growing in hardness zones 3 to 10. The most critical factor in propagating wolfberries seems to be soil pH. The pH must be 6.8 or higher.

CAN YOU USE THE WHOLE PLANT?

Yes. The fresh and dried leaf market is virtually untouched in America. Leaves have been a source of food, medicine and tea in China for centuries. With an antioxidant value of five times that of pomegranate, and the ability to thrive anywhere in the United States with a soil pH of 6.8 or higher, leaves have a great marketing potential. This will be an area of marketing emphasis for us over the next few years. Dried leaves are less labor intensive than dried fruit, thus, offering an enhanced profit potential. There are few crops in which roots, leaves and fruit are all marketable.

ARE THEY USED FOR MEDICINAL REASONS?

Though willing to share propagation, harvesting, and nutrient-related information, it is more difficult to deal with the many health-related inquiries that come along. Rather than indicate that fruit or leaves may be helpful for a given health problem, we can site our data on content of nutrients such as antioxidants, betaine or PQQ, and indicate what these nutrients do in the body. If inquiries relate to a given illness, we refer people to other sources for use of wolfberries as a health promoting aid.

WHAT GROWTH HAVE YOU SEEN?

When we started growing and selling wolfberry plants 12 years ago, only a small number of health food stores carried wolfberries. Then, as now, the dried fruit found in stores all comes from China. At that time only a few nursery catalogs sold wolfberry plants. Now many more food conscious people are aware of the health benefits of goji berries and goji juice. Nearly every major national nursery catalog now sells wolfberry plants. No other crop has a matching potential for health and financial benefits.

Grow Onions to Keep

BY
NANCY
PIERSON
FARRIS
SOUTH CAROLINA

WHEN CHOOSING ONION varieties for your garden, consider the day length and temperature requirements. Local garden suppliers will offer the type best suited for your area; but if you want to try something different, take care. I cannot grow a long-day variety like Red Zeplin or Sweet Spanish, which need 13 to 14 hours of sunlight. By the time days stretch long in my area of South Carolina, temperatures have reached 80°F and climbing. When onions are subjected to high temperatures, tops will die, bulb growth will cease, and those onions will not keep well in storage.

Short day varieties such as Texas Sweet, Yellow Granex and Red Creole, need about 10 to 12 hours of sunlight to make large bulbs. In my area, I must plant them early to mature before temperatures rise. Since onions tolerate light frost, I can plant in late February in order to harvest in May.

Sweet onion varieties are usually available only as plants, which cost more than sets, but I can start using the tops almost immediately. Sets are usually sold by color and produce stronger flavored onions for cooking. I try to get at least some red onions because they contain healthy antioxidants; they look attractive in a salad, and they taste great on a burger. I have found, however, that yellow onions keep better in storage.

When I have more time than money, I start onions from seed, which costs about one-third as much as

buying plants. I use a deep flat and sow the seeds 90 days before my last frost date. I keep the flat in my small greenhouse, where I use a heat lamp only when night temperatures drop below 30°F. I keep the soil moist, but not soggy, and pick out any weeds that sprout.

About eight weeks before my last frost date, I start garden preparation. Onions need deeply cultivated, well-drained soil. My husband, Don, spreads litter from the goat barn and uses a rotary tiller to work it into the garden soil. The USDA recommends 25 pounds of compost, or a pound of 5-10-10 for a 50-foot row of onions.

For sweet onions, which I enjoy in salads, I buy bare root plants in bundles of about 75. Set four inches apart, a bundle fills half my 50-foot row. To finish out my row, I buy 1 1/2 pounds of sets. (Fifty sets equal a pound.)

As bulbs begin to swell, they need sunlight on their shoulders. After using a garden tiller to cultivate soil and control weeds, I find that soil has been thrown up over the onions. Leaving it will result in thick stems and small bulbs. Using a hand-held cultivator, I remove weeds from within the row and at the same time, I pull away soil to allow light to reach the bulbs.

Experts recommend side-dressing at six weeks, and about an inch of water per week. If rains fail, I use a soaker hose to get water directly to the delicate roots. Mulch helps preserve soil moisture, but I keep it pulled away from the bulbs so sunlight can get through.

As temperatures rise, I notice browning at the tips of my onion tops. From that point on, I withhold water. When most of the tops



Mrs. Farris plants sets about 4 inches apart.



Set 4 inches apart, a bundle of 75 will fill a 25-foot row.



Mrs. Farris uses a hand cultivator to pull soil away from maturing bulbs.



Onions need about an inch of water per week.

look dry and have fallen over, I gently break the remaining tops and allow them to dry for a few days before harvesting the crop.

After I pull the onions, I spread them in a single layer to allow them to thoroughly dry and cure. A table located under the overhang of our west-facing porch receives afternoon sunlight but is protected from rainfall. I check these onions regularly—if the roots crumble when I rub them gently, I prepare the bulbs for long-term storage.

I usually braid some—those whose tops seem strong enough to hold when I hang the braids. I use a shoestring or other cord to reinforce the braid. I tie the cord to a cluster of six small bulbs, then separate the tops into three strands, one of which includes the reinforcing cord. Then I begin to braid, bringing in larger onions as I work. When I have 12 to 15 onions in the braid, I make a loop at the top, and hang it on one of the hooks along the rafters of my back porch.

Large, solid onions are dried. I slice them and spread on the trays of my food drier. Trays are rotated, in accord with instructions I received with the drier. After about 24 to 30 hours, the onion slices are brittle dry (not leathery). I store them in glass jars in my pantry. Some, I grind into onion powder. For this, I use a coffee grinder (not the same device I use to grind my breakfast coffee). Dried onions keep almost indefinitely.

Onions that are scuffed or bruised, I use in canning. I put sliced or chopped onions with summer squash as I pack into jars. I use onions in my pickles. And I add onion and peppers to many jars when I can tomatoes.

I also prepare some onions for the freezer. I use enough olive oil

to slick the bottom of a large cast iron skillet, and then add diced onions. I cook them on low heat just until they are soft. I then spread them on a jelly roll pan (or a pizza pan) and set that into the freezer. I stir the onions a couple of times so they don't freeze into clumps. When they have frozen, I scoop the onions into a Zip-loc bag, and store them in the freezer. As I need chopped onions for a recipe, I can remove the amount I want.

The remaining onions go into cool storage where they may last for eight or nine months. I cut off the tops and place the onions into shallow boxes that I slide under the bed, where air-conditioning will keep them cool and dry through the summer. In the fall, when I need the under-bed storage for other things, I move the onions to the porch. Eventually, the last of the onions go into an old refrigerator, which we keep set at about 50°F.

In the fall, on butchering day, we grind onions along with some of the meat. This proves convenient when I make meat loaf or chili macaroni.

Any gardener can grow onions—as long as consideration is given to the variety best suited for day-length and temperatures in that location. A 50-foot row of onion plants and sets can produce 50 pounds of mature onions for use in canning, pickling, and long-term storage. ©

7 Steps to Prepare Your Garden For Fall



BY RHONDA
CRANK

THE RUSH OF HARVEST TIME is just about over, leaving the fall garden somewhat melancholy and deserted for many people. All we have awaiting harvest in our garden is the pumpkins.

Our farm, Fairhaven Farm, is in U.S. growing zone 8, so we are able to have a garden pretty much year-round. Late January and February is the most down time we see. However, many home gardeners are thinking of putting the garden to bed. Whether you live in a zone where you have snow, ice, hard freezing, or even permafrost, or in a more temperate zone like me, there are some basic preparations every gardener should perform during this transition time.

REMOVE PLANT DEBRIS

It's absolutely necessary to remove any diseased plants from your garden. We burn all diseased plants. We don't compost them. You may prefer tilling your garden, you may use raised beds exclusively, or use a combo

like us. Whatever your preferred garden style, the first thing you should do to prepare your garden for fall is remove or incorporate all the plant debris from your garden.

If you till your garden, you can till healthy plant debris into the soil. Doing this helps to improve drainage, introduce oxygen, relieve compaction, and enrich the soil. If you prefer to remove all debris from your garden, you can compost it, or feed it to your livestock, just as long as it's something that's safe for them to ingest.

We pull ours and lay it down, then we rotate the chickens through the garden one section at a time until they have scratched and

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It's absolutely necessary to remove any diseased plants from your garden. We burn all diseased plants.

incorporated the debris for us, at least what they didn't eat. Once they have completed a section or two, we add any fertilizer we feel necessary and begin laying a fresh layer of mulch over the area.

FERTILIZE

We are organic, non-GMO farmers, so we do not use any chemicals. We fertilize by using our vermicomposted soil (composting done with worms), compost tea, cover crops, and manure from our animals that are fed a non-GMO, organic diet. We also use BioWash. Fall is a great time to introduce nutrients to your garden since it's used up so much to produce its bounty for you.

Of course you can use any fertilizer you choose, including purchasing organic fertilizer. We like fertilizing in the fall to allow the winter rains to carry the fertilizer deep into the soil as it passes through the mulch, cover crops, or tilled soil. If you do leave your tilled soil open for the winter, it's a good idea to till in two directions to help prevent so much soil runoff.

MULCH OR TILL

Our garden is 100-feet by 50-feet, and we have planting containers and raised beds in addition to that. We have deep mulched about half of our garden. The plan is to get at least another quarter of it deep mulched this winter as part of our goal to have the whole area deep mulched. We want to do away with the need for any tilling, except in the feed plot.

By "deep mulching" I mean three to six inches of mulch material. We use leaves, pine straw, and decayed wood or wood chips because they are abundant resources here on the farm.

COVER CROPS

We also use cover crops in the fall and winter. Our personal favorite cover crop is buckwheat. Not only will buckwheat enrich the soil, it makes beautiful flowers which the honey bees love, providing food for them at this late time of the year. Planting buckwheat in an uncultivated area you would like to use as garden space is a great way to choke out weeds and grass and enrich the soil in preparation for planting.

Planting cover crops is very easy and beneficial to your soil. You can always check with your local extension office to find what grows best in your area. Cover crops protect your soil from erosion, as well as boosting the organic matter in your soil. Most people lay their cover crops down by cutting or tilling them into the ground before they are able to form seeds. We allow our buckwheat to go to seed and come up a second time. Before it seeds again, we cut it down and leave it laying there until the chickens take care of it.

FALL CROPS

Across the southern U.S., we are planting our fall crops. Of course, we are careful with our crop rotation to ensure we don't abuse the soil and have bad crops. Our favorite winter crops are broccoli, cabbage, kale, Swiss chard, beets, radishes, carrots, Brussels sprouts, rutabaga, and of course, turnips and collard greens!

UPDATE YOUR GARDEN JOURNAL

Keeping a garden journal is essential to successful crop rotation, plant production, keeping track of any disease, weather patterns, what you liked and didn't like, what you

planted and how much, so many aspects of gardening. You will find the one I use on The Farmer's Lamp website. Fall is the best time to be sure all of your notes are in order. This will give you accurate information when you look back over the year during the winter. Doing this allows you to make decisions and improvements without trying to "remember everything," which is more challenging for some of us than others.

OTHER PREPARATIONS

Every experienced gardener knows there's more involved in transitioning your garden from spring to fall than just the garden work. Here are a few extra garden chores (like anyone needs more chores), which will make our spring gardening experience better, if we do them now.

Remove and drain any irrigating system, like soaker hoses, water hoses, water jugs, etc.

Inspect, repair, and clean your tools. My grandfather taught me to keep my shovels, hoes, and blades in a bucket of oil or sand to prevent rust and dullness.

Organize all your garden supplies taking a careful evaluation of what you used, and did not use, what you will need to repurchase, that sort of thing. You may also want to take note of any expiration dates and temperature restrictions of your supplies, especially botanicals as they tend to be temperature sensitive.

You can find more gardening help on our website at <http://thefarmerslamp.com/category/garden/>.

Hopefully, you've gained some help or at least been spurred to some thoughts and ideas from spending your time with me. You can always contact me with any questions or concerns and I will do all I can to get you the help you need. So get out there and get that garden put to bed, or those fall crops planted. ☺

Rhonda Crank and The Pack blog at The Farmer's Lamp, <http://thefarmerslamp.com>. Email her at thefarmerslamp@gmail.com.

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LEFT: One of my low tunnels using 10-foot lengths of ½-inch conduit for the frame. On the windward side (left), a 42-inch wide sheet of six-mil greenhouse poly protects the plants from wind. The right side uses seven-foot wide row cover that permits rain to reach the plants but also retains heat on cool nights. Because of occasional strong winds from the lee side, I doubled the number of clips holding the poly and left the bottom of the poly free to balloon out and relieve any wind pressure. I can also open one end and water the plants during dry weather.

ABOVE: Using a utility knife, ¾-inch PEX can be made into rugged clamps. Top to bottom, (1) a short length of PEX slit on a bench saw and cut to length with a chop saw and (2) about 1/3 of the material was removed so the clamp can be forced over the plastic or fabric. For longer life of both plastic and row cover, use a 3 x 3-inch piece of plastic under the clamp.

PHOTOS BY BEN HOFFMAN

Raised Beds and Low Tunnels

BY BEN
HOFFMAN
MAINE

MY GARDEN AREA HAS two problems. First, there is a nearly constant, strong, northwest breeze. Second, the soil, Thorndike stony loam—read loamy stone, there is some soil between the rocks—was at one time landscaped with gravel around a farmhand’s mobile home. To ensure workable soil, I use raised beds with a mix of about 50 percent soil and 50 percent manure. Raised beds solve the soil problem, and each year I add manure and rotate crops.

I use row cover over the beds to keep the beasties out—notably white flies and their little green offspring that chew on my broccoli. I stretch the row cover on hoops made of ½-inch conduit but wind can wreck row cover. Because the winds were so strong this spring, I tried a new trick—plastic on the west side to stop the wind. So how do you secure the plastic and row cover to the conduit? I can buy plastic clamps for about \$0.55 each, plus shipping, but my friend Mike came up with a better idea. He made his hoops from junk trampoline frames and made clamps by cutting PEX pipe into short lengths and cutting a slit about one-third of the wall circumference.

I had some ¾-inch PEX so I experimented with making clips. First, I sawed two-foot lengths longitudinally on a bench saw, then cut short lengths with my chop saw, cut the short pieces lengthwise with a utility knife and chamfered the ends of the cut with the knife. Lengths varied from one to three inches, but two inches works best.

The problem with securing row cover with clips is that the fabric tears easily. But by cutting three-inch squares of six-mil plastic scraps and slipping these over the cloth, the clamp can be pressed over the plastic without tearing the cloth. If winds are strong, you’ll need several clips to secure the plastic and row cover. This solution worked well until the wind shifted, coming from the southeast, strong enough to pop the plastic clamps off. By not fastening the plastic to the bottom of the hoops, when the wind shifts, the plastic billows out at the bottom and relieves pressure on the clips.

WORK SMART, NOT HARD

Actually, you better do both. But as you get older, the hard part becomes harder, so you have to think smarter. After 50-plus years of wandering around through the woods on uneven ground, with some arthritis problems in my feet, I have to find ways to reduce walking. So when I opened up a new field to plant grain, how did I measure its size? Scaling distances on satellite images is close but part of the field is too wet, and that doesn't show on the image.

I could drag my old surveyor's chain, or a 100-foot tape, or my hip chain (a box containing a spool of thread passing through a measuring device). All require walking, and the easiest—the hip chain—was not possible because I couldn't find it (another age-related problem). So I measured the circumference of the rear wheels of my tractor (104 inches) and painted the backside of one tire lug with bright yellow paint. Then I drove across the field and counted the number of tire revolutions. Thirty revs times 104 inches equals 260 feet. Then I did the same thing in the other direction, computed the acreage (43,560 square feet per acre) and had an idea how much seed to buy. ☺

Ben Hoffman lives in Maine and is a frequent contributor to Countryside.

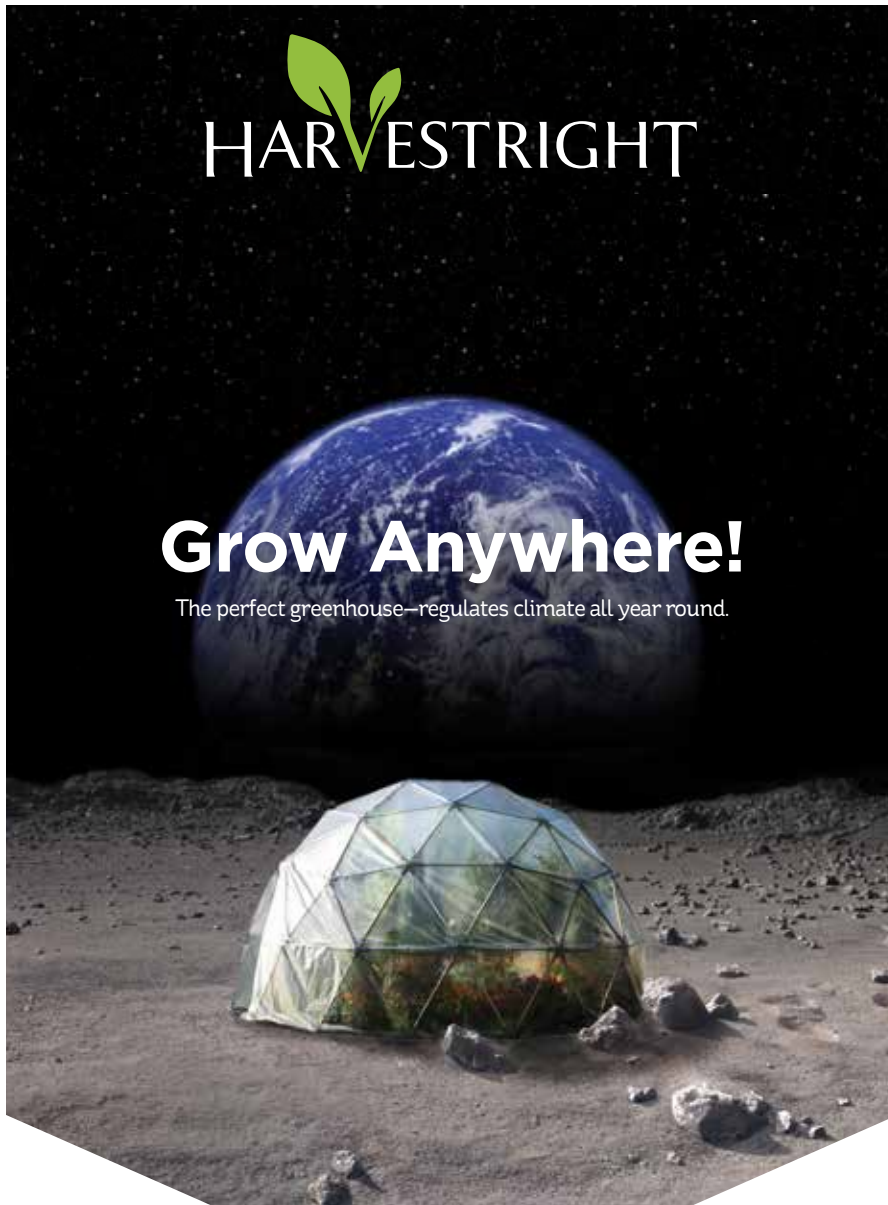


Since the front and top of the tractor tire lug are abraded by the soil, paint the back side. To find tire circumference, measure the distance from center to center of two lugs and multiply that by the number of lugs.

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The Best Fish for a Cold Climate

A Series on Aquaponics, Part 4

BY
JEREMIAH
ROBINSON
WISCONSIN

IF YOU READ MY OTHER ARTICLES, you'll know that I live in one of the colder parts of the country, in Wisconsin. During the polar vortex two years ago, every one of the Great Lakes froze solid and I wrestled with this question of what to do with my fish in winter.

Sitting in the warm greenhouse while the wind whistled by outside, I had a long talk with my fish and they gave me four options for what to do with them when it gets cold.

1. **Shut the system down.**
2. **Harvest your warm water fish and switch to cold water fish.**
3. **Raise fish that can survive both warm and cold water, year-round.**
4. **Breed fish yourself, indoors in the winter.**

Each choice offers benefits and drawbacks. We'll discuss them each here briefly.

SHUTTING DOWN

In the March 2014 issue of *Aquaponics Survival Communities*, Travis Hughey (of barrelponics fame) wrote the following:

"Many people keep their aquaponics systems up and running through the winter months. We used to do the same, but the past two seasons decided not to. The primary reason is economic. The expense of keeping things going and heated is just too high for what produce we do get since we preserve the bounty from the previous growing season."

Shutting down the system offers probably the simplest option. If you shut down for winter, you don't need to insulate or air seal your system as thoroughly. You don't need to shovel the path out to the greenhouse after every snowfall. You cut your second-biggest expense (heat) by at least 50 percent.

The negative consequences for winter shutdown include missing out on succulent winter spinach, several months of lost fish growth, an inability to

raise fish, which take multiple seasons to grow out, and the requirement that you re-introduce the nitrogen cycle in the spring.

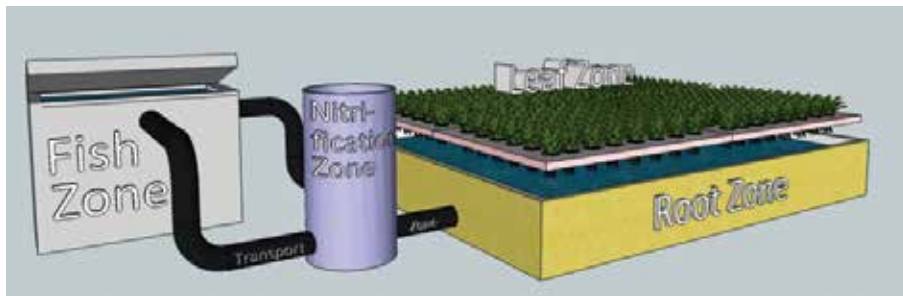
I should note that, if you live where it drops below 70°F at night and you don't have a well-insulated or air-sealed system, you will still have to heat your water—regardless of what fish you raise—because evaporation robs a great deal of heat even in the warmer months.

HARVEST AND SWITCH

Last winter, I chose this option for my aquaponics system. In early October when nighttime temperatures first hit freezing, I harvested all my tilapia for the freezer and drove to my local hatchery for some rainbow trout. In early June I harvested the trout before the heat of summer set in.

The advantages to switching fish include maximizing the fish harvest from your system, getting a different flavor of fish in your diet, and maintaining a high level of nitrates in your water for vigorous winter plant growth (if you can maintain leaf zone temperatures as shown on next page).

Disadvantages to the fish switch include increased costs of larger stocking fish (you must buy bigger fish in order to grow them out in six months), regular water changes if your plants don't take up enough nitrates (I change one-third of the water each month), the need to run lights a few hours a day if you want strong growth in



December and January when the days run short, and the requirement to heat the water to near 80°F to grow out tilapia in one season.

One false disadvantage that many warned me about is that “trout are finicky.” While they do require high dissolved oxygen levels, reducing the temperature of the water allows oxygen to dissolve more readily and aerators don’t cost that much to buy or operate. Supposedly trout also require a higher level of water quality, but I did not find this to be true. With nitrate levels surpassing 500 and lots of solids floating in the water, I lost a grand total of zero trout due to water quality. (I did lose some from a chelated iron overdose.

Ask me about that another time.)

Another issue I had worried about was nitrogen conversion rates. At 50°F, according to the books, nitrifying bacteria begin to go dormant. Again, not for me. I checked in with the bacteria regularly through the winter and—to my relief—never found a measurable amount of ammonia. I use flood and drain media beds, so I can’t speak for deep-water culture, which might require more filtration or the addition of some kind of media to provide the bacteria surface area to live on.

YEAR-ROUND FISH

Some fish types survive in both cold and warm water. These include perch, catfish and largemouth bass.

In addition to raising trout last winter, I also raised catfish in a separate tank. This worked well because with my 50°F water temperature, they added little to the nutrient load but will grow quickly come warm weather.

Within this option, you get three additional choices:

1. **Allow your fish to lose weight** in winter with 35°F water (as they would in the wild). One possible complication of using 35°F water is a risk of frozen pipes when you run your pumps for filtration, though you wouldn’t have to run pumps much if you feed your fish every two weeks like the DNR recommends.
2. **Heat the tanks to the moderate temperature of 50°F** and experience minimal growth but no weight loss.
3. **Heat to 65°F**, which allows your fish to gain a reasonable amount of weight over winter.

Advantages to year-round fish include the option to purchase fry or fingerlings for less cost than larger fish, the ability to grow more fish types including perch (considered by many the best tasting freshwater fish), a reduced nutrient load requiring fewer or no water changes in winter, and the option to raise them together with other summer- and winter-specific fish if you have multiple tanks or compatible breeds.

MOVE INDOORS

Imagine cozy and romantic nights by the fire...with your fish.

If this appeals to you, you might like to bring them indoors in winter.

Doing so (with a good air-sealed system design) allows you to forego much of your winter heating bill. You can raise warm weather fish in winter, and grow them out year-round at fast growth rates.

Disadvantages include the requirement that you build either two aquaponics systems or a portable one, the fact that aquaponics systems require minimum 100 gallons for stability which requires some space in your home, and the need for significant supplemental light to grow plants.

Moving indoors also allows you

to breed your own fish. I cannot claim any experience with breeding, but I do know that it offers one major benefit. If you do it right, you don't have to purchase fish at all except to widen your gene pool. For me, driving to hatcheries and purchasing fish makes up the largest yearly cost of running my aquaponics system. With breeding, the cost savings are substantial.

Disadvantages to breeding indoors include a limit to the types you can breed yourself, the requirement for indoor breeding tanks, the noise of an aerator when you want to sleep, and the potential for mold in an over-humidified room. If you breed tilapia, this requires you to either purchase or produce a super-male (yes, that's a real thing) or make do with slower-growing mixed-gender stock.

As possibly the simplest breeding solution, raising mixed-gender tilapia together with largemouth

bass allows the tilapia to breed prolifically (as they do) and the bass to eat all their fry. When you want more tilapia, you simply take a few fish into a separate tank and allow them to breed for a time.

HOW TO DECIDE

This article assumes that you already own an energy-efficient, air-sealed, insulated aquaponics system. The outlook is a lot different without that.

Despite its significant benefits, designing and building an aquaponics system for use in the winter in the cold parts of the world—depending on how you do it—can mean biting off a bigger piece of work and worry than building and operating a system for warm-season use alone. Adding in a breeding tank adds another item to your mental list of things to keep track of, while it too adds value.

Still, if you ask me, given the sunk cost of a greenhouse, fish tanks,

pumps, aerators, grow beds, and fish, from an economic perspective it makes the most sense to spend a few hundred dollars and a few hours more to build an energy efficient cold weather aquaponics system to max out the production capacity of that initial investment. You can do this by rotating your fish seasonally, growing fish that survive year-round, or both.

But just like everything, it's your choice. At the end of the day, you decide where you want to put your efforts in homesteading. Swimming against the flow of mainstream culture takes energy, and none of us has an unlimited supply. Whatever you choose to do with your fish and your homestead in your community, the rest of us will be here to support you.

We'll also be here to pick up the conversation again next month. ©

This is Jeremiah Robinson's fourth piece in COUNTRYSIDE. Look for more from him in upcoming issues.

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Maple-Vanilla-and-Peach-Oh-My!

Learning to Make Jam Together

BY ANDREA SHEAFFER

WHEN I INVITED seven friends over for a girls' jamming and canning night, none of us had made jam with pectin before, and we had never attempted to make anything shelf stable. We knew we were good at eating jam, but could we make it?

We decided to try the Maple-Vanilla-Peach Jam.

I supplied the Pomona's Pectin, vanilla beans and snacks. The others brought over the peaches, maple syrup, large pots with lids and wine for sustenance.

We chopped, mashed and cooked into the evening. Eight of us were happily packed into my kitchen talking and laughing as we made the jam.

After we funneled the jam into the jars, we used the water bath method and were rewarded with about seven pints of delicious peach, maple, vanilla bean goodness. We held our creation in such high esteem that the next day the jam made its debut at a brunch

for 30—and didn't last long.

I was surprised by how easy it was to make jam. Chopping and mashing the peaches, making the calcium water, mixing the pectin and sugar and stirring it into the hot fruit, ladling the jam into jars, and doing the water bath were all steps I assumed would be difficult. With eight of us joining in, the steps were almost effortless.

A tip: I would recommend using a light-colored maple syrup to keep the peach color as bright as possible.

I think an excellent recipe and good company were the key factors in our successful Pomona's jam endeavor; and I think we can all honestly say it was the best jam we've ever made!

Maple-Vanilla-Peach Jam

Excerpted from *Preserving with Pomona's Pectin* by Allison Carroll Duffy

Before You Begin: 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. Extra calcium water may be stored in the refrigerator for future use.

Yield: 4 to 5 half-pint (8-ounce) jars



INGREDIENTS

- 3¼ pounds fully ripe peaches
- 1 vanilla bean
- ¼ cup lemon juice
- 4 teaspoons calcium water
- ¾ cup pure maple syrup
- 3 teaspoons Pomona's Pectin powder

DIRECTIONS

Wash your jars, lids and bands. Place jars in canner, fill canner 2/3 full with water, bring canner to a rolling boil, and boil jars for 10 minutes to sterilize them. (Add 1 extra minute of sterilizing time for every 1,000 feet above sea level.) Reduce heat and allow jars to remain in hot canner water until ready to use. Place lids in water in a small saucepan, heat to a low simmer, and hold until ready to use.


Peel and remove pits from peaches, and then mash the peaches in a large bowl. (See "How to Skin a Peach" tip to the right.)

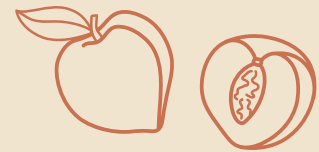
Measure 4 cups of the mashed peaches (saving any extra for another use), and pour the measured amount into a saucepan. Using a paring knife, slice the vanilla bean in half lengthwise and scrape out the seeds. Add the vanilla seeds and the bean pod itself to the fruit, along with the lemon juice and calcium water. Mix well.

In a separate bowl, combine maple syrup and pectin powder.

Mix thoroughly and set aside.

Bring fruit to a full boil over high heat. Slowly add pectin–maple syrup mixture, stirring constantly. Continue to stir vigorously for 1 to 2 minutes to dissolve pectin while the jam comes back up to a boil. Once the jam returns to a full boil, remove it from the heat. Using tongs, carefully remove the vanilla bean pod from the jam and discard.

Can Your Jam: Remove jars from canner and ladle jam into hot jars, leaving ¼ inch of headspace. Remove trapped air bubbles, wipe rims with a damp cloth, put on lids and screw bands, and tighten to fingertip tight. Lower filled jars into canner, ensuring jars are not touching each other and are covered with at least 1 to 2 inches of water. Place lid on canner, return to a rolling boil, and process for 10 minutes. (Add 1 extra minute of processing time for every 1,000 feet above sea level.) Turn off heat and allow canner to sit untouched for 5 minutes, then remove jars and allow to cool undisturbed for 12 to 24 hours. Confirm that jars have sealed, then store properly. Eat within 1 year. Lasts 3 weeks once opened. 



TIPS:

Perfect Peaches!

This recipe requires mashed peaches, so be sure that your peaches are fully ripe and soft enough to mash. If they're not, simply place peeled, pitted, chopped peaches in a saucepan with ½ cup water.

Simmer for 5 minutes to soften them, and then mash. (There is no need to drain the water after cooking—simply mash the peach mixture as is.)

How to Skin a Peach

If you are dealing with a small quantity of fruit, slice off peach (or nectarine) skins with a paring knife (pitting and quartering the fruit first). However, if you're doubling the recipe and are working with a lot of fruit, you may want to blanch them to remove the skins instead.

Simply drop peaches or nectarines one at a time into boiling water for about 30 to 60 seconds, then remove and immediately dunk in cold water. You should then be able to slip the skins right off.



The COUNTRYSIDE Cookbook

WE HAVE BEEN PUBLISHING RECIPES that readers have sent us for decades, and most of those recipes will never go out of style. So we are restarting the COUNTRYSIDE Cookbook with three that we treasure from the archives. Like the others, they are all made without pre-packaged ingredients, and none contain processed food. If you would like to submit your recipes to the COUNTRYSIDE Cookbook, send them to countrysidemag@swiftcom.com, and if you can, please include pictures of your beautiful work.

Recipes



Crockpot Hominy

INGREDIENTS

- 2 cups cracked hominy
- 8 cups water
- 2 teaspoons salt
- 4 tablespoons butter
- 1–2 lbs. sausage

Mix all together in crockpot. Cook on low over night, 6–8 hours. This is a very good breakfast to wake up to.

I once browned the sausage and thought the flavor was better.

Breakfast Rice Casserole

INGREDIENTS

- 3 cups cooked rice
- 1 lb. sausage, browned (add onions and green peppers if desired)

MIX:

- 4 eggs
- 1 ¼ cups milk
- 2 teaspoons ground mustard
- 1 teaspoon salt

- 1 teaspoon onion powder
- 1 cup cheese for topping

Grease a 9x13 pan and layer rice on bottom. Layer sausage, onion, pepper mixture over rice. Pour egg mixture over all and top with cheese. Bake at 350°F for 45–55 minutes. This could also be used with hominy or grits in place of the rice.



Recipes submitted by Bonnie Thurman, Virginia

Rice and Eggs with Private Tso's Sauce

I didn't feel right about calling it General Tso's sauce, since I changed it so much. If General Tso were ever to be reincarnated as a chicken, I feel he would resent being covered by a sauce so different from the original recipe that bears his name. Yes, he might resent me. It seems to me the sauce would work well on other dishes.

THE RICE, EGGS, AND VEGETABLES

Add 1 cup water and 1 chicken bullion cube for every ½ cup of uncooked, white rice you wish to serve. (Or 1 cup of chicken broth per ½ cup rice.) Bring rice to boil, turn down to low heat and simmer until tender. (Takes about 10 minutes.) Every ½ cup of uncooked rice becomes 1 cup of cooked rice. I figure about ½ cup of cooked rice per serving.

Empty rice into a skillet, heat rice and add 2 eggs for every 1 cup of cooked rice. Scramble eggs into rice, eggs will seem to disappear into the rice. Once the eggs set, serve with your favorite steamed or canned vegetables on top and cover with sauce below.

Private Tso's Sauce:

- 1 cup water
- 1 chicken bullion cube (or instead of water and cube, use chicken broth)
- 3 tablespoons tomato sauce (or 1 ½ tablespoons tomato paste)
- 1 tablespoon soy sauce
- 1 tablespoon vinegar (rice, apple or white vinegar is fine)
- 2 teaspoons sesame seeds
- ¼ teaspoon powdered ginger
- ¼ teaspoon powdered garlic
- ½ teaspoon red pepper flakes
- 3 tablespoons sugar
- 2 tablespoons cornstarch

Place the above ingredients into saucepan, stir and bring to boil to thicken then remove from heat, cool slightly, and serve. The sauce easily covers 2 cups of cooked rice. Feel free to adjust spices, sugar and cornstarch to your desired tastes and texture. You may easily double or triple the recipe. Extra sauce can be kept in the refrigerator for later use.

Recipe submitted by Daniel Strauss, New York



My Experiments with Milking Plants

BY DANIEL STRAUSS

THIS CARTOON WAS MY first exposure as a child to the concept of non-dairy milk alternatives: After all the milk wells on the planet of Felina had gone dry, Overcat came to Earth and stole all the cows, taking them back to his home planet. Underdog saved the day by returning all the cows and the reluctant milkmaid, Sweet Polly Pure Breed, to Earth. He defeated Overcat and got him banished from Felina. Underdog then took coconut trees and planted them all over Felina so the cats could have milk that grows on trees, thus defeating evil and solving the milk problem for all those cats.

Recently I have harkened back to my childhood and have been trying to “save the day” with milk substitutes from plants.

BEAN MILK

My first experiment used soybeans. I planted seed for edamame soybeans but ended up letting them mature and dry. I soaked ½ cup of dry soybeans in 1 1/2 cups of water overnight. In the morning I dumped the soybeans into a blender and added 3 cups water. (There is a debate as to whether you should use the water the

beans soak in or not. The water contains phytic acid, which is found in the bean. This acid is not digestible and not harmful by itself, but is thought to bind to, and remove from the digestive system, nutrients that are beneficial to the body. Whether one uses the soybean water or not is a case of “do as you think best.”) Blend the beans into the water until as smooth as possible. I strained the mixture through cheesecloth into a container then returned the pulp (okara) and foam to the blender and repeated the procedure with 2 cups water. After straining the milk out of that, I again repeated the process with 1 cup water and strained that through the cheesecloth. The remaining okara can be used in veggie-burgers or other vegetarian dishes. The raw milk now needs to be boiled for 2 to 3 minutes to rid it of the raw bean taste. During the cooking process I added 1 to 2 tablespoons brown sugar for sweetening. After cooking, I added a teaspoon of vanilla then cooled in the refrigerator and drank. Many add honey or other sweeteners and spices depending on their preferences. It’s best to use the milk in about four days. You may need to stir or shake the milk if solids settle to the bottom.

I got to reasoning, which is dangerous, if it works for soybeans why not other types of beans? So next, using the same procedure, I tried red kidney beans and after that black beans. I read on the Internet that some swear by this kind of bean milk. After trying it I was more likely to swear at it. I have tasted worse things, but I don’t quite remember when. I’m sure other types



of beans might taste fine, but I used what I had available. So I'll leave you to experiment with other types.

GRAIN MILK

Oat milk was my first grain milk experiment. I read of two ways to make it. The first is like beans, soak the husked oat grain (groat) in water overnight. I didn't have that, but you can use steel cut oats or rolled oats. I used quick oats. The night before I put 1/4 cup of oatmeal in 1 to 1 1/2 cups of water to soak. In the morning I put the mixture into the blender, and mixed it until thoroughly blended. The amount of water will determine how thick or thin the milk will be. It was then strained through cheesecloth, and I added 1 1/2 teaspoons of brown sugar, 1/4 teaspoon vanilla, a pinch of salt and a pinch of cinnamon. You may wish to adjust or alter the flavorings to suit your tastes.

The second method to make oat milk is to cook it. I took 1/4 cup oatmeal and cooked it in 1 to 1 1/2 cups of water. Again, the amount of water will determine how creamy or thin the milk will be. I tend to like creamy milk. I strained the mixture through the cheesecloth separating the liquid from the meal. The meal then can be added to bread or muffins; and to the liquid, the aforementioned flavorings are added. It is left to cool in the refrigerator. Try both methods; half of my family likes it raw, while the other half likes the cooked method. It also makes nice chocolate milk; the flavor is very reminiscent of "no bake" chocolate-oatmeal cookies.

Rice can be used either raw or cooked to make milk. The raw method requires soaking the rice overnight. I used a 1/2 cup of rice soaking in 2 cups water. In the morning it was run through a blender and strained in cheesecloth with sugar and a pinch of salt added. Some recommend roasting the rice first to a golden brown color. I was unhappy with this method. The second method required bringing a 1/2 cup of rice in 2 cups of water to a boil, then

Most milks...are said to last three to four days in the refrigerator, and if the milk solids settle, just stir or shake the milk before you drink.

turning the heat down and simmering it for 15 to 20 minutes. After the 20 minutes were up, I turned off the burner and let the rice still soak up steam for another 10 minutes. After cooling, I put it in the blender with 1 cup water, 1 to 2 tablespoons of sugar and a dash of vanilla or cinnamon and mix well, cool and drink. You can strain it but I didn't and it was slightly gritty. I used white rice but brown rice works as well. This milk could be modified to make rice ice cream (or rice cream as it is called). I did some limited experiments but haven't perfected it yet.

I researched wheat milk but didn't find much. What I did find was a doctor in India whom I couldn't understand. After watching the video, I guessed that the grains of wheat should be soaked in water overnight, then put in a blender with more water then strained into a glass. I would suspect, to be acceptable to American tastes, an added sweetener and a flavor (like vanilla) might be desired. After thinking about this I got the idea to use flour. I used 1 tablespoon of flour mixed into 1 cup of cold water with a 1/2 teaspoon of brown sugar. In a saucepan I brought the mixture to a boil, stirring it continually. Once thickened, I took it off the burner and added 1/4 teaspoon vanilla. It is basically a sweet white sauce. I cooled it and tried it. It was nothing to write homesteading magazines about, but it might have its place on a wheat cereal.

I attempted corn milk at first using grits, when that didn't work well, I tried just cornstarch. That didn't fair well either. Then I cooked corn flour—that tasted like I was drinking a taco shell. I then concluded that using fresh corn while in the milk stage of development would be my best bet. I looked on the Internet and others had the same idea before me. The instructions are 1 ear of corn with kernels cut off into a blender with 1 cup of water, blend and strain. If the corn is not a sweet corn a little sweetener may be needed. This is not really a milk replacement, rather a summer drink. Some even used the milk as a mixer with alcohol. Since this milk project was a winter project, I have not yet tried corn milk and will have to wait until corn is in season.

Other grains like barley, buckwheat and millet can also be made into milk. I did not try these. The recipes I found used both cold soaking overnight, cooking the grain, or a combination of both, then blending and straining. Using the same principles as above, one can experiment with these grains. As with any grain, roasting or sprouting the grain before milking, can give a different flavor and may unlock some nutrients. Again, dumping off the water the grains were soaked in was recommended, and some added lemon juice to the soaking water to "make the nutrients more available."

SEED MILK

I didn't experiment at all with seeds, but many seeds can be used to extract milk. I did find recipes though. Most required you to soak the seeds six to eight hours (or overnight), dump the water they were soaked in, then add the seeds and water to a blender, mix and strain. Then add sweetener, salt and a flavor like vanilla according to your tastes. No cooking was needed. Most used 4 cups of water for every cup of seed. Personally, I would start with 2 cups water and then add water until it was the thickness I desired.

The seeds I found were sesame, sunflower, poppy, pumpkin and hemp. Hemp was the only one where soaking wasn't required. I would also reason if pumpkin seed was fine so would any winter squash seed.

NUT MILK

Nut milk is made by soaking the nuts overnight (12 hours) in water. In the morning dump off the soaking water, add nuts to the blender, add 4 cups hot, but not boiling, water and mix until smooth. Strain through a cheesecloth, and add sweetener, vanilla, and cinnamon to taste. Nuts with a thin paper coating like almonds are recommended to be blanched first and the dark paper-like coating removed. The different types of nut milk I found were made from almond, peanut, cashew, pecan, walnut, pistachio, pine nut, hazelnut, Brazil nut and macadamia nut. Some recommended toasting the nuts first, and others suggested that not all nuts needed to be soaked. Basically on the list of nuts above, everything after pistachio didn't require soaking first. I

would probably err on the side of caution and soak all nuts myself.

OTHER EXPERIMENTS

I attempted to make potato milk. The basic recipe is cooked potatoes in a blender with water and then straining. I tried this and was not very satisfied; it was like drinking potato water.

This next experiment was done more to save face. My wife caught me refreshing my memory by watching Underdog cartoons on YouTube. When I was questioned about it, my daughter came to my rescue saying, "He's doing research." So I felt obligated for my final milk experiment to make coconut milk. Since shredded coconut was easily available I took ¼ cup of coconut and soaked it for 2 hours in 1 cup of water. Afterward, the soaking water and coconut were put into a blender and mixed. The coconut mixture was then strained through a cheesecloth. You can save the remaining coconut and use it in cooking or baking. (I saw some recipes that avoided soaking by putting hot water directly into the



blender with the shredded coconut. Judging from the online recipe, you may not get quite as much milk from the coconut with this no-soak method.) The coconut I used was "sweetened flake" coconut. It needed no extra sweetener. Everyone thought it was probably the best tasting milk we had tried. I am assuming if one were to use actual raw coconut some kind of sweetener might be needed. Some roast the coconut first to increase the coconut flavor of the milk.

FINAL RESULTS

Of the milks I made, coconut milk came in first. Oat milk came in next. Third place was rice milk and soy milk ended in fourth. After a couple of days in the refrigerator the rice and oat milk thickened a bit more and had to be thinned. All made nice chocolate milk, which is what I secretly wanted to accomplish with my research, and everyone agreed that they would work on cereal. We will probably seldom make coconut milk since they are not readily available. Oat and rice milk will probably be made most often since it is easy to acquire. The soymilk was least desired, as my daughter hesitantly put it, "I guess it's fine. ..." Then she added, "...if you're desperate."



SIDE NOTES

Most milks mentioned above are said to last three to four days in the refrigerator, and if the milk solids settle, just stir or shake the milk before you drink. If you plan to make a milk substitute regularly, a purchase of a "nut milk bag" would be handy. They are available at most health food stores or an online search will turn up a few places to buy them. I used whatever blender I had available, but again if making milk becomes a continuous thing, a good powerful blender might be a good addition to your kitchen. I suspect many of the milks mentioned are more like alternative drinks rather than milk substitutes. Corn milk and peanut milk come to mind as an example. Feel free to mix milks or use more than one item in making milk. You may need to soak some things separately since one grain, bean or seed uses the soaking water while other items need to have the soaking water dumped. The recipes I used were scaled down for experimental reasons. If you wish to make more of one kind of milk, the recipes can be easily increased to make larger quantities. Lastly, with the information you can easily experiment with nuts, beans and seeds that are not mentioned here, who knows you might come up with a new type of vegetable milk.

After all is said and done, I will be the first to confess that dairy milk is superior to the plant-based milks above. So why make non-dairy milk? Some people, like myself, can no longer drink dairy milk and an alternative is desirable. Others would like to be as self-sufficient as possible, yet a lack of space, or a zoning problem in an urban or suburban location, may make raising a dairy animal impossible. Still others, due to age or physical disability, may find it difficult to manage an animal, but they would have no problem with a garden. So, if dairy milk isn't in your world, with the above research, you can still be a cool cat, sit in the shade of a tree, and sip a suitable milk substitute. ©



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New Off-Grid Battery Technology

Is There Hope Beyond the Hype?

BY
DAN FINK
COLORADO

THE NEW TESLA ENERGY POWERWALL home battery storage system made quite the media splash when Elon Musk officially launched the product on April 30, 2015. The news media worldwide raved about this “game-changer” that would “let anyone in the world go off the grid” and “make the electrical utilities very afraid for their future.” Professional off-grid systems installers had to deal with phones ringing off the hook with questions from potential clients who wanted to “cut the tie to the utility” but had no idea how much energy they used each day, month and year, and even canceled system orders because “we want to wait to get a Powerwall.”

The only real game-changer here is Tesla Energy’s “Gigafactory 1” being built in the Nevada desert to mass-produce these lithium-ion batteries for electric vehicle, home and utility use. This will certainly result in lower cost in the long term, assuming mining technology worldwide can responsibly keep up with the mineral demand for manufacturing them. Though the actual battery formulation is not new, the hype certainly is.

The Two Most Important Electricity Terms

Power: The rate at which work is being done at any given instant. Measured in watts or kilowatts (kW=1,000 Watts), or in Joules per second. Or, how hard you are working at digging that irrigation ditch...

Energy: Work (power) generated or consumed over time. Measured in watt-hours or kilowatt-hours (kWh), or Joules. Or, how much of that irrigation ditch you actually got dug. If you were working hard, you got more done than if you were working lazily.

LITHIUM-ION BATTERY TECHNOLOGY

Actually, lithium-ion batteries have been around for a long time. You likely already own many of them—in your cell phone, laptop, tablet and cordless tools—any small, rechargeable device. You may have also felt the wrath of the TSA when checking bags or boarding a plane with loose batteries; their rules are strict. Just

ask Boeing, whose entire fleet of new 787 Dreamliner planes was grounded by the FAA for months after a spate of lithium-ion battery fires, and even Tesla Motors, who had to upgrade the protection around their car battery banks after fires caused by wrecks.

You have also likely been very disappointed with the performance over time of these batteries in your laptop; after only a year or so there isn’t much capacity left. That’s because lithium-ion batteries need a precise regime of charge rate, discharge rate, temperature and state of charge to meet their rated number of charge-discharge cycles. Your laptop computer is the absolute worst environment possible for these batteries—hot temperatures from the electronics, keeping it plugged into the charger most of the time at 100 percent state of charge, then discharging to nearly empty when you go on a trip. Larger lithium-ion battery banks use specialized Battery Management System (BMS) sensors and computers to monitor and adjust the charge, discharge and temperature of each cell.

There are actually a variety of different lithium-ion battery formulations, many of which are far less susceptible to damage and fire. All have been available for a few years, even for off-grid home and RV applications. They all still require BMS control.

ADVANTAGES AND DISADVANTAGES OF LITHIUM-ION TECHNOLOGY

First, let’s take a look at some advantages and disadvantages of lithium-ion batteries from an off-grid home and RV perspective.

On the plus side, they are light in weight for how much energy they store, which is extremely important

in an RV but not a factor for home use. They charge very efficiently and can handle high charge and discharge rates, even that elusive last 10 percent of capacity that is so inefficient to fill with other battery formulations. And they are predicted to have a long cycle life over many years, even when left partially discharged (such as in an RV that is unused over the winter). Also, these battery banks require no regular maintenance.

Their disadvantages include extremely high cost, easy to damage with mistreatment or heat, the need for a BMS computer and the fact that this technology is too new to have the decades of performance and cycle life data we have for traditional off-grid battery formulations.

THE TESLA ENERGY POWERWALL

Now let's look at the Tesla Energy Powerwall from an off-grid, self-sufficiency perspective. The news isn't very good for anyone off the grid, and the following are the talking points I was forced to develop to answer all those phone calls and emails after the product launch.

The Powerwall comes in two flavors, a 10 kilowatt-hour version and a 7 kilowatt-hour version. The 10 kWh (10 kilowatt-hour) Powerwall is intended only for on-grid backup use during blackouts, with no more than 50 discharge-charge cycles per year. It is unsuitable for off-grid use and is not marketed for that purpose. The 7 kWh Powerwall is intended for daily cycling, and could be suitable for off-grid use.

The 7 kWh model has one big limitation—it only stores 7 kWh! The average U.S. home uses 33 kWh hours per day. All of a sudden, that \$3,000 price tag for a single Powerwall looks a little more



The new Tesla Energy Powerwall lithium-ion home battery storage system, with three Powerwalls stacked for more capacity.

daunting when you have to buy more of them (you can stack up to nine together). Even energy-conscious owners with efficient off-grid homes still often use 3 to 4 kWh per day, and no battery lasts long when cycled to completely empty. Tesla hasn't yet revealed how deep cycling affects their battery life.

The Powerwall has very limited maximum power output capability—only 2,000 Watts, with a short surge to 3,000. This is not even enough to run the main stovetop burner or oven on an electric range. A typical microwave oven combined with a refrigerator and TV running at the same time would max out this system. Tesla Energy has promised that they will upgrade to allow double the load, but that also means you can drain your battery twice as fast—about two hours in a typical home.

The Powerwall is not compatible with your existing renewable energy system. The battery operates at 350 to 400 volts DC, and no existing inverter, generator charger or solar charge controller will work with it. You'll have to scrap your existing system and buy new equipment only from a Tesla Energy distributor. Tesla has promised that the system will include a DC voltage converter that will allow your existing solar array to function with the Powerwall, but even the very few Tesla distributors out there have stated they have no technical information yet about how this will be implemented.

The Tesla battery bank uses an active liquid cooling system controlled by the BMS computer, which will likely extend battery life. But it also adds another level of complexity and parts that can fail in the system.

Another important problem—you can't buy one yet. They are sold out on pre-orders through 2016, and raised more than \$800 million with this tactic.

You can, however, pre-order your new Powerwall in a variety of snappy color schemes! If this is an important factor for you off the grid, you are likely better suited to living in the big city. I inquired if they had a model that would match my off-grid color scheme of wood, antiques, mud, and dog and cat hair, but was politely told that option was not available for pre-order, though perhaps the "charcoal" option





TOP: GBS lithium-ion battery bank intended for an RV.
PHOTO COURTESY STARLIGHT SOLAR

ABOVE: Iron Edison lithium-ion battery bank intended for an off-grid home.
PHOTO COURTESY IRON EDISON

would best match my woodstove heating, campfire mentality.

OTHER LITHIUM-ION OPTIONS

If you (and especially your local renewable energy dealer and consultant) think that lithium-ion battery storage might be right for your off-grid application, I suggest that you stick with a tried-and-true option instead. The GBS battery has been a proven performer for over two years in RV applications, weighs only 54 pounds for a typical 200 amp-hour RV battery bank (compared to 250 pounds for the same size lead-acid battery bank) and includes a BMS and sensors to monitor each cell. Contact Larry Crutcher at Starlight Solar (2998 S Shari Ave., Yuma, AZ 85365; 928-

342-9103; www.starlightsolar.com) for more detailed information.

And be sure to contact Brandon and Maggie at Iron Edison (12860 W Cedar Dr. #105, Lakewood, CO 80228; 720-432-643; <https://ironedison.com>), they distribute a lithium-ion battery specifically designed for larger off-grid home power systems, and like the GBS it's compatible with all existing inverters, chargers and charge controllers. It includes a BMS and metal case. They also distribute Nickel-Iron (NiFe or "Edison Cell") battery banks, which I discussed in the March/April 2014 issue of *COUNTRYSIDE*, and I am now a proud and happy owner of a bank of these batteries from Iron Edison. I'll be writing a detailed update on this in the next issue.

SALTWATER BATTERY BANKS

A new option worth keeping an eye on is the Aquion Energy Aqueous Ion Hybrid battery. It uses a special saltwater blend and carbon technology. The disadvantages so far are a very low maximum power output, extremely high cost, a strange charge/discharge/voltage curve that is not yet fully compatible with some renewable energy system equipment, and a short track record. The company promises big improvements

in their next generation battery over the next year or two.

HYPE VERSUS HOPE?

At the end of the day, I think the Tesla Energy Powerwall has given false hope to millions of under-informed people worldwide that some new battery technology breakthrough has taken place, when the only real innovation involved is a huge investment in a factory for mass production. Other more compatible, tested, proven and available battery bank options exist.

However, for a few folks with inquiring minds and a burning desire to live off the grid, the announcement spurred them to learn more about the reality of how much energy they need and use on a daily, weekly monthly and yearly basis. And that education is how the worldwide energy storage problem will be tackled, in lockstep with technology. Both wasted energy in the wealthy world and limited access to renewable energy systems in the impoverished world are huge barriers.

The combination of education and mass production could put us on the right path—but Elon Musk, how about a lot less hype and a little more realism and education about energy storage? ☹



Last train out to get off the grid?

Amazing “Solar Generator” Is Like Having A Secret Power Plant Hidden In Your Home!



BY MIKE WALTERS
STAFF WRITER, OFF THE GRID NEWS

New solar powered backup provides instant electrical power in any outage or disaster.

If you have ever wanted to have an emergency backup system that supplies continuous electrical power, this will be the most important message you will ever read.

Here is why.

There is now a completely portable (and ultra-high efficient) solar power generator which produces up to 1800 watts of household electricity on demand when you need it most. News of this “solar backup generator” (it’s the first “off-the-grid” breakthrough in 50 years) is spreading like wild fire all across the country!

Why?

The answer is easy. You see, this solar generator is extremely powerful and yet very simple to use. It produces continuous electricity and runs with absolutely no noise whatsoever. It emits no fumes. But the best part about the solar generator is that once you own one, you can...

Generate Free Electricity From The Sun!

Charged by the sun with a powerful solar panel, the unit then stores the power for your use when you need it. We all face natural disasters, with hurricanes, tornadoes, snow and ice storms cutting off electrical power to millions of Americans each year.

Then there are man-made disasters and outages. Blackouts and rolling brownouts are becoming common in many parts of the United States as our grid gets stretched beyond its capacity.

The truth is, we are extremely vulnerable to all kinds of meltdowns that can create temporary or even permanent electrical outages. That’s why if you are one of the few Americans that thinks ahead, you need to...

Have A Solar Powered Backup In Place!

When you compare a solar generator to a gas generator, the difference is pretty remarkable. Here’s why. First, gas generators make an incredible amount of racket... if you can even get them started in the first place. With a gas generator, you pull and pull some more, all because your generator has been sitting in the cold and the carburetor is playing hard to get. This, of course, is not a lot of fun in the dark. Another reason to avoid gas generators is that you just can’t safely run one in your house. But the number one reason you don’t want to be caught in a time of crisis with a gas generator is...

Gas Stations Can’t Pump Gas Without Electricity!

It’s true. When the power goes out, you’re left with whatever gas you have on hand because the gas station pumps all run on electricity. A few gallons stored in a gas can means a little electricity for a little while, then it’s quickly “back to black.”

Here’s the thing: I could go on and on about life without electricity and what a nightmare gas generators can be. But here’s the bottom line: Solutions From Science is now offering an amazing power generating system that can provide plenty of electrical power in the event of an outage or emergency. And the best part is that you can have the power safely in your house.

A True Breakthrough In Home Power Generation!

Let me try to explain the features and benefits of a solar generator as simply as possible. If I could bring one over to your house and let you start plugging in appliances, you would immediately understand what all the fuss is about. But I can’t do that. Anyway, here are some of the reasons I think you’ll want a solar generator:

#1. Maximum Power In Minimum Time.

The solar generator can be set up in just a few minutes. Then, all you have to do is start plugging things in. It can run both AC & DC appliances anywhere... anytime.

#2. Back Up Power When You Need It Most.

It’s called a “solar backup” because it’s designed to come to your rescue when power trouble starts and your lights go out. Run a small refrigerator (high efficient ones are best) to keep your food from going bad.

#3. Portable Power.

If the going ever gets too tough where you are and you decide to “get the heck out of dodge,” you simply throw it in the car and take off to a safer destination.

#4. Generates Permanent Power.

The unit provides 1800 watts of electricity at peak power. That’s enough to run many appliances in your house. The generator is recharged constantly by the sun allowing you to use the system while charging it at the same time. Many users choose to keep appliances plugged in permanently to reduce electrical costs and help pay for the unit.

#5. Multiple Uses.

You can use your solar backup to run essential

appliances when emergencies arise. You can recharge phones, run shortwave radios, televisions, lights, fire place or furnace fans, as well as computers and printers. Plus, if you need to work in the woods at the cabin or in a boat, you can use the solar backup to run power tools, trimmers, blowers and coffee makers.

#6. Plug And Play Means Instant Power.

The emergency backup system comes ready to go. Just start plugging in your favorite household essentials.

By the way... the units go for about \$1797.00 plus shipping and handling.

But I’m going to show you a way around that. I have negotiated a very special offer for Countryside Magazine readers.

Here’s the deal. You can use coupon code **CS133** to get one for \$200.00 off as a Countryside Magazine reader. To do that, the absolute fastest way to get one is by going to the website at:

www.PowerSource1800.com

If you would like to order by phone, you can call toll-free by dialing **877-327-0365**. Tell whoever answers that you want the “Solar Backup Generator” system rushed to you and you have a coupon from Countryside Magazine.

Or, if you prefer to pay by check or money order (payable to Solutions From Science), simply send your payment to:

**Solutions From Science
Dept. Solar Backup CS133
2200 Illinois Route 84
P.O. Box 518
Thomson, IL 61285**

I’m so convinced every American household needs a Solar Generator, that I’ve arranged for this special deal to get one to you at this dirt cheap price. (When you call, ask about their free shipping offer as well.)

Just hurry, call 877-327-0365

Sincerely,
Mike Walters

P.S. One more thing. It’s very important. Make sure you use coupon code **CS133** to get all the discounts you have coming as a Countryside Magazine reader.

P.P.S. The website again is PowerSource1800.com. There’s a ton of informational videos there for you to do some research on solar powered backups.

Ideas for National Preparedness Month

BY JIM
COBB

AFTER THE TRAGIC TERRORIST attacks on September 11, 2001, FEMA (Federal Emergency Management Agency) sponsored designating September as National Preparedness Month. Throughout the month, DHS (Department of Homeland Security), the American Red Cross, and many other groups and agencies will be promoting disaster readiness. The sad fact is that a significant portion of the population in the United States isn't prepared to weather much more than perhaps a power outage of a few hours, let alone any sort of crisis that might last a few days or more.

Despite stereotypes and misguided media hype, the goal isn't to turn the populace into a bunch of heavily-armed folks wearing tin foil hats and fearing the end of the world. Instead, the focus is on being better prepared for rather common emergencies, such as severe weather, earthquakes, and even disruptions in utility services. These types of disasters happen every day across the country.

By encouraging people to stockpile some supplies and learn a few skills, we can make far better use of our emergency service resources. For example, if more people had the foresight to have food and supplies on hand, there would be fewer cars on the roads during extremely bad weather, as people wouldn't need to make those last minute runs to the grocery store. Fewer people on the roads would mean fewer accidents requiring the services of paramedics, firefighters and other emergency workers.

This year, make an effort to observe or celebrate National Preparedness Month. Here are a few suggestions on ways you can do just that.

ASSEMBLE AN EMERGENCY KIT FOR THE HOME

Your home emergency kit should have, at a minimum, food, bottled water, basic first aid supplies, a working flashlight with extra batteries, and perhaps a crank powered radio. While many of us already have this stuff at home, it is important to know where to find it all in a hurry. To

Winterizing your car can be as simple as adding food, water and heating supplies to your trunk or back seat.



that end, consider putting it in a tote, duffel bag, or some other container and keeping that in a closet for safekeeping. Family members need to understand that the items in the tote are off limits and only to be used in a true emergency. Spare batteries, for example, are not to be "borrowed" for a video game controller.

If you already have such a kit, take some time to disassemble it and inspect the contents thoroughly. Check the expiration dates on batteries and food and make sure the seals are tight on containers. Rotate out anything that is nearing expiration so you can use it before it goes bad.

WINTERIZE YOUR VEHICLES

In many parts of the country, September is still fairly warm and sunny. Snow and bitter cold seem far off. However, winter will be here before you know it. Take advantage of the nice weather now to change the oil, rotate your tires, top off all fluid levels, have your battery checked, and perform all of those other maintenance chores. If you can't do it yourself, take the vehicle in and have it checked over by a trusted mechanic.

While you're at it, put together an emergency kit for the car. In the event you end up stranded for a while, you'll want some snacks, water, a charger for your cell phone and a blanket. Consider putting together a set of basic tools, too, such as wrenches, screwdrivers, a hammer, pliers, and other odds and ends. Even if you don't know how to perform repairs, a Good Samaritan might stop by and he or she could use the tools to get you back on the road. As you're stocking your trunk with supplies, be sure to check the pressure in your spare tire and ensure you have a working jack along with it.

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PRACTICE A FEW DRILLS

Remember when you were in school and fire drills were the height of excitement? They were a fun way to break up a boring day, that's for sure. But, obviously, that's not why those drills were done. The reason we drill for emergencies is because practice makes perfect. Drilling and practice helps our bodies to recognize what needs to happen, even if the brain is freezing in panic.

This month, consider doing a fire drill. Make sure each family member knows the route they should take to evacuate the house, then practice it a few times. Designate a meeting place in the yard or at a neighbor's house so you're able to do a head count and make sure everyone made it out okay. Remember to plan for at least two ways to exit any room, if at all possible, in the event that a blazing fire blocks the normal path. Doors should be felt before opening. If they are hot, leave them closed.

If you're feeling ambitious, do a power outage drill. Turn off the juice at the circuit breaker box for a day or two and see how everyone

fares. It is up to you how realistic you want to be with this drill. Many people choose to leave the power flowing to their major appliances like refrigerators and just pretend those things are off limits.

Drills like these allow you to discover the holes in your plans and take steps to fix them before those holes become serious problems for you and your family.

MAKE SURE YOUR PETS ARE READY FOR EMERGENCIES

For each of your pets, you should have extra food and water, as well as a supply of medications if applicable. I also highly recommend taking a photo of you with your pet and keeping this photo saved somewhere you can access it easily if needed. This photo will go a long way toward proving your ownership of the pet should you and Fido become separated. While you're at it, ask your veterinarian for a copy of your pet's immunization record. Keep this with your emergency supplies. Should push come to shove and you need to visit a community emergency shelter, if they allow

Disaster Fiction

Disaster and "end of the world" fiction has always been fairly popular, but in recent years the genre has absolutely exploded. Novels and other stories allow us to learn from the mistakes of others as well as help us to brainstorm solutions to our own situations. If you're not much of a recreational reader, consider stopping in at the library and inquiring about audiobooks. Some libraries even have audiobooks on small MP3 players rather than compact disk.

A FEW TITLES I WHOLEHEARTEDLY RECOMMEND:

One Second After by William R. Forstchen

Pandemic by Yvonne Ventresca

Ashfall by Mike Mullin

The Rule of Three by Eric Walters

pets they will certainly want to see proof the animal is vaccinated.

Make sure you have a collar and leash for your pets, too, even if you don't normally use them on a daily basis. A muzzle may also be a necessity in a community emergency shelter. What you might consider doing is, well in advance of a crisis, check into local motels and find out which ones are pet-friendly. Doing so may give you a leg up should you need to find a place to stay for a night or two.

START A NEIGHBORHOOD MUTUAL AID GROUP

Most have heard of neighborhood watch programs. They are great things and most police departments will be happy to help you set one up in your area. However, think bigger and think beyond just watching for burglars. For example, in the event of severe weather, have some sort of schedule set up



Don't forget about your pets when creating a home evacuation plan.

or at least an agreement among neighbors to check on those who might need some extra help, such as the elderly or disabled. Know how to get in touch with your neighbors quickly should the need arise. Swap cell numbers and email addresses. The people who live next door don't need to be your best friends, but they certainly should not be strangers.

Some neighborhoods have gone so far as to create groups on social media sites like Facebook in order to stay in touch with one another. While that's certainly an option, I'm just old-fashioned enough to think perhaps face-to-face conversations should still happen from time to time.

TAKE A CLASS

You don't have to be a dyed-in-the-camouflage survivalist to want to learn some basic survival and emergency skills. Check with your local Red Cross about first aid and CPR classes. Another great resource for all sorts of learning is your local library. Many libraries routinely offer classes in all sorts of things, taught by local experts and instructors. The best part is that most of these classes are free to attend. Take advantage of them when you can. If you don't see any classes offered that relate to emergency planning, ask the library about setting something up.

One more resource is your nearest parks and recreation department. Most such departments offer classes in a wide range of topics throughout the year. There is typically a fee involved but it is normally rather low. A great benefit to attending these sorts of classes is being able to network with others who have similar interests.

How you decide to observe National Preparedness Month is up to you. What is important is that you take the time now, as well as throughout the year, to plan ahead for life's little, and not so little, curve balls. ☺

By encouraging people to stockpile some supplies and learn a few skills, we can make far better use of our emergency service resources.



The advertisement features a top section with a wooden sign that reads "RED-BRAND STORE" in a stylized red font. Below this, the text "STRETCHER BAR" is written in a bold, teal font, followed by "Get Professional Results On Your Next Fence Installation" in a smaller teal font. The background of this section is a light-colored wooden wall. The bottom section of the advertisement shows a close-up of a red metal fence post with a silver wire mesh fence attached to it, set against a green grassy background.

RED-BRAND
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STRETCHER BAR
Get Professional Results On
Your Next Fence Installation

Order now at RedBrandStore.com    



The planting crew transplanting broccoli.

The Spickermans.



HOMESTEADING *for a living*

BY KENNY COOGAN

“Our original goal was to produce as much of our own food as possible,” Landis Spickerman, 53, of High Bridge, Wisconsin, says. She and her husband Steven, 56, began living on the farm part-time during the summer months of 1989, while they were building their home. They moved to the farm full-time in 1991.

They planted fruit trees and started a garden before they lived on the farm. As the garden grew, they simply got to a point where they had more food during the growing season than they could eat. At first their sales were small – a few heads of lettuce and other produce to the local food cooperatives in 1993—and then it slowly snowballed.

“It went slowly and ‘full-scale’ production didn’t happen until many years into this venture,” Landis says.

As the homestead became more developed they read many books, used common sense, and grew the farm in a steady but sustainable fashion. Landis tells me that they made mistakes and learned from them, reinvested everything they made in better equipment, learned the value of good record keeping and quality control and began to really look at themselves as a business. Today Hermit Creek Farm is a full-scale produce farm grossing six figures and employing four to five folks during the growing season.



Pastured hogs play an important role in crop rotation and add a tasty share to their CSA.

Raking straw used for mulch, one more way that they close loops on the farm.

INVESTMENT

“To scale up, we needed to infuse more capital than we could generate,” Landis explains. “Since that decision point, we have used several loans including from family, a local bank, from our local food cooperative, and from FSA (USDA Farm Service Agency).” They used the loans to purchase equipment, build a heated greenhouse and packing buildings, and purchase additional farmland. Today, they still reinvest nearly 100 percent of their farm earnings back into the farm after 22 years of commercial operation.

Steven learned early on how much work running a farm was. Growing up, he watched his neighbors take a couple of long-handled hoes and walk their soybean fields in the summer after dinner. As they walked, they hoed the fields. Steven says, “They had the cleanest bean fields in the county.”

What his childhood neighbor’s dedication resulted in was immeasurable. “Their keen understanding of their land and what it and they could produce through their daily habits and personal attention to detail was the path to success,” Steven said.

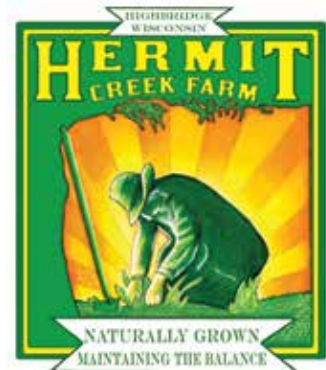
For those who want to make the shift from homesteader to entrepreneur, the Spickermans have several suggestions. When they started

they self proclaim that they were young and naïve enough to not really have concerns. “We were physically fit, strong—both of body and will—and were used to hard work and simple living,” Landis says. For their first five years on the farm they lived without electricity, for a decade without refrigeration, and they still don’t have running water in the house—they have an outdoor shower, water in the packing building, and a sauna for winter bathing.

Another important decision that they made in the beginning was to be an organic farm. In 2001, they became officially certified.

They have been teaching various aspects of farming for a number of years now including as part of the Land Stewardship Project “Farm Beginnings” program. They serve as mentors in the Midwest Organic and Sustainable Education Services (MOSES) “Farmer-to-Farmer” mentorship program. They also teach workshops and classes on their farm.

Since they keep accurate records, they know exactly how much it costs and how much they earn



by the square foot of growing space for each crop grown inside a high tunnel. This informs them of the payback on a tunnel purchase and dictates if they should purchase additional tunnels. The same goes for field crops.

COMMUNITY SUPPORTED AGRICULTURE

“We started marketing our produce as a CSA (Community Supported Agriculture) during the first few years of our farm as a business, which means we have been a CSA for 21 or 22 years now,” Landis says. This year they have about 175 CSA members, which generate 60 percent of their farm income.

“CSA is what we like to call ‘relationship farming,’ in that everything you do and grow on the farm is done directly for a person who has joined as a CSA member,” Landis explains. “As part of that, we liken ourselves to the same concept as say a family having a ‘family doctor’ or ‘family dentist’ but in our case, we’re your family farmer.”

They want to be the farmers whom customers think of when they’re thinking about what to make for dinner. “We want you, the customer, to know where your food is coming from, to have a direct link or tie to the land and people responsible for growing your food, to have trust in the food system and to feel good about helping support a family farmer,” she says.

THE WORKINGS

“Customers join our farm as a member by purchasing one or more of our share options,” Landis says. Some CSAs are simple with one share type option—traditionally a mix of in-season produce for a set number of weeks. As the Spickerman homestead has matured, so has the types of shares and length of their season, which now runs from late May to the following March. Shares are on a weekly or every-other-week schedule, and each share or veggie box contains seven to 12 separate items of what is in season. Since the shares follow



Landis cultivating broccoli with a belly mount basket weeder.

“Our core mission as a farm is to create positive change. ... A diverse farm operates in many realms and we wanted a mission statement that reflected all of those realms and spoke to our own values of environmental advocacy, social justice, and organic food production among many others.”

— Landis Spickerman, Wisconsin

the changes of their northern season, what costumers find in their box changes, as well.

Typically less than one percent of the total volume of what goes into their CSA share on an annual basis is from resources outside of their farm. Items include local honey, foraged wild rice, locally or regionally grown certified organic blueberries and cranberries. In addition to produce, some shares include local certified organic eggs and artisanal goat and sheep cheeses. The Spickermans say that they feel synergy gained by partnering with other small, local farms. Diversifying what their customers get is a large part of their success they believe. They say that social capital should not be underestimated.

One of the hardest parts of managing a CSA is producing enough food for all the shares. With money taken up front, the farmer is responsible to grow the food and meet the demands of their members. “This leads to a certain amount of stress and anxiety as the growing season progresses, as even with the most seasoned grower, there are just so many variables that are largely out of your control,” Landis says. She mentions that weather, disease and pests are additional concerns.

Having sold unproduced food is not all bad. The benefit of getting paid first is having the essential funds at a time of year where



Steven hoeing lettuce.

farmers are buying most of their annual inputs and bringing on employees. “Most farms use short-term operating loans to do this, and in a way, it’s our members who are giving us that loan and they are paid back in product,” Landis says. Having the money at this time of year also gives CSA farmers a good idea of exactly what they need to produce.

SEASON EXTENSION

The use of high tunnels and a heated greenhouse allows them to push the seasons a bit, which is how they can have certain crops much later into the fall or even winter, such as kale and spinach in January. “We also have a root cellar and cold storage capacity that we fill with crops such as carrots, potatoes, parsnips, beets, rutabaga, onions, winter squash, cabbage, celeriac, and kohlrabi,” Landis says. In addition to that, they grow shelf stable crops like dry beans and produce maple syrup that are included in their CSA share.



Sound Advice from Landis

Essential questions for those interested in starting a farm

WHAT IS YOUR PASSION?

“For us, we have both always grown plants, so a produce farm was a given.” Your passion has to carry you through the initial stresses of starting a business.

BASED ON YOUR LOCATION, WHAT CAN YOU MARKET?

“We live in a very rural area and we simply do not have enough people willing to buy fresh, local, organic produce close enough to us to really sustain a farm large enough to truly call ourselves successful.” They make 29 deliveries for their CSA.

WHAT WILL BECOME OF YOUR HICCUPS?

“Learn from your mistakes. One mistake that we made was where we chose to live. We figure perhaps only about 1% of the overall population really ‘gets’ the local, fresh, organic food scene and if you are in a rural area, you have severely limited your potential market.”

HOW WILL YOU TRACK SPENDING?

“Track all calculable activity and cost for your farm.” This will allow you to better set the price of your products and inform you of whether a given product is even worth growing, and if you need to invest in a tool to help reduce cost, or calculate the ROI.

WOULD YOU PERSONALLY PAY MONEY FOR IT?

“Keep what you want to do simple, at least at first.” Don’t invest in something that you wouldn’t want. It’s hard to sell something you are not interested in.

IF YOU DON’T ALREADY HAVE LAND, THINK ABOUT WHERE AND HOW YOU WILL BE MARKETING YOUR PRODUCTS?

“In reality, it is easy to grow food (veggies, fruit, and animals); the hard part is selling it at a profit.”

By having multiple high tunnels, this allows them to rotate crops and have substantial indoor growing space and product volume. Their heated greenhouse produces vegetable transplants for spring and early summer transplanting. They transplant most of their vegetables instead of direct seeding, because this is another way to push the season. In a typical season, they transplant more than 70,000 seedlings! Later in the year, one or more of the high tunnels becomes an onion curing facility. They store winter crops in their 100-year-old root cellar, which they rebuilt about 20 years ago. The root cellar maintains a steady temperature of 36°F. Since a few crops, such as winter squash and onions, prefer it a bit warmer and dryer, those go in their own separate storage location.

Due to their latitude and mid-continental location, which is too cold and cloudy for actively growing during the winter months, the Spickermans focus on preserving their food in holding areas. “Kale, Napa cabbage, spinach, bok choy, and a number of other cold hardy veggies can be started late summer and grown to maturity in the fall, then held and harvested through at least early to mid-January (in a mild year, maybe even February) before desiccation gets the better of them,” Landis explains. “Spinach grown the same way will look dead and gone all winter in a high tunnel only to spring back to life come the lengthening and warming days of March,” she adds. “Areas further south or closer to one of the coasts than our Lake Superior location will have better success with winter production.”

CARRYING ON THE MISSION

“Our core mission as a farm is to create positive change,” Landis says. She tells me that their mission statement is fairly nebulous for a reason. “A diverse farm operates in many realms and we wanted a mission statement that reflected all of those realms and spoke to our own values of environmental advocacy, social justice, and organic food production among many others.” For them, creating positive change means improving soil health and water quality, creating a healthy work environment for both their employees and them and increasing on-farm biological diversity. They also aim at providing healthy, nourishing, affordable food for their family,

friends and neighbors. Being good stewards of the land and working toward a future that includes small farms and healthy communities are also important to them.

For more information on Hermit Creek Farm and the Spickermans, check out hermitcreekfarm.com. ©

Kenny Coogan, CPBT-KA, is a regular pet and garden columnist and has authored an ecological themed children's book titled "A Tenrec Named Trey (And other odd lettered animals that like to play)." He has a B.S. in animal behavior and is a certified bird trainer through the International Avian Trainers Certification Board. Please search "Critter Companions by Kenny Coogan" on Facebook to learn more.



A SAMPLING OF HERMIT CREEK CSAs

Share Categories	Description for Sub Categories	Total Number of Deliveries
<p>Whole Diet CSA Share - Vegetables, Fruits, Cheese, Eggs, & More</p> <p>Each box includes 7-12 different vegetables and fruits grown by us at Hermit Creek. Local cheese, eggs and occasionally items such as honey, wild rice, fermented foods included, as well as our own maple syrup.</p>	<p>The Whole Diet - 4 seasons, weekly spring through fall, then once per month during the winter</p>	29
	<p>Every-Other-Week (EOW) Whole Diet - All 4 seasons, same good stuff and includes the cheese, eggs, etc., only every-other-week spring through fall, then once per month for the winter</p>	17
<p>Fresh Produce CSA Share - Vegetables, Fruits, and More</p> <p>A mix of the freshest picks of seasonal veggies and fruits of the season harvested at the peak of flavor. Each box includes a hearty portion of 6-10 different crops as well as occasional "extras."</p>	<p>Spring Share: Late May thru mid-June</p>	3
	<p>Summer Share: Mid-June thru September</p>	17
	<p>EOW Summer Share</p>	9
	<p>Fall Share: October thru mid-November</p>	5
	<p>EOW Fall Share</p>	3
	<p>Winter Share: December thru March, large boxes delivered the first week of each month</p>	4
	<p>The Works! All 4 seasons rolled into one with weekly deliveries spring thru fall, then monthly for the winter</p>	29
	<p>The Works Lite! All 4 seasons EOW spring through fall, then monthly for the winter</p>	17



Agritourism: A PROFITABLE IDEA?

BY HEIDI KERR-SCHLAEFER

COLORADO

The words, “fun on the farm,” were probably not coined by a farmer. After all, farming is hard work, but today, people around the country are looking to experience fun on a farm. Through agritourism activities, farmers are finding all sorts of ways to accommodate them, and in doing so, farmers are not only educating the public on their industry, but are gaining financial rewards.

Agritourism is a broad term covering a variety of activities that most Americans have participated in at some point, whether they have visited a farm stand or taken their child to a local pumpkin patch.

Some states are proactively helping farmers add agritourism components to their farms, and one such state is Colorado.

While most people see Colorado as a ski and adventure destination, the state was built on agriculture and it is still a thriving industry. Tourism is Colorado’s second largest industry, and therefore, bringing agriculture and tourism together makes a lot of sense. Today, Colorado is the only state in the country that has dedicated funding for agritourism.

Once the Colorado Tourism Organization created the Colorado Heritage and Agritourism Program (CHAP), they realized that there needed to be another association that could handle things like legislation and fundraising. On January 31, 2014, the nonprofit Colorado Agritourism Association (CAA) was born.

“The Colorado Heritage and Agritourism Program does all the marketing and promotion and the CAA does product development; business planning, website development, legislation, insurance and issues related to sign code and zoning,” says Kelli Hepler, director of the Colorado Agritourism Association. “We are paving the way for folks to step into agritourism here in Colorado.”

Perhaps the most important item the newly formed CAA was able to check off their to-do-list was the passage of Colorado House Bill 1280, signed by Governor Hickenlooper on June 6, 2014. The bill

provided much-needed legal protection for farmers participating in agritourism by limiting the liability of farmers and ranchers in activities related to agritourism.

Even prior to the passage of HB 1280, Colorado’s agritourism industry was growing. According to the 2012 US Census, the newest numbers available, out of 36,000 Colorado farms, 2.4 percent claimed an average of \$33,000 per farm in added income from agritourism.

THE LIVING FARM

Tom and Lynn Gillespie of The Living Farm are proof that agritourism isn’t new to Colorado. The farm, located in Paonia, has been in the family for four generations.

The Gillespie family built their first greenhouse in 1987, and in 1990 they started growing hydroponic tomatoes. By the early 90s, people wanted to see what the Gillespies were up to and Lynn started running tours. Today, the farm is a well-oiled agritourism





machine and includes five greenhouses, chickens, pigs, turkeys and a large flock of sheep.

The family also owns The Living Farm Café in downtown Paonia, population 1,400. Operated by Lynn and Tom's son, Chef Mike Gillespie, the café serves farm-to-table meals with almost 100 percent of the food served having been raised one-mile away on The Living Farm. The café also serves as an inn, renting the five rooms above the restaurant to hungry tourists.

The Living Farm also sells their goods at local grocery stores and through their CSA (Community Supported Agriculture).

In the beginning, Lynn Gillespie's farm tours were free, but she quickly realized that she couldn't get any work done with people popping in at all hours of the day.

"We've formalized the tours," she says. "We've set up a program where people can drop in and tour at specific times or they can get online and request a group or VIP tour. Folks can go to www.thelivingfarm.org/farm-tours and see how we set them up."

Gillespie also started charging for her tours; individuals are \$6, groups start at \$25 and a VIP package that includes an overnight stay at the inn and breakfast at the café is \$160.

"If someone goes to the movies they pay \$8 to \$10 for a ticket," says Gillespie. "Farmers need to know that they do not need to tour everybody for free."

The Living Farm does offer one free program. Lamb Loving takes place Wednesday to Saturday throughout the spring lambing season. In the evening, from 7 to 8 p.m., guests may visit the barn and cuddle with lambs.

"When I set a lamb in a person's lap, I don't care what age the person is, their face beams like it is Christmas morning," says Gillespie. "If I can give that kind of joy to someone for just 30 minutes, it's totally worth it and I think that's what this is all about."

At the beginning of the year, Gillespie sits down



Scenes from The Horse & Hen ranch near Hayden, Colorado

and decides how much interaction The Living Farm will have with the public and she sticks to her rules. The farm comes first, of course, and she stresses that anyone interested in going this route with their farm or ranch must realize that it's different than farming.

"You've got to greet visitors with a smile," she says. "This is not making produce. It's a service and your tour has to be well thought out. Your place needs to look nice and you have to be nice."

THE HORSE & HEN

Ryan and Rachel Wattles joke that their foray into agritourism was an accident, although Ryan admits that for him it presented the opportunity to quit his day job and stay on the ranch full time.

Their family ranch is located in Hayden, Colorado, population 1,800. Just 20 miles west of Steamboat Springs, the ranch was bought by Ryan's great-grandfather in 1935. Seventy-five years later, Ryan and Rachel, with their 6-week-old daughter in tow, moved from Fort Collins, Colorado, to Hayden to work the ranch.

In the beginning, the Wattles raised goats and hay, but have since sold the goat herd and are turning their attention towards cattle. The property includes three residences; two historic homes and a brand new country-style house.



As soon as the big house was built the Wattles began hosting a steady stream of friends and relatives who wanted to have a farm experience.

"Everyone who visited had a ball and loved it here," says Rachel. "That's sort of what put the idea of starting a bed and breakfast in our heads."

The Wattles decided to explore agritourism in Colorado and toured the areas where it was happening. After this tour, they assessed their ranch and their personal skills and decided that adding a bed and breakfast made sense.

Making the dream a reality, however, wasn't an easy road. Rachel discovered that there were a tremendous amount of county government hoops to jump through, and finding insurance to cover the "farm stay" portion of the business was tough. In the end, they couldn't afford an insurance package that would cover horseback riding, so they cut out that part of the original business plan.

While guests can't ride any of the Horse & Hen's horses, there are lots of other farm

and ranch activities that they may participate in including milking Norma the cow, collecting eggs and helping in the garden. The area around Hayden is rich in birding and hunting so the Wattles are working to tap into that lodging market as well.

While the bed and breakfast is booked solid during summer weekends, the Wattles want ranching to remain their focus. For instance, every animal on their ranch serves a purpose. The chickens give eggs, the cow gives milk, the pigs are raised for meat and the Great Pyrenees dog watches closely over their few remaining goats.

"We don't want this to be a horse and pony show," says Rachel. "This is a real working ranch."

Today, Rachel works one-day a week as an art teacher at the local school and Ryan spends his time working on the ranch where he occasionally uses a team of draft horses; an ode to the way his grandfather and great-grandfather worked the ranch in the past.

Ryan's favorite part of running the bed and breakfast is watching guests' children connect with ranch life.

"To me it's really important that kids have the opportunity to see this type of lifestyle because only two percent of Americans are in agriculture today," says Ryan.

The Wattles now have two girls and believe the toughest thing about adding an agritourism component to their farm was determining their personal boundaries and meeting the expectations of their guests. Their home, for instance, is off limits to guests. Rachel

has also turned off her online booking option because she likes to connect with people via phone or email when they book a room.

"A lot of people think that they are going to be staying in our family home or that they will be having dinner with us, which is not the case," she says. "Having email or phone contact with them lets me explain what we are really all about here. It lets me set expectations in advance."

THE MOUNTAIN GOAT LODGE

Nestled in the hills outside of the artsy community of Salida, Colorado, population 5,400, is a bed and breakfast with a goat twist. This unique lodging establishment is home to goats, chickens, ducks, dogs, a llama and a cat.

Gina Marcell ran a goat rescue outside of Seattle, Washington, for a number of years, but longed to be in the sunshine. She wanted a place where she could raise goats and run a business, and in 2010 she found a bed and breakfast for sale in Salida. She moved her small farm to Colorado and opened the Mountain Goat Lodge.

"When I wrote my business plan, I wrote



The Mountain Goat Lodge in Salida, Colorado.



*According to the 2012
U.S. Census, the newest
numbers available, out of
36,000 Colorado farms,
2.4 percent claimed an
average of \$33,000 per
farm in added income
from agritourism.*

that goats were going to be an integral part of the business. To me it's all about the goats, and the bed and breakfast is just sort of a front for having them," says Marcell. "I also stated in my business plan that I wanted to educate people and enlighten them on how wonderful goats are."

Marcell is doing just that. Her bed and breakfast is busy year round with workshops on goat care, cheese making and raising backyard chickens. She recently played host to a yoga retreat, introducing her establishment to an entirely new demographic, as well as workshops on subjects like soap-making and canning.

In addition to the workshops and livestock, Marcell grows a flourishing garden despite her farm being located at more than 7,000 feet above sea level. She utilizes a large, round greenhouse that also serves as a cold weather getaway for her guests.

Thanks to the greenhouse and the chickens, Marcell's breakfasts are farm fresh throughout the year.

Marcell has found the internet to be an invaluable resource for agritourism information and help.

"There are forums, Facebook pages and associations," says Marcell. "You can get a lot of help from people who are already doing this. When something weird comes up, you can go online for help."

They recently just opened cute "glamping" cabins for the more modern tourist.

CONNECT, CONNECT, CONNECT

The Living Farm, Horse & Hen, and Mountain Goat Lodge all have one thing in common: their owners have made connections with their visitors and their communities.

The Wattles' bed and breakfast stays full thanks to the personal connections they have made with their guests.

"Word-of-mouth has been huge for us," says Rachel. "That's pretty much all the marketing we've done besides the website and Facebook."

As The Living Farm has proven, the farm-to-table, or farm-to-fork, movement is another way for farmers to get connected.

"With the farm-to-fork movement and the interest in local food, people are shopping at farmers markets and this has helped consumers get to know the farmer personally," says Penny Leaf, agritourism coordinator in the University of California Small Farm Program.

Hepler, director of CAA, adds that consumers seem to care about farming much more than they used to and she points out that meeting a farmer often results in a willingness by the consumer to pay a higher price for that farmer's product.

Lynn Gillespie thinks it goes even deeper.

"I think it's important for farmers in agritourism to remember that people are coming to your farm to get connected and it's important to connect them," she says. "Whether you connect them through a cute little sheep or chicken, you need to fulfill that need — that hole in them that needs to be filled."

THE REST OF THE STORY

Colorado is not the only state where agritourism is flourishing. Colorado crafted HB 1280 on a successful Maine agritourism bill and agritourism success stories can be found in California, Vermont, New Jersey, Virginia, Tennessee and Kentucky.

A recently released study of Tennessee's agritourism industry by researchers with the University of Tennessee Institute of Agriculture estimates that the economic impact of agritourism in the state more than doubled between 2006 and 2012.

While states like Maine and Colorado have passed bills that allow farmers and ranchers to run their agritourism operations with some liability protection, not all states have passed such legislation. In California, a state that's been involved in agritourism for more

than 50 years, no such legislation exists.

“Every county has their own rules and California has 58 counties,” says Leff. “So in each county there is a very slow movement to revise their general plans and ordinances so as to loosen some of the regulations. But permitting is probably the biggest challenge and liability is also a challenge.”

Leff went on to say that most of the agritourism in California is organized on a local level with county associations, farm trail groups and groups of farmers who are doing collaborative promotions of their farms and region.

Cooperation seems to be a key factor to successfully implementing of agritourism.

There are several national organizations that can help a business with agritourism. The North American Farmers Direct Marketing Association (NAFDMA) is a “membership based trade association dedicated to providing endless peer-to-peer learning opportunities, connections and resources, for farmers who are passionate about the business of agritourism and farm direct marketing” (www.farmerinspired.com).

The National Agritourism Promoters Association (NAPA) works to create sustainable prosperity for agritourism venues through commitment to research, current information and personal mentoring.

The Gillespies, Wattles and Marcell, stress the importance of taking small steps towards the agritourism implementation. A farmer may want to start with just one farm tour a month, in the beginning, to see how it goes.

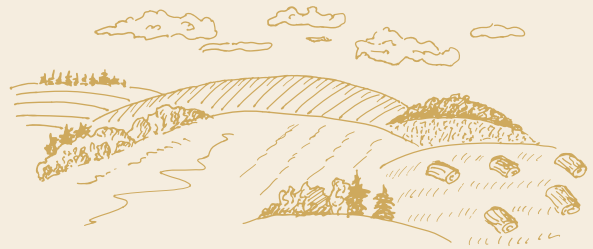
“Hospitality is a big part of agritourism and it’s not for everybody,” says Hepler.

Leff urges farmers to check with their neighbors and county government before wading into agritourism waters. She warns that upset neighbors are sometimes the biggest barrier to a successful agritourism business.

For those who do take the plunge and do it properly, agritourism has many rewards, and the industry continues to grow.

“There is a big demand,” says Leff. “The tourism industry is very anxious for more places they can write about and more places they can send people. Right now, agritourism is really exciting.” ©

Heidi Kerr-Schlaefter is a freelance writer from Loveland, Colorado, and specializes in travel and tourism.



Things to know before starting your agritourism business

IS IT LEGAL?

It’s important to check with your county government before starting any agritourism business no matter how small. There may be county rules regulating what you can and can’t do on your land. Beware of the rules before spending any time or money on agritourism.

WILL IT BOTHER YOUR NEIGHBORS?

Neighbors can be the biggest challenge to a farm that wants to start agritourism on their property. Will your neighbors mind the increased traffic? Will your neighbors mind the signage? It’s wise to chat about your agritourism ideas with your neighbors before moving ahead with any plans.

WHAT IS YOUR LIABILITY?

When you invite someone onto your land, you are subject to legal liability if they get hurt. While some states have passed legislation limiting liability for farmers involved in agritourism, many have not. However, there are ways to limit your liability even without legislation in place. Go online to see the “Top 10 Ways to Limit Your Liability When Visitors Comes to Your Farm” by Anita K. Poole, Kerr Center for Sustainable Agriculture.

DO YOU UNDERSTAND HOSPITALITY?

Hospitality is the friendly reception and treatment of guests and strangers. Hospitality is vital to a successful agritourism business, and while agritourism occurs on a farm or ranch it is very different from farming and ranching. Take an assessment of your personal skills and those of your employees before embarking down the agritourism path.

Author’s Note: “Biosecurity” involves preventative measures designed to reduce the risk of transmission of infectious diseases in crops and livestock. According to the individuals interviewed for this article, biosecurity is a nonissue when it comes to agritourism. In these cases, farmers are not worried about the public bringing infectious livestock diseases onto their farms because it is unlikely these visitors have been around livestock. Biosecurity is more of a concern for large, industrial-sized farms and ranches, and these types of businesses do not usually participate in agritourism activities.

A BETTER WORLD, *one meal at a time*

BY KENNY COOGAN

Less than 10 years ago, John Kohler lived like most of us do—with vegetable beds on the periphery of our yards. Most gardeners have huge backyards and front yards with some edible plants scattered around, with a bed or two of vegetables on the side.

Kohler says that he “came to the realization that it was important to grow a larger percentage of [his] food” in 2009. He believes that if we leave it to the food industry with a focus on producing cheap food, we are doing ourselves an injustice.

As he started planting out his entire suburban property and vocationally learned efficient methods to garden, he simultaneously created a YouTube channel called, “Growing Your Greens.”

PLANTING A DEED

The Dervais family from Pasadena inspired him to start the YouTube channel. He saw some inspirational videos that they made on how much food they could grow in one-tenth of an acre. He tried researching their approach and quickly learned that there was significant cost involved. So he started making his own videos to share for free because he wanted to share his journey

and success with his fellow gardeners.

With more than 225,000 subscribers, 1,000-plus videos and more than 30 million views on YouTube, Kohler is most likely the best known online gardener today.

In his 20s, he almost died when he “was hospitalized with spinal meningitis caused by complement immune deficiency syndrome.” The doctors told him that he might not make it out of the hospital alive. He remembers thinking then about losing his life and realizing how insignificant money was.

“Millionaires, trillionaires, gazillionaires lose their lives every day because they didn’t take a proactive approach in their health,” Kohler says. In the hospital, he learned that his greatest gift is his health. The second greatest gift is to communicate what he has learned.

“I feel such joy when I get emails, when I hear that I’ve changed lives out there, especially for the kids,” Kohler shares. “I’ve gotten people to eat healthier foods, grow fruits and vegetables, and become healthier, one person at a time.”

Kohler believes that if more people ate more fruits and vegetables and get off





the processed foods, society as a whole would be much different. “My mission is to just make the world a healthier place one person at a time, by people growing their own gardens to make the planet greener, to be more sustainable, and to get people healthier, and I’m just doing my small part.”

Kohler encourages his viewers to share his videos with friends and relatives. He wants to see those who have learned about different unique medicinal plants and edible cultivars to pay it forward and help other people see that eating more fresh fruits and vegetables makes you healthier.

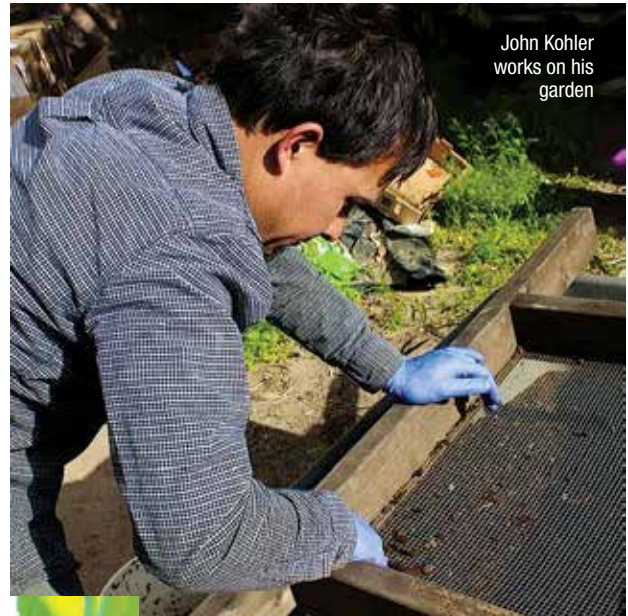
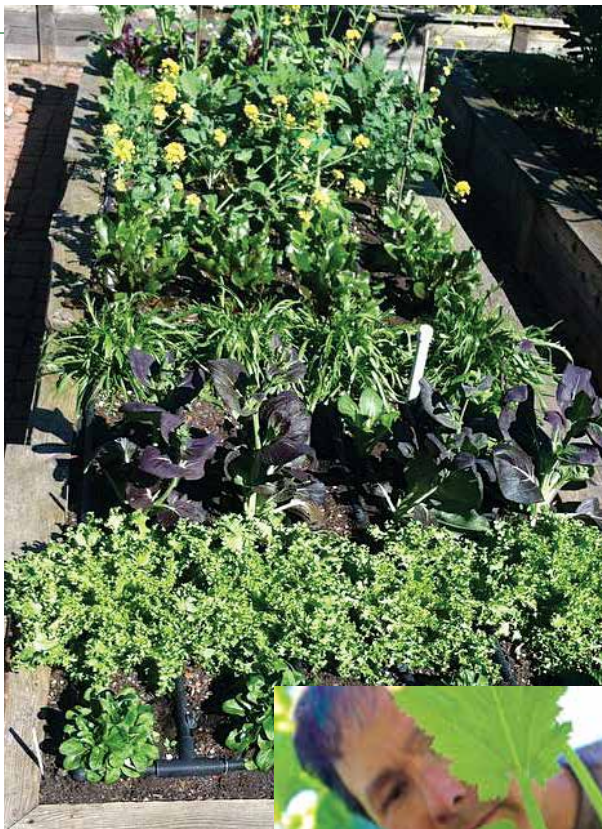
“I truly believe if everybody gardened, grew their own food, knew what it took, ate it and was healthier, the world would be way different,” he says. Kohler suggests juicing fruit and vegetables, blending them, or whatever else it takes to consume more fresh produce and less processed junk food. If there were more gardeners in the world, Kohler says, “we’d think a lot more about nature and the impacts that certain things have, instead of just living life with blinders on.”

EDUCATIONAL AND ENTERTAINING

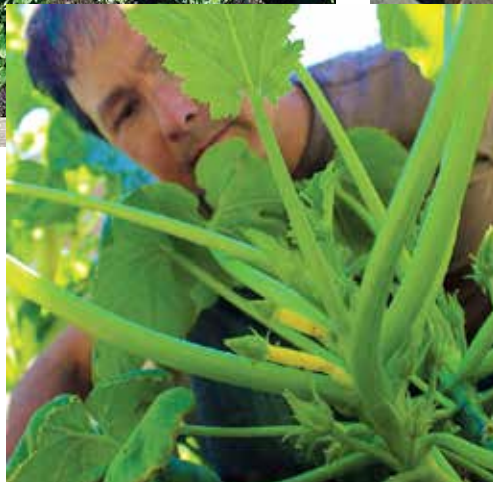
His videos intend to share not only gardening knowledge, but guidelines for how it could be done. “I’m one of those guys that’ll figure stuff out, and I know many of you out there watch me because I’m kind of like an engineer, I’ll figure stuff out how to do it the best way possible.”

Although he is not a trained botanist or horticulturist, I find his videos engaging, inspiring and empowering. If there is a question I have that my local network in Florida doesn’t know the answer to, I can quickly search John’s YouTube channel and likely find the answer.

I sometimes find myself binge watching multiple clips at once.



John Kohler works on his garden



His videos range from a few minutes to almost an hour long. His topics include edible weeds, composting, fruit trees, soil re-

mineralization, growing food anywhere, species and genus highlights, and many how-to's.

"I try to be entertaining, fun, crack a few jokes, and a few off-humor jokes sometimes many of you appreciate and some of you don't, and I'm just being me," Kohler says. "I'm just being open and honest." He doesn't put on any fronts and it works. Many videos are filmed with one camera angle and in a single shot.

"In life, I am a really happy, enthusiastic person and this comes through on the camera," he says. What adds to his enthusiasm is that gardening is a topic that he gets really excited about. "In my opinion, not a lot of things could change your life more than gardening."

"On my 'Growing Your Greens' channel, my most popular video is actually a video I did with a unit called the Garden Tower," Kohler says. In the video, he shares with viewers how to grow a massive amount of food in just four square feet of space, taking a 55-gallon

drum, and modifying it. The Garden Tower made some small holes so that customers can plant vertically, and on the top.

In addition to saving space, the middle contains worm composting, so you the system can break down the waste and make nutrients for the plants. Generally speaking, the most watched videos are ones where Kohler identifies a problem and comes up with an inexpensive solution.

"It's clear and evident to me that by that video and by my second most watched video 'How to Grow Food in Snow,' people want solutions," Kohler explains.

GARDENING TODAY AND YESTERYEAR

"Backyard gardening is coming back to the mainstream," Kohler says. Although he believes it is still not as popular as it needs to be, with the help of farmers moving to the city, people should start taking an interest once again.

"Many people could not care less about growing their own food because purchasing it from a

grocery store is easy," he says. "Food is critically important and the way the food is grown is not only important for your health and taste but also for planetary health." Getting food more localized will reduce emissions, since industrial farming uses fertilizers and are polluting the environment.

"My grandparents grew their own food, but when my parents moved into the city, neither of them grew their food and one of the greatest blessings that I had as a child was when the Johnsons, a farming family, moved the next door."

"Nobody in the whole area had a backyard garden like the Johnsons," Kohler tearfully recalls. Their yard was all raised beds. At the time, he questioned their methods because he didn't understand why they grew their own food when they could just purchase it at a store. It was only later when he realized that it was because he was not taught the value of the food and the fun of growing your own food.

IMPROVEMENTS FOR BACKYARD GARDENS

"I would like to see gardeners improve the quality of what they are growing by adding trace minerals and adding microbiology into the soil," Kohler says.

He adds that chemical agriculture and fertilizers wipe out organic matter and the microbes that our gardens need. Adding worm castings is a fast and easy way to add beneficial nutrients.

"I want to see higher quality food production because healthier plants decrease pest issues and disease, increase flavor and abundance."

SOCIAL MEDIA

Kohler compares social media to a tool being used in a garden. "I mean you could dig with your hands," he says, but using the available tools will cause you to be more efficient. "Social media connects people and also gets people more familiar and more educated about gardening. Through social media you get to learn things that are not being taught often enough and for free."

Through YouTube he teaches his viewers things that he learned in his travels around the world, that you would not likely know

unless you have traveled to those places and asked the questions that he had.

"Information is an incredible tool and social media makes information more widely available to people easily," he says. "All of my videos are free and they will always be free because I think information should be free and I'm more in tune with an open source model these days for the world at large."

SUCCESS THROUGH YOUTUBE VIDEOS

"One of my favorite sayings is, 'to become a better teacher, you need to become a better student,'" Kohler says. Social media, he says, has made him a better gardener because he now has a record for his garden. He usually films a video every season and can review what he planted for that season.

GROW YOUR OWN GREENS!

"If you're not already growing your own food, there's no excuse not to start today," Kohler says. "I don't care if it's the winter time, the summer, 120 degrees outside where you live, 20 below, you can always grow a garden inside like sprouts and micro greens."

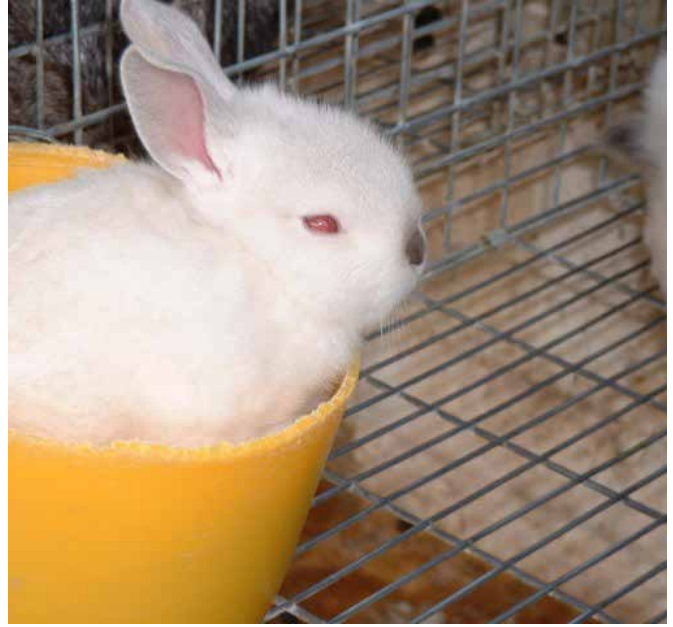
More important than

growing your own food is eating it. "Don't just grow it for fun, for ornamental purposes; actually harvest it, eat it as a big portion and staple of your diet to minimize all the other processed foods and junk foods that you still may be eating," he urges gardeners.

He reminds us of the big take away that he has learned after all of these years, the more high quality fresh fruits and vegetables you eat the healthier you're going to be. "Growing and eating healthier food will allow you to maintain a good weight, keep your cognitive abilities high, be fit and trim with minimal exercise." ©

Kenny Coogan, CPBT-KA, is a pet and garden columnist and has authored an ecological themed children's book titled "A Tenrec Named Trey (And other odd lettered animals that like to play)." He has a B.S. in animal behavior and is a certified bird trainer through the International Avian Trainers Certification Board. Please search "Critter Companions by Kenny Coogan" on Facebook to learn more.

*"I know the power
of the fresh fruits and the
fresh vegetables and
I simply want to share
that with you."
— John Kohler*



Why I Like Rabbits

BY MICHAEL
MCKENNA

I LIKE RABBITS. They like me. Sound a little too simplistic? Rabbits are easy to keep; they are easy on the eye. They convert food to meat extremely well and they taste good. Plus, they multiply. What more could you want?

The big question: why do you want to buy a rabbit? I will give you all the reasons I started into rabbits. Some reasons still hold true, other reasons don't. I had a little bit of experience as a kid growing up, mainly as the feeder and shoveler. I would not call it meaningful, but I did discover that little balls are easy to sweep, little pellets are easy to feed, and everybody in the rabbit nation is generally happy.

I decided to start raising rabbits again three years ago. I had gone to a local fair and met a small group from a local rabbit association: still, nice people. Rabbit people, I have found, are generally ok. They were very happy to show me the ropes of raising rabbits on a semi-

commercial basis...I use the word "semi-commercial" loosely. I took the knowledge and went home and digested it for a few months. I have a limited income and a 2.5-acre farm, which I did not want to bet on this venture. I was interested in meat and pelts, and possibly to sell a few babies as pets. That became my focus meat, pelts and babies.

I went back and ordered eight California/New Zealand cross does and the recommended Chinchilla buck. I brought my one cage and went to pick them up with my \$180 in my hand...\$20 each. Oscar, who has since become my mentor, asked, "Where is the rest of the cages? You need one per rabbit."

My adventure had begun.

Oscar is one of those guys. He could be an aluminum siding sales guy, "Have I got a deal for you. Wanna buy a rabbit?" Yup, that was me, new owner of my own fleet of bright-eyed and bushy-tailed multipliers.

This is where the adventure begins: reality is, you are either going to make meat or pets. With more than 100 breeds of rabbits, they can range from two pounds to 20 pounds.

HOW I GOT STARTED

When you first buy rabbits, your future is unclear. Will I like it? Will I lose interest? Will I really like it and grow? These answers will only be revealed with time.

I recommend two years to see if you like it or not, because you will have mastered most of your pitfalls and it should be smooth sailing. Here is a little bit of how I did it.

I got my eight does and my buck home and I had a few months until they became fertile, which was a godsend.

I did not have the money immediately for eight more cages, so I bought four cages thinking two does to a cage will be ok. It's not. Breeding does' security comes from having their own cage; their own

Rabbit Sizes



DWARF AND SMALL RABBITS

Dwarf and small rabbits are pets. They are 2 pounds to 5 pounds. They command the same price as a meat rabbit. I would consider this type of rabbit, should space be an issue. I enjoy the contact with my rabbits. I'm sure contact with this type of rabbit would be a lot of fun: hand-raised rabbits are a must if the rabbit is to be a pet.

MEDIUM RABBITS

Medium rabbits are fine-boned and thin-skinned and they convert food efficiently, which means rapid growth. Here's an example: from birth to the dinner table in as little as eight weeks. A 10-pound doe can produce 120 pounds of meat in her one year of fertility.

A buck in his two years of fertility can produce 2,000 pounds of meat or more. That's a lot of rabbits. I originally choose a cross of California and New Zealand does. I choose the California for cold hardiness and the bigger New Zealand because they are larger, excellent mothers, and consistently have large litters when you cross them with each other. They are known as F-1 does. I have raised Chinchilla, Aztec, Mariposa, and New Zealand cross bucks, I like them all but favor the New Zealand bucks.

GIANT RABBITS

Giant rabbits, such as Flemish and Checkered, can range up to 20 pounds or more. They are heavy-boned, thick-skinned fur rabbits and not suitable as a meat rabbit. They are also poor converters of food, which definitely rules them out as meat rabbits. It could be a curious pet though. Can you imagine one walking down the street on a leash?

home, period. They will eventually fight and the dominant female will prevail. The weaker female will not be as good to breed and you lose.

I had a spot in the corner of a building I was renovating and the conditions weren't perfect. This lasted about a year. What prompted me to get serious, one day I moved all the cages outside into the fresh air so I could do a through cleaning. The rabbits were ecstatic, jumping around, laying in the afternoon sun; totally different animals—like they were at the beach.

My conscience said you can do a lot better than their present conditions; so I designed a hutch for 14 cages.

Why 14? I knew I was never going to be a mogul, but I wanted a flexible building if things changed, then it could be expanded on or used for other purposes.

CAGES

One doe rabbit needs three cages for all the little ones. Trust me, you will use them all. Are you starting to re-think how many does you need? A good lesson learned.

Each cage is 24-inches deep by 36-inches in length and 16-inches high, which ends up at about six square feet. I calculate the three cages at 18 square feet. Time to have a hard look at the garden shed you thought you were going to use.

The next thing to understand is rabbits eat, drink and make little round manure balls accompanied by an equal amount of pee. Breeding, like rabbits, is not a sure thing—another lesson learned.

NOT PELT, BUT MANURE

The first five-gallon pail of manure from my sweepings was my next lesson. The real gold is in the pail: fabulous manure. This is something you can capitalize on as a resource. And in my case I get a five-gallon bucket every day.

Manure, I know you want to just go right into, petting and

feeding, multiplying and getting to be a rabbit mogul, well you just can't get to your mogul duties when you are up to your knees in manure. It's just not civilized.

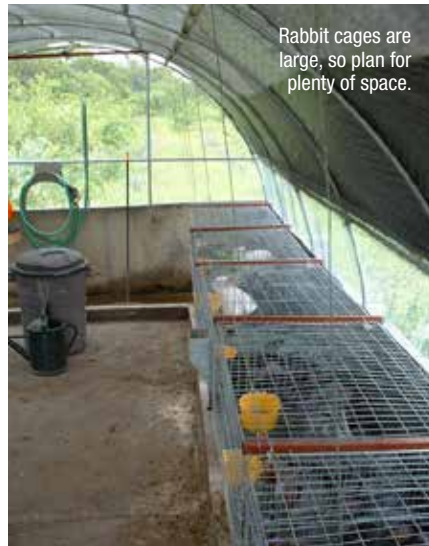
Here is a consideration: Your meat rabbit will be in your care for 70 days at 1,440 minutes per day. This equals 100,800 minutes. Butchering takes 15 minutes.

My time consists of a 30-minute visit in the morning, and 30 minutes in the evening, which is a total of one hour a day. Out of the 70 hours I'll spend during the life of my meat rabbits, at least 35 hours will be spent dealing with manure.

If you are a mogul of the rabbit or let's say King in your parts...we will have to get the calculator out for that one, which is the number of minutes or seconds divided by the number of rabbits you have, this will calculate the time you spend per individual rabbit.

Regardless, at least half your time will be spent shoveling, or sweeping, carrying or dumping manure. You can reduce this time drastically and spend the time caring for your rabbits.

I have found that allowing manure and urine just to drop on the floor and lay is a recipe for a disaster. First you get the smell of ammonia—it will impart most respiratory problems in your rabbits, and you. It is hard to sweep or shovel and the floors are impossible to disinfect; plus



Rabbit cages are large, so plan for plenty of space.



the only thing you are left with is garden compost. And we are talking about a resource here, so why waste it.

I use a trough system and water; I take advantage of the fact that rabbit droppings roll, so does urine. Once a day I use two, five-gallon pails of water to flush my troughs. With a quick sweep into the awaiting five-gallon manure pails it takes five minutes per day. The hutch (that's rabbit talk for house or pen), is clean when you do not get any nasty smells and you have just separated your rabbit droppings from your urine and dropped feed. (I think hobbits originally invented rabbit words, as they sound so burrowish.) Look in the pail; those balls float. It's a big resource. All

you have to do is scoop them out and sun dry them and put them in a bag for home gardeners and the water makes a great manure tea for your compost pile.

DEVELOPING A TROUGH SYSTEM

Here are a few ways to develop trough systems:

If you have an existing garden

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shed, garage or barn, this is important—your cages have to be hung from wires or supports overhead, and nothing should touch the floor. Your cages are a major investment, and so is the health of your rabbit. Should droppings and urine get stuck in the wire floor, it will soil your rabbits and corrode the floor of your cage. Instead of smooth galvanized wire, they will have to walk on rust.

The cages can be mounted along a wall if the following precautions are taken.

The wall should be protected with a continuous heavy gauge plastic. Ideally, it can be pulled into a soft loop and connected to a bar that is strung along the length of the cages and extending six inches in front of the cages, and hung as well from overhead wires. Why six inches in front of the cages? Rabbits pee at a 45° angle so it should catch it.

This will give you the ability to clean with a garden hose and all the manure will be deposited in a five-gallon bucket at one end of your cages.

I have found that by spraying water through the cage into the trough I can also get most dust and dander or rabbit fur off the cage. (Ed. note: You might want to remove the rabbit from the cage when you do this. You don't want to soak the animal.) This will get rid of the airborne dusts, plus if it is not too cold, the rabbits don't mind a little water on their feet. By lowering the bar on one end of your trough located on the front of your cages, you can pitch the trough to the desired discharge location, hopefully a spot that makes it easy to move the full pail out—ideally close to the exit door to avoid spills. When the plastic gets worn it is easy to replace; it should last you a year. You may want to save your measurements so it is easy to duplicate at a later date. Urine is very corrosive so it is impractical to use metal on the trough.

I use this type of system for my larger rabbit hutch. Instead of a

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plastic trough, I use concrete troughs built onto the floor. They are about six inches off the floor and are the full depth of the cage extending from the back wall to three inches in the front of the cage. It is important that the back of the trough be flush with the back wall, this way no manure can collect if there is an edge. Ideally the trough should be dished from front to back and sloped toward the drain. Important: The slope should be no more than a half-inch per 10 feet of run, so when you flush the trough, the droppings will move with the water. Too much slope and the water will outrun the droppings and leave them behind in the trough.

The trough has to be a smooth concrete surface and drain to a central point then exit through a minimum four-inch drain. This system will last for 20 years. The wall behind the rabbit cages is also a poured concrete or a smooth washable surface. With this type of

With more than 100 breeds of rabbits, they can range from 2 pounds to 20 pounds.

system, you use a minimal amount of water to flush the troughs. In my case, I have different options for the rabbit droppings. I can flush into a small tank and skim off the quality droppings to be sold as high quality fertilizer. I then flush the wastewater into a red worm tank. The wastewater contains urine, dropped rabbit food and small droppings—excellent worm feed.

THE HUTCH

First, think about placing your hutch. Find out the direction of sunrise and sunset, and learn

the prevailing winds. I placed the building ¼ on the open end into the prevailing winds, which moves the air continuously. In the case of a storm that is carried on those prevailing winds, it cuts out a lot of the rain. Morning sun is great and afternoon sun can be hot; to accommodate that problem I use the sides of the tarp as an awning system.

PICKING A BUILDING

I decided on a hoop building that I could build inexpensively. The building would be 10-feet wide, 20-feet long and 7-feet high. I picked these dimensions because all the building materials come in those sizes, and I did not have to make any custom cuts to fit.

I got out my graph paper and worked out the troughs and the way the cages would fit comfortably and I could work comfortably—I'm six-feet tall.

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The building is covered in chicken wire which helps keep the building sturdy. It could also be converted to a chicken coop in the future.



I decided to use ½-inch galvanized electrical conduit as the frame. It is readily available plus it comes in 10-foot or 20-foot lengths and it is easy to bend. I could bend them myself using a simple bending jig. The hoop frame could be assembled and the floor poured incorporating the hoops. Another nice thing about this building style is you can extend the building at a later date by simply adding more hoops, which I did do when I added a 20-foot hoop greenhouse. Before I poured the floor, I decided to cover the building in chicken wire; that way when I poured the floor, the chicken wire at the floor would be secure in the cement. I was secretly thinking if this little adventure doesn't work out, this will be a great chicken coop, but don't tell the rabbits.

The chicken wire turned out to be a godsend when I decided to pour the walls with concrete to a height of 30 inches. At three inches thick, the chicken wire acted as reinforcement in the wall. I thought it would be predator proof...it wasn't. I covered the building with a sun reflective tarp that keeps the rabbits cool and dry, it also is

great to keep the wind in check. I replace this 20-foot by 20-foot tarp every year at a cost of \$60. You could easily use roof steel, for the colder climates. When I installed the greenhouse, I used the clear Fiberglas panels and when money becomes available I will use a clear Fiberglas panel in the center of the roof, and use galvanized panels on the sides of the roof of the rabbit hutch.

There are many different portable structures available, including the ones used as car shelters. All would work well as the basic structure and the floor and troughs could be poured as a slab to anchor the structure from wind and the elements.

I think that wire cages are the way to go: rabbits eat, drink, make manure and babies. Another thing they make a lot of is hair, that if left unchecked, will be everywhere. If cages are built with wood, they will be eaten and wood absorbs liquids, so it is hard to get rid of foul smells.

Take your time find a cage you like. I am a creature of habit, so I have settled on one type of cage from the same manufacturer. They fit my hardware that I built for suspending the cages, also the food and water configuration that I use. I have the door on the front of the cage in retrospect a top door would have been better as I split cages with wire screen periodically to separate rabbits.

Rabbits have and will continue to be the cornerstone of my livestock enterprise, and from them, I also have a wonderful source of manure and feed for my red worms, which in turn makes even better soil and are one source of chicken feed. I will ultimately raise pigs, on feed raised on my super fertile soil thanks to my rabbits, and then we will power our farm with our own methane. But that's another story. ©

Michael Mckenna is in the process of writing a book called Wanna Buy a Rabbit? due out next year. Learn more at www.simplechoicefarm.com.

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Getting Started With Rabbits

BY LYDIA
FRANCIS

IHAVE ALWAYS HAD a love affair with rabbits and imagined our children would enjoy these fluffy creatures as well. Over the years we were distracted with sheep and goats and never pursued rabbits. When our son recently asked if he could have a rabbit, it was not an issue and we, of course, said yes.

Our first course of action was to realize the purpose of the animal. My son wanted a pet to call his own and clearly did not want to go down the meat road. We, on the other hand, wanted a product not a liability. We all agreed that my son would own the buck and the doe as pets. We would own the babies to sell or use for meat.

We enjoyed researching the different breeds. It was important for us to have an animal we would enjoy taking care of and also have a viable animal for sale or meat. We chose three of the top meat rabbits based on weight and looks. From there we checked a radius of 50 miles, which we were willing to drive and decided on the California breed. We loved the look of the snow-white fur and grey shadow on the ears. The California also weighs up to 12 pounds.

Housing was a bit of a challenge. We did not have time to build, although that is a great option. So I looked on Craigslist in our area and was happy to find quite a few rabbit hutches for sale. The range of prices was wide but

It was important for us to have an animal we would enjoy taking care of and also have a viable animal for sale or meat.

they all had the same appearance. I replied to one immediately and found it was sold. This scenario repeated itself over the next week or so. When I came across an ad for a hutch including a three-month-old California five miles from my home, I contacted the seller right away. The cost for both was \$50. In my area this was a bargain.

I got an immediate response to my inquiry and within three days we had a rabbit and a hutch. Feeding the animal did not intimidate us because we had experience with other farm animals. We buy grain at our local Agway, plus we feed the rabbit greens from the garden. In the spring and summer wild rabbits nibble at our carrot greens, turnip greens, pea greens, etc., so it wasn't hard to figure out what they can eat. Water, of course, is most important. Our little guy gobbles it down quickly.

We love animals and adding a rabbit to our menagerie wasn't a stretch for us. In our community rabbits are allowed, but you can always find local ordinances from your municipality if you are not sure. We also talked to the man who sold the rabbits to us and he was very helpful with information. Especially mentioning that a rabbit will not do well in the extreme heat of summer. On the other hand, cold winters are not a problem.

Yes, domestic rabbits can eat anything wild rabbits do, but in moderation. Too many treats and leafy greens will give them diarrhea. To help keep them comfy in hot weather, put a frozen water bottle in the cage and they will lean against it in the heat of the day to cool off under those fur coats. ©

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5 Tips for New Rabbit Owners

BY NICOLE
HEBDON

RABBITS CAN MAKE great county fair projects and pets, but despite your motives behind buying one, there are a few things you should know about your rabbit's care.

Elizabeth Cattarin, the adoption manager of the New York rabbit shelter, Little Angel's Sanctuary, said that while the shelter is normally full, there is a spike in incoming rabbits in the months after Easter.

"People buy a few of them because they're so cheap," she said, "but rabbits grow fast and unprepared, new owners become overwhelmed."



PHOTOS BY NICOLE HEBDON

She, along with Eric Stewart, the executive director of the American Rabbit Breeder Association and Terri Cook, the president of the Board of Directors of the Columbus House Rabbit Society have some advice for new rabbit owners.

1. RESEARCH WHAT RABBITS SHOULD EAT

Even though cartoon rabbits seem to flourish on a diet of carrots and lettuce, this won't do for a live rabbit. "Pellets are the single most important thing in the rabbit's diet," said Stewart. He said that pellets are specifically formulated with the minerals and vitamins that rabbits need.

And even though many people insist that rabbits need a stick to chew on, so that their teeth don't become overgrown, Stewart says that is a wives' tale. He said that just the motion involved in eating pellets and hay is enough to maintain dental health.

"Hay is an environmental enrichment," said Stewart, explaining that besides giving the rabbit something to play with, the scraping of the indigestible fiber is what stimulates the gastrointestinal tract.

2. YOUR RABBIT MAY NOT LIKE BEING HELD

Every rabbit has a distinct personality, which means that some rabbits may not like being held. "It's scary for them," said Cattarin. "It's almost never something they seek out. So when you interact with a rabbit, you need to get on their level; seek out their attention."

If a rabbit is frightened, they may

bite or scratch the person holding them, or they might buck, which could injure themselves. Cook said, "They have very delicate bones, which can be easily broken by mishandling or by being dropped. It's very common, sadly, for their backs to be broken by unintentional rough handling."

To be on the safe side, small children should not hold rabbits, for both their wellbeing and that of the rabbit's. Cattarin suggested that instead you pet the rabbit or allow it to hop around your home, but if you let your rabbit roam your house, make sure it is supervised. Rabbits are known to nibble on wires, and if they digest electrical chords or couch stuffing they may need to be put down.

3. PROPER CAGE

Have you ever noticed that the rabbits you see in nature are usually not in open spaces? That's because they are both burrowing animals and prey animals, which means their instinct is to hide from possible threats. Domestic rabbits are not immune to this, which is why Stewart discourages the use of exercise pens. Exercise pens leave rabbits open to attacks, dehydration and anxiety.

"That is (the) perfect scenario to have your rabbit live in fear," he said. "Even in the wild, they won't be frolicking in a meadow."

Stewart said that rabbits have thigmotaxi, which is an affinity for vertical walls, so the wall of a cage to lean against gives them comfort.

To keep his own rabbits from getting startled and bucking, which could lead to injuries, Stewart keeps a radio playing music somewhere near their cages. This way, his rabbits are accustomed to noise and aren't as easily surprised.



"People buy a few of them because they're so cheap, but rabbits grow fast and unprepared, new owners become overwhelmed."

— Elizabeth Cattarin,
Little Angel's
Sanctuary

4. YOU CAN NEUTER YOUR RABBIT

Rabbits grow quickly, so depending on what breed you purchased, yours might go through puberty just a few months after you bring it home. Females can become temperamental after puberty, which is why Stewart suggests that first-time rabbit owners seek out male rabbits.

Cook also suggested neutering rabbits, "This helps with behavior issues (such as spraying does with cats) and litter habits."

5. DON'T RELEASE THEM INTO THE WILD

When Little Angel's Sanctuary takes in rabbits that had been released into the wild, they are malnourished, dehydrated, infected with ear mites and parasites, injured and often covered in grease from hiding under vehicles. "You don't realize what you're doing to the animal," said Cattarin, "It'd be like dropping a person in the desert without a drop of water. They die terrible deaths."

If an occasion arises when you have to get rid of your rabbit, Cattarin suggests asking a family friend or a shelter to adopt it.

Of course, the best way to prepare yourself for caring for your rabbit is to do research. A great place to start is the American Rabbit Breeder Association website, arba.org, or the Make Mine Chocolate website, which was created by the Columbus House Rabbit Society to address the issue of live Easter rabbits that are often mistreated or neglected when the holiday spirit wears off.

Remember, when you give someone a rabbit as a gift, you're giving them a 10-year commitment. ©

PHOTO 1. A typical honey house setup for the honey harvest—extracting. Honey supers are on the right, and a horizontal uncapping station is on the white stand in the center. This view looks toward the northeast.



Harvest Time

BY TOM
THEOBALD
A JOURNEY WITH
THE BEES

SO HERE WE ARE AT FALL, the culmination of a journey that started way back in January when we were checking colonies for winter stores and making plans to feed those that looked like they might run short. We've arrived at harvest time, referred to in the beekeeping world as extracting, and at least in my part of the country pronounced with the emphasis on the first syllable, EX-tracting. So at this time of year if you asked a beekeeper what they were doing the answer would likely be "ex-tracting."

Extracting, or the honey harvest, is going to befall almost every beekeeper if their efforts are successful and the site of those activities can vary from a garage or the family kitchen to large facilities specifically designed and built for handling the harvest. Many of the new hobbyists may quickly find that harvesting honey in the kitchen can be a test of spousal relations.

What I would like to do in this article is explain how honey is harvested, by way of my own operation, and offer some helpful advice for some of the newer beekeepers who may be embarking on their first harvests. Again, I won't go into fine detail on some of the beekeeping involved, for the beekeepers and non-beekeepers who want to learn more there are many very good books on all aspects of beekeeping that will do a much better job than I

ever could in this limited space.

Richard Taylor was the premier philosopher/beekeeper of my time. Unfortunately he passed away a number of years ago, but his voice lives on in his writings. I read one of his earliest books, published the year before I began keeping bees 40 years ago. In it I found the observations of a kindred soul and the little volume helped to put beekeeping in context for me. That book was *The Joys of Beekeeping*, out of print for many years, but recently republished and available through Amazon. I recommended it earlier this year to readers, and if you didn't see that or didn't get it, I recommend it again. Anyone who proposes to call themselves a beekeeper should read it and have it in their library.

Taylor devotes a chapter in his small book on his honey house and gives some insight into the role it plays in his life as a beekeeper. "The beekeeper's precious retreat..." he begins, and he gives us his three rules: 1. No bees; 2. No honey drippings on the floor; and the third rule, No people.

Not everyone can have a honey house devoted exclusively to beekeeping, certainly not the smaller beekeepers, but at harvest time we either have to have a honey house or create one. For the smaller beekeepers with only a little honey, creation usually means temporarily taking over the kitchen or the garage. To smaller or beginning beekeepers locally I have an ideal situation, a honey house, to many of them I'm the big frog. My commercial friends, who may have thousands of colonies, on the other hand may smile at my outfit. "Quaint," they might say. Quaint might be an apt description, as my Honey House is a honey house of old, the one described by Taylor, the

Your house or garage has to be bee-tight, not almost bee-tight, bee-tight, or you will be amazed at how many hundreds or thousands of bees will follow the scent trail in ...

honey house of myth and folklore, and I've always felt very fortunate to have it. It has been the scene of prodigious effort, great drama and some sorrow. It has seen many quiet winter days as I watched the snow sifting down outside the windows and hand dipped hundreds of beeswax candles or put together beekeeping equipment. Quaint? Yes, but efficiently organized to produce several tons of high quality table honey over my six-week harvest. Quaint? Perhaps, but I wouldn't have it any other way. I've been doing this for 40 years and I may be a little quaint myself. So let the tour begin.

Every beekeeper, large or small, faces the same basic requirements when harvest time rolls around—pull the honey, uncap the comb, spin out the honey, filter and bottle it. Unless comb honey will be the end product, that is honey which remains in the comb and is eaten that way, the honey must be removed from the comb. The most ancient way is to simply crush the comb in some form of fabric and squeeze, the honey being filtered through the fabric, leaving the wax behind. A step up the technological ladder is to uncap the comb with a hot knife. By way of the photos I want to



Now you are looking at the west wall of the Honey House. The large silver tank is the bottling tank.

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explain how a basic extracting process works and what equipment is involved. This is the same process required whether you have 1 colony, 50 colonies or 5,000. The steps are the same, the equipment is just larger, faster and more efficient. Starting with photo number one we will scan around to the left and then come back to the point of beginning.

Photo number one looks toward the northeast corner of the Honey House. On the right is a stack of honey supers. The honeycombs

around like a merry go round, the vertical radial goes around like a ferris wheel and this method helps to save floor space in my small Honey House. Honey comes out the white pipe at the bottom, into the baffle tank on the left. Coming out of the extractor the honey passes through a pre-filter which takes out the larger wax particles and more wax is left behind as the honey passes under a baffle (since wax is lighter than honey the honey goes under the baffle

back to the point of beginning and you can see all of the equipment and visualize the work flow.

Now a few hints for you beginners who are planning to do this in your kitchen or garage. Prepare ahead of time, not when you are in the middle of things. Many beekeepers' associations and bee clubs have a small extractor or two and some of the basic equipment that they lend around in the fall. Get on the list.

Second, follow Richard Taylor's advice; no bees and no drips, it's the dealer's choice on the people part. Your house or garage has to be bee-tight, not almost bee-tight, bee-tight, or you will be amazed at how many hundreds or thousands of bees will follow the scent trail in, and my experience is that a drop or two of honey on the bottom of your shoe is enough to coat about 2,000 square feet given a little time. Avoid drips and clean them up when they happen.

Cold honey filters very slowly and the filters plug quickly with wax particles, have several on hand. Have multiple buckets available, more than you think you will need. These are used to hold dripping utensils as well as filters that are draining. You should have two or three buckets of fresh water and a number of sponges for chasing errant drips. Keep water and sponges for floor cleanup carefully separated from those used for counters and equipment.

Uncapping can be done with a large kitchen knife kept in a pan of hot water on the stove, but electrically heated uncapping knives are not too expensive and again, beekeeper's associations often have them to lend out.

Your first honey harvest may be a delight or a disaster, in part it's up to you, but either way you are going to have some life-long memories so have at it and maybe some of you will report back to COUNTRYSIDE in the next issue and we can all enjoy it. ©



PHOTO 2. From left to right, the drip tank to hold uncapped honey comb, the extractor in the center, which empties into a baffle tank. To the right of the baffle tank is the honey pump.

from these will be uncapped with an oscillating horizontal uncapping knife on the white stand in the center. The knife is electrically heated. The cappings fall into the circular cappings spinner below, which is like a washing machine with an inner basket and only a spin cycle. Most of the honey taken off with the cappings can be recaptured by the spinner and the cappings wax will be the raw product for beeswax candles. The uncapped combs are accumulated in the drip tank on the left until I have an extractor load.

Photo number two is 45 degrees to the left. The extractor is the large piece of equipment in the center, a Maxant vertical radial. It holds 21 frames and extracts both sides of the comb at the same time. Most extractors sit on the floor and go

and leaves wax particles behind). To the left of the baffle tank is the honey pump, a specialized gear pump for high viscosity liquids, which moves the honey up and over to the bottling tank.

Rotating around another 45 degrees, the extractor is on the right, bottling tank on the left. The honey passes through a series of increasingly finer filters before it enters the tank. In a good day I can fill that tank, a little over 700 pounds. That's a full day's work for me, but my large commercial friends could run my entire six week harvest through their systems before coffee break on the first day. The honey will stay in the bottling tank over night to let the fine air bubbles rise out and will be bottled the following day.

In photo number four we are

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Deer worm infection can be a serious problem for goats and sheep in a temperate climate where pastures adjoin the forest habitat of white-tail deer.
PHOTO BY GAIL DAMEROW

Goats, Sheep and Deer Worm

BY GAIL
DAMEROW

DURING 30-PLUS YEARS of raising dairy goats, I had never heard of meningeal deer worm until December of 2013, when I lost that season's best young doe and my senior breeding buck to a mysterious disease — mysterious because the two goats were housed in separate barns and grazed in separate pastures, and none of the other goats in their respective herds came down with the illness.

In Amber's case, the first sign I noticed was that her back legs seemed stiff, and she had difficulty walking. Since she was reluctant to come into the barn to join the rest of the goats at mealtime, I thought she might have incurred a butting injury. Accordingly, I moved her into a private stall for a little R&R. She ate and drank as usual, but the back leg stiffness worsened into paralysis. The day she went down and could no longer get up, even with help, I knew it was time to let her go.

Meanwhile, as soon as it had become apparent that this was no ordinary injury, I began researching causes of back leg stiffness and paralysis.

One possibility that kept coming up was a hair-like nematode known as meningeal deer worm, although I was repeatedly assured this parasite rarely affects goats. But the more I learned, the more convinced I became that Amber had been afflicted by deer worm.

Two weeks later, while I was still reeling from the loss of Amber and trying to learn how to prevent a repeat occurrence, our senior buck Jaxon appeared reluctant to come in for his morning snack. I went into the pasture to fetch him and saw that his back legs were stiff and he was having trouble walking. I began the best deer worm treatment plan I had learned to date, but to no avail — the next day he was gone.

Terrified of the possibility of losing more of my Nubians, and convinced that deer worm was the cause, I sought out the most recently recommended treatment protocol along with the necessary arsenal of medications recommended by veterinarians who specialize in treating goats. For nearly a year I had no use for them.

Then, in November of 2014, Amber's mother Candy didn't want to come in for her evening meal. When I saw that one back leg looked a little draggy, I immediately began deer worm treatment. In short order Candy was back to her old sweet self. A few months later she delivered triplets.

In April 2015 Jaxon's son Red Baron, our current herd sire, became unusually quiet. He moved only tentatively and appeared not to know where to put down his back feet. Again I immediately began treatment and his condition improved, though gradually. He still walks stiffly and we don't know yet if he will eventually be able to resume breeding.

I can't prove that Candy and Baron were or were not infected with meningeal deer worm, but neither did they die the same horrible deaths as Amber and Jaxon. Given the facts of these events, two of the veterinar-

Why so much speculation about the cause and treatment of this horrible disease? Because no method has been found to definitively diagnose meningeal deer worm infection in a living goat, and no controlled studies have been done to determine the best treatment for infected goats.

ians I consulted agreed that deer worm is the most likely cause.

Why so much speculation about the cause and treatment of this horrible disease? Because no method has been found to definitively diagnose meningeal deer worm infection in a living goat, and no controlled studies have been done to determine the best treatment for infected goats. Here is what is currently known about this devastating parasite:

DEER WORM LIFE CYCLE

The deer worm (*Parelaphostrongylus tenuis*) parasitizes white-tail deer, but rarely causes illness in them. Mature worms live in the membranes that enclose the deer's brain and spinal cord. Collectively these membranes are called meninges, hence the term meningeal deer worm.

The worms lay eggs in the deer's blood vessels. Through the blood stream the eggs migrate to the lungs, where they hatch into larvae. The infected deer coughs up larvae, swallows them, and passes them in the mucus that coats its droppings.

Gastropods (slugs and snails) crawling over the droppings take in larvae, which become infective within three to four months while living inside the gastropod. Infective larvae may remain inside the gastropod, or may be excreted in its slime trail.

While grazing, the same (or another) white-tail deer may ingest the infected slug or snail, or eat vegetation coated with infected slime. In the deer's abomasum, or fourth stomach compartment, the gastropod releases infective larvae that migrate to the deer's spinal cord and brain, where they develop into mature egg-laying worms. At some point the infected deer develops immunity against invasion by additional larvae, limiting the number of worms in carries.

The reason meningeal deer worms don't sicken white-tail deer is because the worms need healthy deer

in order to complete their life cycle. A problem occurs, however, when a grazing animal such as a goat or sheep accidentally eats an infected slug or snail. The infective larvae are released in the digestive system, the same as in white-tail deer, but now they are in unfamiliar and confusing territory.

The larvae don't develop in the normal way, don't follow their usual path through the central nervous system, and don't mature into egg-laying worms. Instead they wander around within the spinal cord, destroying tissue and causing inflammation. Because they can damage different locations within the central nervous system, or more than one location, the resulting signs of illness may vary from one infected animal to the next.

Susceptible animals include deer other than white-tails — black-tail deer, fallow deer, mule deer, and red deer — as well as caribou, elk, moose, alpacas, llamas, goats, and sheep. Compared to infected goats and sheep, more research has been done with alpacas and llamas because of their

greater susceptibility to deer worm and their higher monetary value.

The two medical terms for this disease are both tongue-twisters: cerebrospinal nematodiasis and parelaphostrongylosis. No wonder the condition is commonly known as meningeal deer worm infection, or simply deer worm infection.

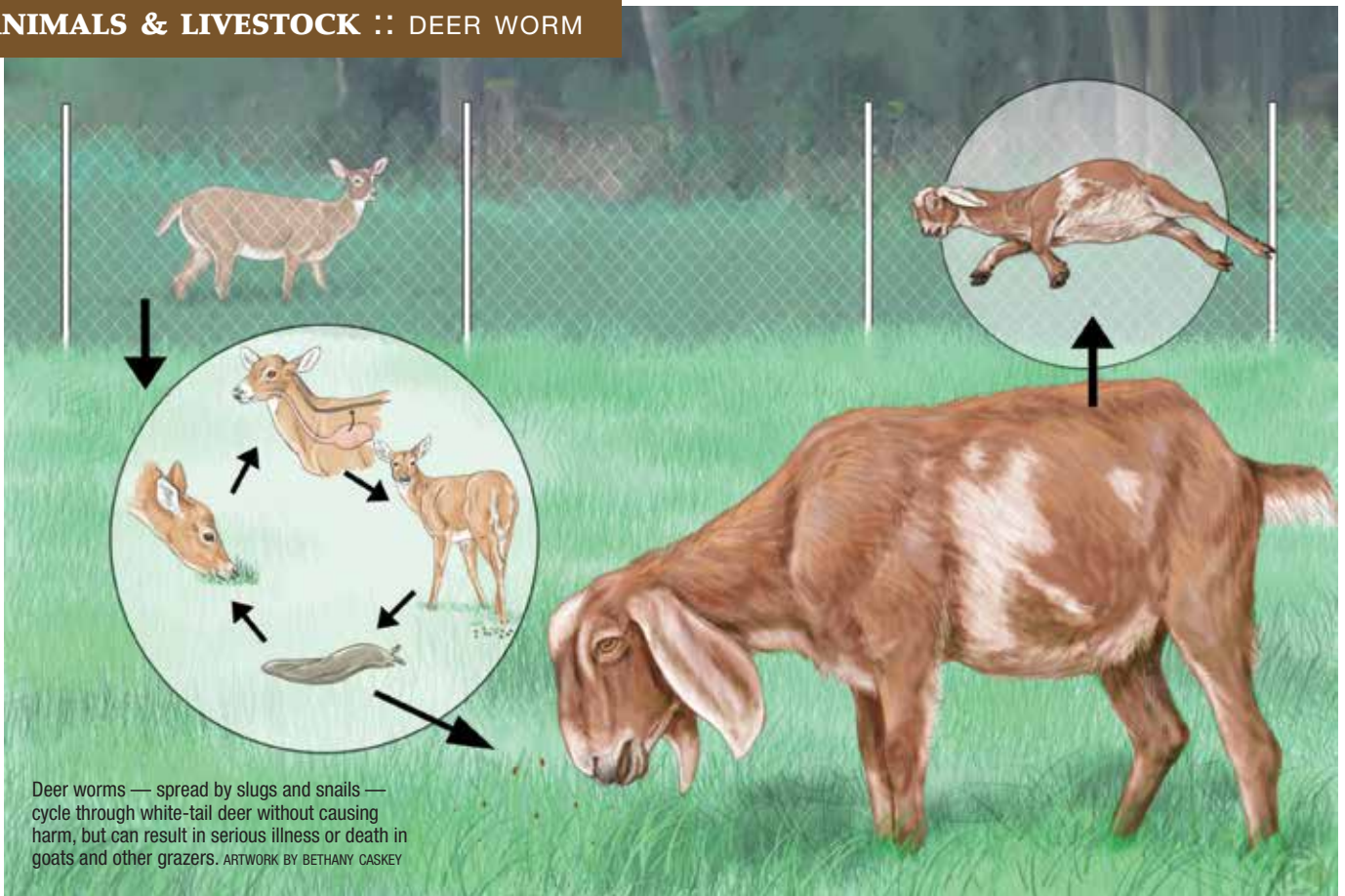
SIGNS OF DEER WORM INFECTION

Like any disease affecting the brain or spinal cord, deer worm infection results in a lack of coordination and other neurologic disorders. The first signs can appear between 11 days and 9 weeks after a goat or sheep ingests an infective larva. Initial signs often occur at the animal's back end, where the muscles seem to weaken or become stiff, causing the animal to walk unsteadily.

Other signs may include head tilting, arched or twisted neck, circling, rapid eye movements, blindness, gradual weight loss, lethargy, and seizures. Some infected animals prefer to be alone. Itchiness resulting from worms migrating along nerve roots can cause an animal to scratch vertical raw sores along its shoulders and neck.

Because of the variable nature of this illness, signs may appear in any order or combination and may or may not grow progressively worse. Unlike some diseases, which cause an affected animal to become lethargic and lose interest in eating and drinking, deer worms typically do not affect an animal's alertness or its interest in eating and drinking. Even when Amber had trouble standing up, she remained alert and eager to eat.

A chronic case of deer worm infection can result in incoordination and unsteadiness that goes on for months or even years. An acute infection can cause rapid death, as happened to our Jaxon. One day he looked fine, the next day he was gone.



Deer worms — spread by slugs and snails — cycle through white-tail deer without causing harm, but can result in serious illness or death in goats and other grazers. ARTWORK BY BETHANY CASKEY

DIAGNOSING DEER WORM INFECTION

Since deer worms do not complete their life cycle in aberrant hosts (defined as any infected animal other than a white-tail deer), parasite eggs or larvae will not be found in the animal’s droppings, as would occur with stomach or intestinal parasites. This factor rules out using fecal testing as a diagnostic tool.

So far no method has been found to diagnose deer worm in a living animal. The only way to identify the infection for certain is to find worms or larvae on the animal’s brain or spinal cord during necropsy, meaning the animal must either die from the infection or be euthanized.

A presumptive diagnosis—an educated guess as to the most probable cause of illness—involves answering several pertinent questions. Although the answer to each individual question does not provide a definite diagnosis, considered together they offer a pretty good indication as to whether or not deer worm is the likely offender. These questions are as follows:

- Did the infected animal graze

in or near white-tail habitat?

- Does the grazing area harbor terrestrial slugs or snails?
- Are the signs of illness consistent with deer worm infection?
- Could the same signs be the result of some other disease?
- How well does the infected animal respond to treatment?

The first question is easy to answer, because white-tail deer are easy to see. Traditionally they have been concentrated in the eastern states, but are now found just about anywhere in the United States and Canada, so much so that in some areas they are considered pests (“rats with antlers”).

In my case, our farm is surrounded by forests that are teeming with white-tails, which routinely cross our hayfields and wander through our orchard. We rarely see them in our goat pastures, but that doesn’t mean they don’t occasionally pass through.

As for slugs and snails, they are typically abundant in low-lying, damp, and poorly drained fields. But they also occur in other areas when the weather is persistently damp over long periods and in fields

where vegetation is overgrown.

Our farm is at the top of a well-drained ridge; we don’t have the abundance of large snails and giant slugs that plague gardeners in Pacific states; and our usually droughty warm-weather conditions are not conducive to large populations of the tiny gastropods we do have. However, in the past couple of years we’ve had unusually long periods of rain during spring and fall, and we’ve seen large numbers of slugs crawling out of the grass onto our concrete sidewalk and gravel driveway. Plus all that rain has prevented timely mowing of our pastures, so instead of the exposure slugs usually get to debilitating sunlight and heat, lately they have enjoyed plenty of damp cover.

Determining if signs are consistent with deer worm may not be so easy, because the signs are not always the same. In our case, though, all four of our infected goats initially appeared to have stiff back legs and sought to separate themselves from the rest of the herd—two of the many signs of deer worm infection.

Could these signs result from some

other disease? Janice E. Kritchevsky, VMD, MS, of Purdue University's College of Veterinary Medicine, cautions that, although deer worm is common in alpacas and llamas, it is quite rare in goats. She suggests first considering three much more common causes of neurologic illness in goats—polioencephalomalacia (polio), listeriosis (listeria), and caprine arthritis encephalitis.

Polio is a nutritionally related illness caused by thiamine deficiency. It primarily affects intensively managed goats that are fed large amounts of concentrates (commercially bagged rations) to make up for a lack of quality roughage, to promote rapid growth in meat kids, or to increase milk production in dairy goats. We limit the amount of concentrates we feed our goats because we want to encourage them to graze the several pastures in which they are regularly rotated. We feel that grass is more natural and better for grazers than formulated concentrate, and

it makes the milk more healthful.

Dr. Kritchevsky points out that goats with polio are blind, and often the pupils of their eyes are oriented vertically like a cat's, not horizontally like a normal goat's. Left untreated, a goat with polio will die within about three days of the appearance of the first signs. The only effective treatment is thiamine (vitamin B1) injections. Except for Jaxon's rapid death, this scenario does not match our goats' illness.

Listeriosis is another neurologic disease that affects primarily intensively managed goats. According to Dr. Kritchevsky, it usually affects individual goats, but can be a herdwide problem. It is caused by the bacteria *Listeria monocytogenes* and usually results in severe head tilting. Two common signs are depressed appetite and circling in one direction. Treatment involves the use of antibiotics. Our affected goats maintained healthy appetites, did not experience the typical head tilting and circling, and have not been treated with any antibiotics.

Caprine arthritis encephalitis is a virus to which our closed herd has not been exposed. We ruled out other possible neurologic disorders, including copper deficiency (our goats have free-choice access to a loose trace mineral salt that includes copper), brain abscess (which would likely not affect more than one animal), rabies (extremely rare and results in death within five days), scrapie (usually affects goats age 2 years or older; Amber and Baron were both younger), white muscle disease (a nutritional condition of young kids).

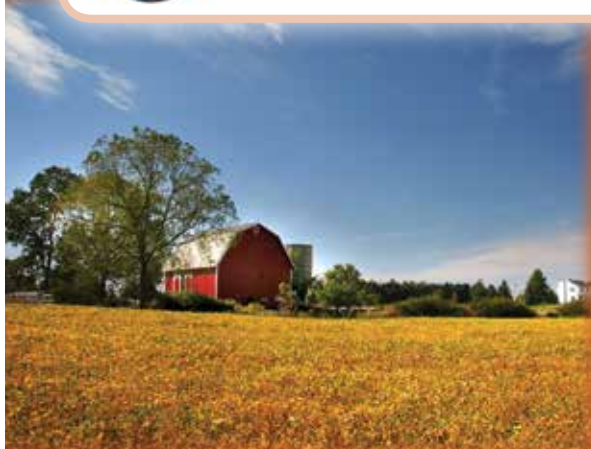
I hasten to point out that we reviewed each possibility more thoroughly than indicated by the above brief descriptions. A veterinarian could have run tests to rule out all these possibilities, but our county has no vet, and subjecting an ailing goat to a long trailer haul for tests to confirm what we already know seems inhumane.

At any rate, had we transported each sick goat to the nearest vet, the best she could have done toward



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diagnosing deer worm would have been to take a spinal tap. A possible, but not definite, indication of deer worm infection is cerebrospinal fluid with higher than usual levels of white blood cells (primarily eosinophils, which are disease-fighting white blood cells that attack parasites and can result from inflammation caused by parasites) and protein (due to leakage from damaged blood vessels).

So that leaves us with the final factor — how well affected goats respond to treatment. Candy and Red Baron were both treated with the latest recommended protocol. Candy recovered and shows no lasting signs of infection. Baron is still shaky on his legs, but his condition appears to have stabilized.

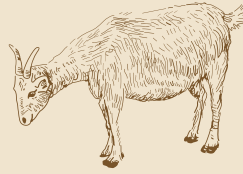
TREATING DEER WORM INFECTION

More has been written about meningeal deer worm in camelids—llamas and alpacas—than in sheep or goats. Therefore, the treatment protocol recommended for sheep and goats has been derived mainly from studying and treating camelids.

According to the latest best information, as verified by several veterinarians specializing in treating goats, the current recommended treatment for deer worm infection is as follows:

- Fenbendazole (Panacur or Safe-guard) given by mouth once a day at the rate of 25 ml per 100 pound body weight for five days, to kill deer worm in the spinal cord
- Vitamin E, given by mouth at the rate of 500 to 1000 units once a day for 14 days, to help restore normal neuromuscular function
- Dexamethasone (a corticosteroid requiring a prescription), given as directed by the prescribing veterinarian, to reduce inflammation in the central nervous system

Since migration of deer worm larvae into the central nervous system causes inflammation, as does the presence of dead larvae killed during treatment, an anti-inflammatory is important to reduce pain and to prevent the animal's condition from getting worse. However, dexamethasone may induce abortion in pregnant does or ewes.



Blood-Brain Barrier

Fenbendazole (SafeGuard or Panacur) is the dewormer of choice for deer worm treatment, but a macrocyclic lactone such as ivermectin (Ivomec) is preferred as a preventive to kill worm larvae before they enter the spinal cord. Although ivermectin destroys deer worm larvae better than fenbendazole, it does not penetrate the blood-brain barrier as readily.

The blood-brain barrier is an important factor in the course and treatment of deer worm infection. It consists of a layer of cells separating blood circulating in the body from brain fluid in the central nervous system. The blood-brain barrier performs these important functions:

1. It protects the brain from bacteria and other harmful substances in the blood.
2. It protects the brain from the body's normal hormones and neurotransmitters.
3. It provides a steady environment that allows the brain to function effectively.

The blood-brain barrier is selectively permeable, meaning it prevents some substances (such as certain drugs, including ivermectin) from entering brain tissue, while allowing other substances (including fenbendazole) to enter freely. Because inflammation makes the blood-brain barrier more permeable than usual, deer worm infection may break down the barrier, thus allowing penetration by ivermectin, a potential toxin to the mammalian nervous system. Therefore fenbendazole is used for treatment, ivermectin for prevention.

An alternative for pregnant females is the non-steroidal anti-inflammatory prescription drug flunixin (Banamine).

Additional to treatment with drugs, the affected animal may also require physical therapy to help restore muscle function. Therapy might include muscle massages, flexing of the limbs to improve flexibility, encouraging the animal to remain mobile, and making sure it doesn't rest in one position for long periods. Although our Candy recovered rapidly without physical therapy, Red Baron tends to walk on his knees and must be encouraged to stand and walk normally to exercise his leg muscles.

Despite this recommended regimen, treatment doesn't always work. Whether or not an infected animal recovers, or survives at all, depends on how many larvae it ingested and the severity of its condition before treatment begins. Success is most likely when treatment is started early in the course of the infection — and an animal that can stand on its own when treatment begins has a much better chance to recover. Once the disease progresses to the point that the animal can no longer stand, it has little chance for survival.

Seriously affected animals may take weeks or months to recover, requiring a great deal of patience and perseverance. Although a survivor may have permanent neurologic issues, it may still remain otherwise healthy and productive.

Because of the long meat withdrawal periods for the drugs involved, with no certainty that the infected animal will improve, treatment is not recommended for meat goats and sheep. Provided a veterinarian has ascertained that the animal's condition is limited to spinal cord injury and that no other diseases are involved, and the withdrawal period has been observed for any medications used, such animals may be safely slaughtered for home use, according to Mary C. Smith, DVM, at Cornell University's College of Veterinary Medicine.

DEER WORM PREVENTIVES

At the top of the list of usual suggestions for preventing deer worm infection in goats and sheep is to control both white-tail deer and gastropods. That's pretty much like asking you to herd cats.

If you feed your local deer, a good starting place is to avoid placing feeders near where goats or sheep graze. A guardian dog may also discourage deer from hanging around.

An often repeated deer-control suggestion is to avoid grazing goats or sheep in pastures adjoining woodland where deer abound. Since our entire farm, like many in our area, is surrounded by deer-infested forest, we don't have much choice about grazing locations. But where deer favor certain grazing areas over others, an option is to make hay from the fields the deer prefer.

Even if deer don't graze in the same pasture as goats, they will pass nearby and leave their calling cards. Gastropods don't respect fences and can easily crawl from a deer grazing area to a goat grazing area.

Suggestions for controlling slugs and snails sometimes include using massive amounts of molluscicides, which are so dangerous their use requires a permit. It's much safer, and easier, to maintain a flock of poultry—chickens or guinea fowl—along with the goats. We have large flocks of both, which may account for why we haven't had a deer worm issue until a couple of years ago when our spring and fall weather got wetter and the slugs got more numerous.

Ducks are much better at controlling slugs and snails, but they also like to play in water, which only attracts more gastropods. Because slugs and snails prefer moist areas, keep goats or sheep from grazing in poorly drained pasture, or improve drainage so puddles don't accumulate. Also keep pastures clear of gastropods' favorite hiding places, such as stacks of lumber, piles of rocks, and mounds of discarded waste hay.

Slugs and snails may be further discouraged by plowing around the out-



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side of the pasture fence and by regularly mowing pasture grass to open the land to sunlight's warm rays. Sunlight and drying will kill larvae clinging to deer pellets, and will also cleanse the pasture of the nasty stomach and intestinal worms that plague goats and sheep. In addition to destroying worm larvae, hot dry weather reduces slug and snail activity.

Unfortunately, winter freezing doesn't much affect deer worm larvae. But cold weather does hinder gastropod activity, and at freezing temperatures they hibernate.

So in areas that experience winter freezes and warm summer dry spells, slugs and snails are most active during spring and fall, when temperatures are mild and the weather tends to be damp. In Tennessee, the periods of greatest gastropod activity are the rainy seasons of early fall and late winter. In Texas the peak season is spring. In states farther north, the peak period is late summer to early fall.

One recommended option for such areas is to remove goats and sheep from pasture when gastropod activity is greatest. For us here in Tennessee, as in much of the Midwest, that would mean keeping the animals off pasture when grazing is optimum. In other words, we'd basically have to keep the herd in a barn or on a dry lot.

So much for minimizing grain rations to keep our goats healthier. And so much for enjoying the benefits of drinking grass-fed milk.

Camelid owners have been controlling meningeal worm by regularly deworming their alpacas and llamas. Where the weather is mild year round, deworming must be done every 4 to 6 weeks. Because deer worm don't reproduce in animals other than white-tails, they cannot become resistant



Guinea fowl and other poultry are helpful in controlling slugs and snails in pastures where goats or sheep graze. PHOTO BY GAIL DAMEROW

to dewormers. However, camelids now suffer from large burdens of other parasites that have become resistant to dewormers. The treatment intended to prevent one problem has resulted in an even bigger problem.

Temperate-climate goat and sheep owners are therefore between a rock and a hard place with respect to using dewormers to control deer worm. But those of us who live in areas that enjoy seasonal temperature extremes have an option other than year-around deworming. Since the risk of exposure to deer worm is lowest during prolonged periods of dry heat or deep freezes, we can opt to skip deworming during those periods of low or no slug and snail activity.

For my goats, that means deworming toward the end of winter (January/February) and again at the end of summer (September/October), adjusting the dates as determined by each year's temperatures and rainfall. Such a plan does not offer 100% protection against deer worm, but it does help prevent the much worse problem of creating drug resistance in other killer parasites.

As a dewormer, the macrocyclic lactone ivermectin (Ivomec) is considered to be the most effective against deer worm larvae that haven't yet crossed the blood-brain barrier (see "Blood-Brain Barrier" on page 88). The late Cliff Monahan, DVM, PhD, of the Ohio State University's College of Veterinary Medicine, suggested that instead of ivermectin, using a longer-acting macrocyclic lactone would reduce the overall number of treatments, thus delaying or avoiding the development of drug resistance. These long-acting dewormers require a prescription, so should be discussed with your veterinarian.

Since goats and sheep are largely resistant to deer worm, another potential course of action is to cull susceptible individuals from your herd. That would be a difficult choice for those of us with a small herd in which every individual has a name and seems like family. So we are left with these options for reducing the risk of deer worm infection in our goats and sheep:

- Do not actively encourage deer to hang around.
- Keep the pasture environment unfriendly to slugs and snails.
- Deworm following peak seasons for slug and snail activity.
- Know the signs of deer worm infection and begin treatment at the first signs.

Above all, remember these important points: Deer worms do not spread from one goat or sheep to another, and the survivor of a deer worm infection cannot infect other animals in your herd. ☺

Gail Damerow raises Nubian dairy goats in Tennessee's Upper Cumberland. She is the author of "Raising Milk Goats Successfully" and "Your Goats — A Kid's Guide."

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No Chickens Allowed!

At least, that's the Official Line in Miami Beach...

BY JEFFREY
BRADLEY
FLORIDA

FIVE YEARS AGO, I'd never thought of chickens beyond Kentucky fried. Then one day our daughter brought home a fuzzy yellow Christmas chick someone no longer wanted. You know the rest. My wife plunked it down in my lap with a towel, and that was that. Ever since, with various additions and subtractions, we've maintained a flock of seven hens.

Now, my wife and I are politically active and we were pretty sure that "farm animals" weren't allowed on the Beach. Still, we lived in a fairly quiet neighborhood just north of the mayhem of (in)famous South Beach.



Our two-story house, built in the 30s, sits on about a third of an acre. It's historically-designated, meaning we couldn't tear it down even if we wanted without jumping through bureaucratic hoops. In the back, an office overlooked a big yard with a swimming pool. One side was obscured by a dense choke-cherry hedge, the other by a fig-draped masonry wall. The wooden plank fence all the way in the back was discreetly screened by lots of tall palm trees. You couldn't see the back of the house from the front. We also lived in a neighborhood populated mostly by Orthodox Jews, a community that almost obsessively keeps to itself.

DON'T TRY THIS AT HOME

A word of caution. While our situation was perfect for chickens, it was also against the law. As we more or less fell into our situation, we felt we could somehow handle it. As it turned out, only a confluence of lucky circumstances allowed us to keep things going for as long as we did. Since then, we've moved. But we still have our chickens.

Besides, where we lived was exotic. Flocks of wild parrots screeched through the palm fronds, a stately train of curvy-billed curlews dabbled among the swales, and Nog, the great blue heron, perched serene and sedate on one leg. We also suspected a neighbor or two of keeping chickens; another kept bees. We knew Chinese pheasants weren't indigenous, yet one flew regularly into our yard — we called him "Irie" because of his stunning iridescence — for a noisy and preening visit. And then there were the peacocks. They roamed the byways and medians but they were somebody's pets, you bet. So we were hopeful of changing the law.

There was also Mr. Clucky, a rehabilitated rooster that rode his master's handlebars around the Beach. Tourists, well, flocked to have their pictures taken with the famous bird, who became a cause célèbre, a sort of spokeschicken for animal rights. I kid you not. But even fame couldn't keep Mr. Clucky from the clutches of the law. He lived in the closet of a studio apartment, with predictable results: crowing brought trouble. Despite a vigorous campaign to exempt

him, and my wife and me diligently working behind the scenes to effect an overturn of the law, Mr. Clucky had to go. They left huffily for Vermont, last I heard.

But it necessitated a stealthy approach to raising chickens. While hens are relatively quiet, they do announce loudly whenever they produce. Luckily, I freelance and was able to quickly soothe ruffled feathers, but I can only imagine the racket when nobody was home. And we were fortunate in our neighbors. One was an elderly rabbi whose family seemed to visit only on holidays. They basically seemed oblivious to our birds. The other neighbor, Chowder, by name, was odd but tolerant. He would peer through the hedge to make small talk as the birds kicked up the compost. We occasionally had him over for dinner to keep on his good side. The neighbor all the way in the back had a yard full of junk and never even peered over the fence—although I did hear his kid making chicken noises once. Sometimes, our lack of experience could cause us to suffer: “Madge,” a hen, turned out to be “Mitchell,” the rooster, a real racket machine at that.

Fortunately we were able to rehome him in rural Miami, but I was really sorry to see him go. But the worst was Code Compliance. The standing order around our house was “No Uniforms Inside!” because officers had to see the violation to write you up. The house was configured so that someone at the front door could look directly out a glass door into the back, which meant answering a knock in a half-opened door and sticking your head out kind of way. One day my oddball neighbor alerted me at the compost heap to

the presence of Code Compliance sitting in a parked car in front of my house. “Oh, don’t worry,” he said in response to my alarm. “They only wanted to know if you had any chickens. I said ‘sure,’ but told them that the birds didn’t bother anybody.”

Thanks a lot, Chowder. Still, we never did get busted.

REWARD, HEARTACHE, FRESH EGGS!

We became adept at keeping them thriving. As a former Brooklynite, the learning curve was steep. The chickens were kept from the front yard by a high wooden fence, but once or twice the gate was left inadvertently ajar, which the birds were quick to exploit. (They’re like microscopes with legs, seeing everything.) Mostly they were content visiting the office, hopping up through the open door to squat briefly on the cool tile floor, even nesting behind the computer screen on my desk. It also involved a lot of trial and error. For instance, planting a garden at the same time in acquiring some chickens is not a good strategy. Who knew that a few half-grown chicks could turn

a patch of green into something resembling trench warfare practically overnight?

Still, things began falling into place and the magic of living in exotic South Florida with busy chickens nattering in the lush vegetation became more pronounced and appreciated. In time, our thriving bamboo garden inside the wooden fence entwined with curly vines became impervious to the chickens’ worst, a refuge community of raucous macaws and parrots, colorful swirling butterflies, buzzing, bumble bees—even some weird pigeons that came to stay and a pair of impulsive iguanas that “adopted” us as long as we fed them! But that’s another story.

Carving out that backyard haven was a lucky feat that we derived immense pleasure from, but let me emphasize that it’s not worth breaking the law. ☺

Editor’s Note: We never encourage anyone to break the law, but we thought Jeffrey’s story was unique. If you are interested in raising chickens in an area where they are not allowed, work with your town’s and local governments to change the code. With the law on your side, raising chickens gets a whole lot easier.

As it turned out, only a confluence of
lucky circumstances allowed
us to keep things going for as long
as we did. Since then, we’ve moved.
But we still have our chickens.



Homeopathy for the Homestead: Acute Injury

BY
BECKY RUPERT,
ND, CCH

ALTERNATIVE MEDICINE HOLDS A very important place in homesteading. Homeopathy is a natural, safe, holistic healing method that has been used for over 200 years. It is one of the safest methods of healing, it is even useful in labor and delivery; for newborns, and children of all ages as well as animals and elderly folk. It is also easy to use, and extremely effective.

Homeopathy or homeopathic medicines are often confused with other healing modalities such as herbalism, or supplementation. Homeopathic remedies are FDA-approved over-the-counter and prescription medicines that are available to practitioners and in low potency to the general public. They are very dilute substances of a material (plant, animal, mineral or other

materials) that are sprayed on milk sugar pellets and dissolved under the tongue. I have been practicing homeopathy for 20 years, and naturopathy for 15 years, and work with clients from all over the U.S. via phone or in person on my homestead of eight-plus acres. We endeavor to teach people how to return to health with the help of a few non-invasive methods, and teach them how to use homeopathy for their families through the use of remedy kits we carry in the office. We will ship kits or remedies to the general public if requested, as long as the remedies are “over the counter” remedies in low potencies.

With a little bit of knowledge, you can use homeopathy for yourself, family or barnyard for acute problems around the homestead. It does not interfere with medications, causes no side effects, and can save you money on medical and veterinary care.

That being said, if you have any questions about the severity of your symptoms, contact your health care practitioner! Generally, if there is high fever, especially if it is not resolving quickly or the person is listless, you should consult your provider for advice or necessary medical care. I always advise folks to ask the doctor questions such as:

Do you think this problem is viral or bacterial?

Would there be any complications if I tried a natural therapy for a few days to help with the symptoms?

I ask the viral/bacterial question because if there is a virus that is causing the problem, antibiotics will not help. Your doctor may want to give you antibiotics just in case they feel you are at high risk of developing a secondary bacterial infection, or they feel they have no other options available. The important thing is to keep communication between you open. In most cases, the common cold lasts

about 7-10 days (about as long as the usual antibiotic prescription). In working with physicians myself for many years, understand that they are there to help relieve your symptoms and don't always like to tell the patient "This is a virus, there is no medication we can give you, go home, increase fluids, and rest." I find that it helps to discuss with the doctor how you feel about antibiotics if you would rather not use them unless necessary. The doc can then follow up as needed to track progress or discuss complications and what to do if they arise.

You should only be handling acute problems yourself. Leave the chronic ones to your health care practitioner or medical team whether allopathic (conventional) or holistic practitioner/homeopath.

Just so we're on the same page, an acute issue is something that comes on suddenly, and sometimes resolves its own (such as a cold, flu, or minor cut).

A chronic issue is something you have to deal with on a regular basis, such as headaches that recur, hormonal issues, arthritis, eczema, etc.

We'll describe the rules of homeopathic use, how to take remedies for injuries, and how to dose the remedies. This can be quite different than for conventional medicines and herbs. Remedies are not taken on a schedule, and if you get the wrong one, it simply won't work! Thankfully, if you mess up, homeopathy is very forgiving. You want to make sure you don't take more than you need, because your symptoms may be aggravated, or you may have an initial aggravation that is mild and should resolve quickly.

Don't take remedies frequently that don't help, and don't take lots of remedies at a time, so you know what's working. There are some practitioners out there who use

machines to make remedies and give multiple remedies at the same time in dropper bottles. Although sometimes helpful, this is not "classical homeopathy," which is using one remedy at a time to help the person heal. If you need help locating a good practitioner, don't hesitate to contact the office and we'll be glad to help you find the right person for you.

As a general rule, acute problems resolve fairly quickly with homeopathic care. You should feel better within a few doses of a well-selected remedy. If you do not, you may need to choose another or contact your practitioner for guidance.

HOW TO TAKE HOMEOPATHIC REMEDIES

Taking homeopathic remedies requires a little bit of skill and knowledge. There are a few rules to consider when using remedies for healing.

- Homeopathic remedies are not taken on a schedule like aspirin or other medications or herbs.
- Remedies are usually taken "as needed," which means that if you take one or two doses of the remedy and you improve, you repeat the dose only when it wears off.
- Remedies have no side effects, but you can notice what we call an "aggravation" or slight worsening of your symptoms before you see improvement, this is usually a good sign that you have the correct remedy. Usually this is mild and brief. If you aggravate, don't repeat the remedy unless you see improvement and then you will relapse where your symptoms get worse again. Repeating doses too frequently when you don't need them will also make you worse. This sounds confusing, but people usually get the hang

of it quickly once you realize it is not like using conventional drugs.

- Generally, a child falling asleep after a remedy is given for cold or flu is a good sign that the remedy is helping the healing process.

GENERAL DOSING OF HOMEOPATHICS

Remedies are taken on an as-needed basis, and each person is different. No two people are exactly alike, some are sensitive and some are not. General guidelines are: Take a test dose of the indicated remedy—two large pellets or 10 tiny pellets and wait for a response.

How to make your own Calendula Tincture:

Take *calendula officinales* petals and fill a mason jar to the top (size of jar depends on how many petals you have).

You can find the petals at Frontier Herbs or other online retailers, or plant your own and harvest petals!

Fill the mason jar to the top with either vodka or brandy, at least 90 proof.

Shake the jar well and put in a sunny spot.

Shake the jar daily and wait a month to extract all of the goodness, strain into bottles, label and date.

We put ours into spray bottles to use on abrasions in barnyards or at home.

To make calendulated oil, you can use olive oil instead of alcohol for use in soaps, salves, or as a muscle rub.



Homeopathy and Uses

INJURIES:

Arnica: Arnica is the pre-eminent remedy for bumps and bruises, or injuries. When in doubt, try arnica first. It is often used post-surgery for swelling and bruising. It is especially useful when the person says they are well, when they clearly are not, or the parts injured are sore to touch. They often complain about “the bed is too hard.” This remedy is often used in traumatic situations with shock en-route to the hospital.

Rhus-t: Rhus Toxicodendron is often used for pain with restlessness, symptoms are also worse with cold, damp weather, or on first movement, but tends to be better with continued motion. Often the pain feels better from heat or hot bathing. Problems can come on from cold weather, a cold that came on from getting cold and wet and the person is restless. (This is where rhus-t can also be used for colds.) It's also a front line remedy for poison ivy, and poison ivy prevention. (See our poison ivy article from Jan/Feb 2005.)

Bry: Bryonia alba: Bryonia is often useful for any situation where the person wishes to lie completely still to avoid aggravating the condition. The pains are worse from jarring, and pains can be sharp or stitching in character.

Ruta: Ruta graveolens is often the best remedy for sprains and strains of soft tissue. It is also useful for bone bruising.

Symph: Symphytum: An old herbal standby, comfrey is also a favorite homeopathic remedy for fracture (get set first!) and blunt trauma to the eyes, or even scratches of the eye (seek professional help).

Hyper: Hypericum Perfoliatum: Not necessarily for hyperactive children, hypericum is a great remedy for nerve pains such as when you hit your finger with a hammer, stub your toe, or a child slams their finger in a car door.

BURNS

Canth: One of the most common burn remedies is cantharis. It is good for many types of burns, chemical, scalds, or sunburn. A definite for the first aid kit.



Homeopathic remedies are FDA-approved over-the-counter and prescription medicines that are available to practitioners and in low potency to the general public.

If no change, take a second dose a few hours later and wait for a response. You can try a third dose if no change is noted. If you do feel better, then take the remedy as needed until symptoms resolve. If you have no improvement after the first day, or first three doses, change remedies. Obviously, if you have dramatic symptoms, you need not wait hours to repeat. With shock or trauma, usually a big improvement is seen and repetition is more obvious.

If you have a very good remedy and a good response, it is easier to know when to re-dose. If there is improvement, and then you worsen, you may repeat the remedy. Usually, the remedy will start to last longer and longer until you are well. The best symptom to watch is the energy and/or biggest concern (pain, cough, fever, etc.).

In the case of a bee sting or other similar sudden (acute) problem, you should know right away if it is the right remedy or not. If no improvement is seen in one-to-two doses, you need to select another remedy. Obviously, if you have a severe reaction to stings, such as mouth itching or shortness of breath, seek medical help immediately. It may be a good idea to have an epi-pen around for emergencies.

Hopefully this little guide aids you in trying to help your family heal with natural methods. Homeopathy takes a little bit of commitment, but is well worth it in the payoff of healing and safety. Once you see what a remedy can do, you will probably be hooked and want to learn more. Contact me if this is the case and I can steer you in the right direction!

Best of luck on your journey to health! ☺

Becky Rupert is a Board Certified Homeopath, and Traditional Naturopath who consults with clients all over the United States. She has been homesteading and helping others to “Heal Yourself, Naturally” for more than 20 years. She can be reached at 419-853-3805 or via email at beckyrupert@frontier.com

Apis: A good remedy for minor burns that have the characteristic redness, burning, stinging, and swelling.

WOUNDS

Led: *Ledum pulustre* is wonderful for puncture wounds, stepping on nails, needle sticks, after vaccinations, etc. Also used for animal bites, tick bites, and simple stings. The area surrounding the puncture can feel cold to the touch, and cold applications are desired. There is much controversy over tetanus vaccinations, so I will simply say that *ledum* can be used in conjunction with the vaccine, if desired. If you have a tick bite, it is wise to seek out help to determine if you have contracted lyme disease.

Staph: *Staphysagria*: Actually a plant remedy, *staphysagria* is useful for cutting wounds, stabs, or cuts. It can be used after surgery to aid in healing. Of course, get stitches if needed! This can be a great remedy for unplanned C-Sections especially if mom is upset about not having a natural delivery.

Sil: *Silica terra* is often used to expel splinters and remove foreign objects. Don't use if you have implants of any kind, just in case!

Calendula: We use *calendula* (marigold) tincture for abrasions and scrapes. You can use it in remedy form or make your own mother tincture with *calendula officinales* petals soaked for a month in alcohol then strained. We add *calendula* petals to make homemade salves, soaps and just about any skin care product we make on the homestead.

SHOCK

See also *arnica*, previous page.

Acon: *Aconite* is a wonderful remedy for shock, and it's almost the opposite of *arnica*, so it's easy to spot! In *aconite*, the shock is terrifying or frightening. This remedy is often used for panic. I would use this one first if you are not sure which one to give, and seek medical help.

— Becky Rupert

Rules for Homeopathy

There are a few rules to remember with homeopathy that are different than what you may be used to with traditional medicine.

- Homeopathic remedies are all FDA approved and can be obtained at many health food stores, and of course, homeopathic pharmacies. Keep in mind that acute care is best handled with 30C potency remedies. The "C" means how the potency was diluted (1:100), the 30 means how many times it was diluted (30 times). There are also "X" potencies (1:10). Don't worry about potency as long as you stick with 6-12-30 potencies of either X or C...either will work if you have a close remedy. With the 6 potency, you may have to take it more frequently—yes, the higher the number, the stronger the dose! 30C is a good potency to use, followed by 12C if 30 is not available. A 6C is useful for sprains or fractures and are usually taken three times a day for three to six weeks until the sprain or fracture heals completely.

- Remedies are not the same as herbs, even if you take the remedy *echinacea* or *goldenseal* in potency (as a homeopathic remedy) it is not the same. Homeopathic remedies are a catalyst to help a healing response, and herbs work as supportive therapies or sometimes work against the body, similarly to a drug (they are generally not toxic). Examples would be an anti-emetic (to stop vomiting) or anti-pyretic to reduce a fever. Medications such as antacids, or anti-inflammatory drug works against the body, and homeopathy (by contrast) works with the body to help heal the symptom. An example would be when I had to use a remedy called *nux-v* (*nux vomica*) or poison nut to help heal a colicky horse. Or *Allium cepa* (made from onion) to help with streaming, burning eyes from allergies. Remember how it feels when you are chopping onions!

- Homeopathic remedies are not taken on a schedule like medications, they are taken on an as-needed basis, depending on the individual and their symptoms.

- Remedies are not placebos. When we get the wrong remedy, nothing happens! Also, remedies work on babies and animals, neither of which is subject to placebo response.

- Homeopathic remedies are not given on the basis of diagnosis, i.e.: we don't have one remedy for asthma, one for arthritis, one for headache, etc. However, there are some exceptions to the rule. Remedies are given based on the individual symptom picture of the client. To give an example, if you have a person that has the following symptoms of redness, heat, stinging pain, and swelling, you would consider *apis 30*, made from the honey bee—even if the person who had these symptoms as a sore throat, cellulitis, an insect bite, or mastitis in a cow. This is one of the hardest things for people to understand about homeopathy. Everything is individualized to the particular person, and the pattern of symptoms. There are 4,000 homeopathic remedies, but don't worry, you don't need to memorize them all, we'll start with an easy category, and one you can use at home.

We'll cover first aid as something to "get your feet wet." There are a few remedies here that are used for specific things, and are almost always the correct remedy for sprains, strains, splinters or injuries.

—Becky Rupert



How to Make Your Own Nicotine-Free Smoking Mixes



Drying horehound.



Passionflower.



Verbascum thapsus
Mullein Plant.



Willow bark.

BY
CHRISTOPHER
NYERGES

HAVE YOU EVER HAD TO fill out some sort of form, maybe for a job or some sort of poll, and they want to know if you are a smoker? I always check “no.” I am not a smoker, and always sit in the no-smoking sections of restaurants. (Well, I used to anyway, back when you could smoke in restaurants.)

I have long maintained that the real culprit in commercial cigarettes are the chemicals added to the tobacco and paper, things such as moisturizers, flavors, things to keep the cigarette burning, etc., etc. There are anywhere from 70 to 250 such chemicals, depending on who you believe. If the tobacco companies had to list all of the ingredients on the label, there’d be no room on cigarette containers.

Let’s just assume that “the government,” in its ultimate wisdom of knowing what is best for us, decided to put all the tobacco companies out of business and you could no longer buy tobacco at your corner market. Guess what? Various species of tobacco grow wild throughout the country.

Here in the West, there is a widespread introduced species of tobacco commonly known as Indian tobacco (*Nicotiana glauca*) or tree tobacco (it can grow up to 25 feet tall). In fact, there are wild tobaccos throughout North America. We allow it to grow out back because its yellow tubular flowers attract hummingbirds. This plant would kill you if you ate it, but it can be dried and smoked. It is far more potent than commercially grown tobaccos, and in general I would not recommend driving your car and smoking

this plant at the same time. If the bureaucratic do-gooders ever outlawed tobacco, there’d still be no shortage of wild tobaccos around the country.






All that said, though I have smoked tobaccos in the past (commercial and wild), today I prefer to make my own non-nicotine smoking mixes for those times when I sit out back and think about important things.

My blend varies from season to season, depending on what wild leaves I have picked and dried.

The blend will typically have some dried peppermint and/or white sage (*Salvia apiana*). This gives a sweet flavor to the smoke, somewhat like menthol in cigarettes. Any of the sages and mints would do—even those growing in your garden. This should be no more than 1/5 of your blend.

Horehound (*Marrubium vulgare*) is a European medicinal herb that can now be found throughout most of North America and the world. It has a long history of use for treating coughs and sore throats when used as a hot tea or

COMPARISON OF COMMON NON-NICOTINE SMOKING HERBS

Herb	Availability in wild	How prepared	Flavor **	Harsh-ness	Aroma **	How used medicinally
 Coltsfoot	Common in wet areas in Eastern U.S	Dry the first year leaves	Mild, bland	Mild	Mildly sweet	Tea for bronchial problems
Damiana	Uncertain	Dry the leaves	Good, "herbal"	Medium	Very pleasant, like incense	
Horehound	Very common	Dry the leaves	Mild	Mild	Bland	Tea for coughs, sore throats
 Mint(s)	Common in wild and gardens	Dry the leaves	Mild	Medium	Mild, sweet	Many uses. Good tea for digestion.
Manzanita	Widespread in west and southwest	Dry the leaves	Mild	Medium	Bland	
Mugwort	Widespread along streams	Dry the leaves	Sagey	Medium to harsh	Sweet, like incense	Many uses
 Mullein	Widespread in fields	Dry the first year leaves	Bland	Mild	Bland	Used as tea for asthma and breathing problems
 Passionflower leaf	Widespread vine in west and south	Dry the leaves	Bland	Medium	Sweet; has been compared to marijuana	Used as tea; natural sedative
 Sage(s)	Widespread in gardens and in wild	Dry the leaves	Sweet, adds a menthol quality	Medium	Sweet, sagey, like incense	Many uses
Yerba santa	Widespread throughout the west	Dry the leaves	Somewhat sweet, "medicinal"	Medium to harsh	Fragrant smoke	Used as tea for coughs, breathing problems
Willow	Widespread along streams worldwide	Dry the young bark, shred it.	Bland, not noticeable	Medium	Bland	Used as tea for pain-reliever

* For medicinal uses of herbs, see any of the books by herbalist Michael Moore. ** In general, Bland flavor and aroma indicates that there is no strongly identifiable flavor or odor, and that the herb blends well with other smoking herbs. Make your own blends to your own liking.

candy. I learned recently that it can also be blended into your smoking mixes and there still may be some good effect from the horehound, even if you smoke it. It is a true mint, after all, and it smokes well, though it doesn't add that menthol-like quality to your smoking mix as do the other mints.

I often add dried manzanita leaves (*Arcostaphylos* spp.), which were used by American Indians of the Southwest in their smoking blends. This smokes very well, though there is little taste or flavor. The most commonly known variety is the kinnikinnik, or *Arcostaphylos uva-ursi*, which is not a bush or tree like the other manzanitas but is a trailing vine. Regardless of which variety I use, I let them air dry, and then crush them into small pieces. The manzanita leaves are all somewhat tough and leathery so it will be necessary to break them into small bits so they can smoke. I have heard that the flavor of this particular leaf is improved a bit if it is aged, and if it is allowed to slightly ferment, in much the same way that one might age certain tobaccos. However, I have never taken the time to experiment with this, since the dried and crumbled leaves smoke quite well.

I sometimes add dried and pulverized willow bark (*Salix* spp.), usually red or arroyo willow. This adds a pleasant flavor, and was apparently used in traditional American Indian smoking blends. A tea from the willow bark has effects similar to aspirin, and can be drunk or applied to wounds to relieve pain. In fact, the original aspirin came from the inner bark of willows, which contains salicin. We have heard some folks say that smoking the willow bark in their mixes also provides some pain-relieving qualities. That's not been my experience, but you can try it and see what you experience.

I add the dried leaves of mullein. Mullein (*Verbascum thapsus*) is now a common weed in the U.S., although it's a European native. Of the many virtues of mullein, it is good in a tea for breathing problems, even asthma. Interestingly, mullein has long been smoked to improve the breathing passages. If you're going to smoke, you really ought to include mul-

lein in your mix. The large leaves of mullein have the texture of flannel. I generally pick leaves from the first year growth. Mullein lives for two years, and in the second year it sends up a tall flower spike and produces smaller leaves. (By the way, these fresh leaves make pretty good toilet paper.) Mullein is common throughout the country in fields and along streams.

I usually add a little bit of mugwort to my mix—no more than about 1/5 of the mix—since it produces a very pleasant aroma when burned. Mugwort (*Artemisia* spp.) is found along streams and the dried leaves, rolled into a cigar shape, were used by early Native Americans in Southern California as punks for transporting coals. When I collect mugwort for smoking, I typically just collect the leaves from the lower stalk of the plant that have dried on the plant. On the other hand, if I am collecting the leaves for their medicinal values, I would collect the leaves green, clean them, and then dry them for storage.

There are other herbs that I sometimes add in various amounts. I like the leaves of passionflower (*Passiflora* spp.), a somewhat common vining plant throughout much of the west, the south, Europe, Mexico, and even the Hawaiian islands. The leaves have a sweet odor and don't seem to irritate the throat or mouth. Medicinally, the tea from passionflower is drunk in cases of insomnia or nervousness. The flowers are used medicinally also, but I usually only smoke the leaves.

I also add a small amount of damiana leaves to the blend, which I buy from the health food store. This is a plant that supposedly grows in the wild around, but it is a plant I do not know and haven't encountered it. It makes a delicious tea, and a very pleasant smoke. Damiana leaves were also smoked by the ancient Aztecs. I have long enjoyed the fragrance of the damiana tea, and it does create a pleasant aroma when smoked.

When I have it, I add a few pulverized pieces of sweetgrass braids to the smoking blend.

Yerba Santa (*Eriodictyon* spp.) is a common southwestern herb found in

dry and desert-like places. It is very fragrant, and usually sticky. There are several varieties, and all have a history of being used as a tea for breathing and bronchial problems. It is sometimes added to smoking mixes for its fragrance, and apparently because some folks believe that the beneficial effects on the lungs and bronchial tract still carryover when you smoke it.

Interestingly, you'll notice that many of the herbs I have listed are frequently used as the primary remedy for coughs, sore throats, asthmatic conditions, etc. At the very least, there is the presumption that by smoking herbs that are generally beneficial to the throat and lungs, that you will be somewhat counteracting the harmful effects of the smoke. Whether this has any real scientific basis is uncertain.

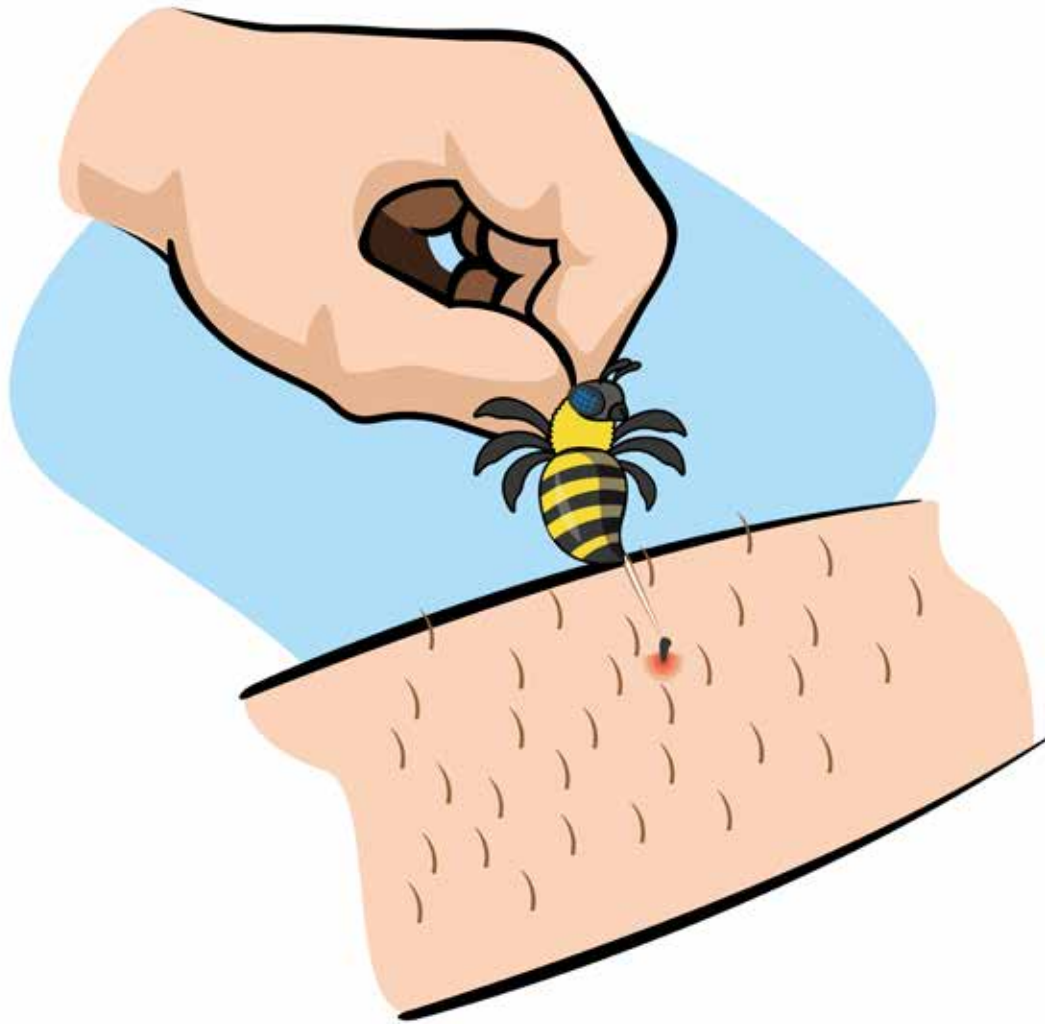
Coltsfoot is an herb commonly found along roadside ditches and wet areas in the eastern parts of the United States. It is a two-year plant, and the large first year leaves are the ones typically gathered for smoking. Coltsfoot has been used as a smoke for at least a few centuries, and there is the belief that smoking it can actually be somewhat good for a sore throat.

You can make your own blends and determine what you like.

I don't smoke a lot—I might sit out back maybe once a month or so and smoke my hand-made elder pipe. I'm not addicted to it, like the person who can't stop chain smoking commercial cigarettes. I simply like to smoke occasionally, at special times, while thinking about a particular subject.

I am quick to reiterate that I am neither encouraging nor endorsing smoking of any sort. I certainly do not advocate the use of regular commercial tobacco, since its use is related to a host of diseases. But perhaps the use of wild nicotine-free herbs can help you cut down on the harmful tobacco. If you do choose to smoke, moderation is the key. ☺

Christopher Nyerges is the author of "Guide to Wild Foods," "Foraging California," "How to Survive Anywhere," "Self-Sufficient Home," and other books. He leads regular survival and wild food walks. He can be reached at www.schoolofself-reliance.com/, or PO Box 41834, Eagle Rock, CA 90041.



Lesson # 1: Taking The Sting Away

For stings, bites, scrapes, and such:

BY LIL
ROBERTS
MANTECA, CALIF.

TAKE A BOTTLE OF ALCOHOL (I like the kind with the green mint) and add 25 regular uncoated aspirin to it. Let them dissolve. Then shake to mix it up really good. This solution is great for bites, rashes and scrapes. It cuts down the itching or stinging real fast, and helps to protect against infection.

I had a wasp sting me six times on the hand just because I was in the area on the front deck that he thought was his. He got my hand due to me trying to keep him from stinging me in the face. I put all the normal things on it to stop the pain,

but only when I went and got the bottle of alcohol with diluted aspirin did the stinging stop. That buggger followed me right into the house as I tried to make my escape from him, still trying to sting me. But once inside, he then tried to go out a window, and me with a fly-swatter in hand. Guess who lost the battle in the end? ☺

Lil and her husband, Rex, are retired. They have lived in the country all their lives, and now live out in the country surrounded by almond orchards. They have several animals, including dairy goats, chickens, geese, quail, dogs and barn cats, and raise their own beef for butchering.

Holterholm Farms

Holistic Management on a Pasture Dairy



BY HEATHER
SMITH
THOMAS

RON HOLTER IS THE FIFTH generation on a dairy farm near Jefferson, Maryland, in Middletown Valley.

“The land was originally purchased in 1889 by my great-great-granddad,” he said. “I grew up here on the farm, graduated from high school in 1981 and became a partner in the operation in 1984, the year I got married. At that time, we were a typical confinement dairy, milking about 100 Holstein cows. We had a two-acre dirt lot the cows could get out in, but that was the only place for them when they were outside. Even when they were out there, we were feeding them a total mixed ration.

“In 1994 my wife Kathy and I bought out my parents. In the winter that year, our county extension had a management class called Pro-Farm. It was based on a

program at Cornell called Pro-Dairy. What I got out of that class was that it taught us farmers to think for ourselves rather than just following traditional guidelines,” he says.

“At that time I was trying to do my best. I had been taught for years that every salesman that came up the driveway was smarter than I was and I had to do what he said. During the management class, the Dairy Extension Agent, Stan Fultz, mentioned grazing dairy cows. When he said that, I thought to myself that it was too good to be true

and just can't work," says Holter.

"My wife and I were setting some goals at that time and looking hard at what we wanted to do with our lives. My father was in his late 60s and my mother was in her late 50s. They wanted to get out of the operation and we'd bought them out, but they were still helping me. My children were 2 and 4 years old, and I was hardly getting to spend any time with them. One of our goals was to see my family grow up, and not be working round the clock," he says.

"We were getting up at a quarter to three in the morning to milk cows, and I only got to see the kids for an hour at breakfast and an hour at lunch, and usually came in at 6:30 to 7 in the evening. I'd eat dinner and sit down to try to read to the children and they'd have to tell me to wake up to finish the story!"

GRAZING THE DAIRY COWS

After taking the management class, he and his wife went to some other meetings.

"Our extension agent spoke at a local Soil Conservation meeting and showed slides of dairy cows grazing in Oregon and Vermont," he added. "That was the first my wife had seen this. We decided to convert the farm over to a grazing dairy."

In 1995 they planted all the open ground to a pasture mix, and started grazing their dry cows and heifers.

"We used mostly temporary fencing," he says. "Then in the spring of 1996 we had a fencer come in and drive posts, and we put up fence—and had the cows out by the time we had green grass. We had every animal outside. At that time it was just a dairy and we didn't have any other species on the farm.

"Dad and I were just blown away by how easy it was. We almost had 'corn planter withdrawal,' because we were just standing on the porch

watching the cows harvest their own feed. It just didn't seem right! All our neighbors were scrambling around like we used to, and we were not—which was a real blessing!



Grazing dairy cows can help farmers save time and provide environmental benefits to the land.

"The more we got into grazing, the more we could see the environmental benefits and social benefits. We cut our work force (or the hours that we worked) in half, at that time. I was able to be a dad again, and go to my son's baseball games and my daughter's musical events; I had wonderful years with my children in their growing up," he says.

"Then in 1997 we sold our fall-calving cows and replaced them with Jerseys. We went to spring

seasonal calving in the spring of 1998. In thinking through the whole process, we wanted to follow the natural pattern of grass with the cows' milk production and dietary needs. We had our cows dry through the winter of 1997 and that was a total shock! I even volunteered in school with my children, which was really neat!"

The cows all calved in the spring of 1998 and have been spring seasonal ever since.

"We sell any cows that will calve outside our March-April calving window and sell them in the fall as bred cows, so we don't have to carry them through the winter."

BECOMING ORGANIC

"In the year 2000 we realized we weren't using herbicides, pesticides, or synthetic fertilizers. The cows were doing all this for us. So we made the decision to be organic. There was no market for organic milk in Maryland at that time, but we farmed the land organically and fed the cows purchased grain—which was non-organic. We had pretty much eliminated antibiotics at that time. We'd already stopped deworming the cows and the calves, and stopped dry treating the cows with antibiotics when we dried them off. We realized that we didn't have any more mastitis without antibiotics than when we used them," says Holter.

"Then in 2005 Organic Valley and Horizon moved into Maryland. Organic Valley is a cooperative system. We like their mission; it aligned quite well with our farm. So we went with Organic Valley July 1, 2005 and became certified organic. All through this process we began to realize that cows were not created to eat grain. So the fall of 2007 we stopped feeding any grain and have been no-grain ever since," he says.

Through this period, the Holstein

cows were phased out because they couldn't breed back within that window on pasture only. "We milk about 110 Jerseys now. In 2008 we also started using nurse cows to raise our calves rather than us feeding the calves with nipple barrels. We realized that the cow can teach those calves so many things that we can't. The heifers grow up to be better cows," explains Holter.

"When the cow eats, her saliva on her nose gets on the grass, and the calf follows and eats that, and it really boosts the rumen as well. Just the whole process, with the cows teaching the calves what to eat, makes better cows." They follow mom's example at a very young age.

The nurse cows are Jerseys. Any cows that don't work well in the milking parlor become nurse cows. "We usually have a few heifers every year that don't want to let their milk down in the parlor and if they don't want to do that we turn them into nurse cows; they are very happy to do that. Any cows that have some mastitis or somatic cell count problems, or any three-titters that the milkers don't stay on well can also become nurse cows," he says.

"We keep the calves on the nurse cows for six or seven months before we wean them. Usually we just dry off the nurse cows at that time because the calves really pull down their body condition. Those cows need a little extra time to regain their body condition before winter," he explains.

"We also started raising our own chickens. We started keeping layers more than 10 years ago and sell eggs from the farm. The chickens are fed organic grain and are pastured all the time. We also got into sheep and sell grass-fed lamb."

The Holters started a small beef herd, as well. For many years, they raised a few Jersey steers to sell by the quarter, half and whole. "We liked the Jersey steers but they grew too slow. So we started a small herd of Herefords, to finish the steers for beef."



There are 207 acres on the home farm that are utilized for pasture. "We use another 30-acre farm that is certified organic, for our beef herd. We also rent a 50-acre certified organic farm for our bred heifers. We are still not where we want to be, in that we still have to buy a considerable amount of hay," says Holter.

"We are working with one farmer on hay; his farm was organic by neglect when we started buying his hay and he is realizing now that he can't just continue to do nothing to the land. They don't want to rent the land to us and we just buy the hay, but they are realizing that they need to add nutrients and build the soil. So we are endeavoring to start a 1/7th year

fallow, putting diverse cover crops in 1/7th of the farm each year."

Those pastures are clipped off three or four times a year and then they are cropped again the next year for hay. "What we clip off that diverse pasture we just leave lying on the ground to help build the soil, and hope to improve the land that way. The farmer has been hesitant to let us graze animals down there because there are no fences, but now they are starting to consider this as an option for a couple years throughout that seven-year rotation. That is pretty exciting and we may be able to get the nurse cows and calves down there for at least part of the year—which would alleviate the pressure on this farm. We might be able to make more hay on this farm

and not buy as much hay," he says.

"We continue to develop our plan, working on it as we go. Our son, Adam, graduated from college in 2011 and got a business degree. He wanted to come back and farm, so he makes the sixth generation. He joined the partnership with Kathy and me. He has told us numerous times that if we weren't grazing and organic, he wouldn't have been interested in being here, so we are thrilled we made that decision."

Daughter Carrie helped on the farm as she was growing up but graduated from college in May, 2013 and got married. "Her husband is not a farmer, but they live fairly close and we are blessed by that," says Holter.

HOLISTIC MANAGEMENT

"I have read a lot about holistic management. We are trying now to fine-tune and do a better job of the financial aspects of ancillary enterprises. The dairy has been carrying the load and we needed to diversify. We like every aspect of having the beef cows, but with the amount of hay we still have to buy for them, we are not 100 percent sure that they are paying their way. We are still working on that," he says.

"Part of the reason we started the beef herd is that when we go to the natural food markets in our area we see the grassfed organic beef coming from Uruguay. That doesn't seem right. We know that the local movement presents a lot of opportunity for us, but we are still trying to wrestle with the scale that is needed to supply them—and the time and effort involved in providing the meat at the right time. We are not sure whether we should try that or still continue doing quarter, half and wholes twice a year," he says.

"We may just keep enough beef cattle to keep that market satisfied. We are also just getting started with sheep, with three ewes. It's not a big enterprise yet, but we want to overlap as many enterprises as possible. There is a synergistic factor

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The Dairy Cows

The dairy herd is bred AI for five weeks and then a bull is turned in for clean-up. “One thing we’ve been working on for 10 years is breeding for polled heads. This eliminates the dehorning. About 75 percent of our calves are born polled now,” says Holter.

Another thing the farm is working toward is to produce A2-A2 milk. “We are breeding for the A2-A2 genes now, in our cows.”

A2 is a type of beta-casein protein and not as prevalent in cows’ milk today as the A1 protein. A2-A2 milk is most common in some of the older types of cattle that have not been as highly developed for more milk production. There seem to be some health benefits associated with the A2 protein.

The A2-A2 Corporation in New Zealand is promoting the health benefits and has developed a genetic test to determine whether a cow will produce this type of milk. “Holsteins in general, but also a lot of Jerseys and other dairy breeds are A1-A1 or A1-A2. I’ve talked to several people who were thought to be allergic to milk, and then they bought a cow for themselves that was A2-A2, and had no more problems with milk and milk products from that cow,” explains Holter.

“There is some scientific research that claims A1-A1 milk may lead to diabetes and has a negative effect on autism, heart health, etc. If a person is drinking A2-A2 milk it is healthier, and better for the heart, and for diabetic people, autistic children, and so on. When we digest the milk, it makes a big difference in how our body handles that protein molecule,” he says.

It is harder to find A2-A2 cows in the Holstein breed. “Historians believe that most cows were A2-A2 to begin with. Then when people selectively bred dairy cows for higher milk production the A1 gene became more prevalent. Because Jerseys, and especially Guernseys, have not been so intensively selected for high volume of milk, the A1 gene has not become as pervasive in these breeds. There are some A1-A1 Jerseys, however, so we are testing our bulls, trying to use just A2-A2 bulls,” says Holter.

“Any of our cows that we have to sell because they are outside our calving window are purchased by a farm in Virginia and they are turning them into family milk cows. They are testing all of them for A2-A2 and are really big on those genetics. They are buying any of our Jerseys that we don’t need—any extra heifer calves and any cows outside our calving window. We are trying to make all our cows A2-A2 but this can take several generations,” he explains.

“This all harks back to our mission and goal—to create a healthy product for healthy people. Many people haven’t heard about the A2 situation because it is controversial. I am sure the U.S. dairy industry doesn’t want this to become a big issue. They don’t want people preferring A2-A2 milk, or people not wanting milk in the stores unless it is tested.” Most of the milk in this country is A1-A1.

“I think the dairy industry is trying to keep a lid on it, but it is becoming a bigger issue, especially with small farmers who have a family milk cow, or the organic market. The organic system believes in a better product.”

— Heather Thomas

with the chickens, and the sheep eating different things than the cows.” An acreage can grow a lot more products with multiple species.

“We have set our goals and are working through them, and continually re-evaluate them. We have our mission and know where we are going and where we want to be, but we continue to re-evaluate our decisions. One example: in 2010-2011 we started reading about Greg Judy and what he was doing with mob grazing. It sounded fantastic. If we could eliminate hay, that would be what we’d like to do. Neither my son nor I like sitting on a tractor!”

GRAZING MANAGEMENT

“We thought mob grazing might be the way to do it, but dairy cows are a whole different character than beef cows. We could not get good enough forage into them—especially when it got mature—to produce the milk. Early in the season the forage was good, but once the grass started to make a seedhead and beyond, milk production dropped. The grass looked beautiful, but we could not get enough milk out of the cows and their breedback was not as good,” says Holter.

“We were actually moving the cows about eight times per day and the next day we’d let the beef herd in, to follow them, and try to trample those paddocks. We just couldn’t get it trampled with the cows, moving them that often. The milk cows were getting thin and the beef cows were getting fat. This showed us that the mob grazing is good for beef cattle but we just couldn’t make it work with our dairy cows,” he says.

So now the cows are grazed on less mature forage. “We do graze it taller, trying to let it get up to about 12 to 18 inches and just take off the top third to half of the plants. That way they get more energy, without the protein, and we’re not letting it get fully mature. We are harvesting hay off some of it and doing some pre-clipping.” This way, the grass is still in a vegetative



state when the cows go into it. The dairy cows simply need a higher nutrient level to produce milk.

"We discovered another interesting thing, and I think it's because we are in a non-brittle environment. By the second (and especially the third) year after we stopped doing this, we found that in the fields that were allowed to become fully mature, the biological cycle in the soils actually went backward. We lost a lot of the biological activity because we were waiting too long to get the cows back in. We started seeing urine spots again, which we hadn't seen for 10 years on the farm," says Holter.

"Our pastures had gone more to grass, with fewer legumes. This also set us back in milk production. Now that we are grazing a little more frequently (not letting the plants become fully mature) we're seeing that cycle rev back up," he says.

"We added a lot of carbon to



the soil when we let the pastures become mature, which was a blessing. It helped us and is going to continue to help us, but our cow numbers dropped because we just couldn't get enough of them bred back within the breeding season. I don't regret doing the mob grazing, except that it really hurt us financially. Now we are finally starting to dig out of it, but it was

an expensive learning experience," he says. A person has to figure out what works best for the animals and the land, on their own place and situation. It's uncharted territory in which you learn as you go.

"My advice to people just starting is to not try mob grazing mature forages with dairy cows—or at least try it on a smaller scale rather than the whole farm, like we did!" ©

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Girls Just Want To Have Chickens

BY JERRI
COOK, J.D.

MEET THE LADIES OF Fluffy Butt Farm, Missy and Tammy Jones, and their small mixed-breed flock. Every day they work together to pave the way for Missy to become a veterinarian. It's a big dream, but thanks to her parents and the chickens she adores, at 11-years old, Missy is well on her way to achieving her goals.

The Jones' own a 10-acre homestead near Dresser, Wisconsin, which is the perfect place for small homesteads. Long ago abandoned by the railroads, the area offers abundant outdoor recreational activity, attracting tourists from across the Midwest. If you were thinking about setting up a small egg operation to earn some extra money, Dresser would be the place to do it.

"Missy started asking for chickens when she was 5," says Tammy. "Everywhere we went, she saw chickens. She would just beg for chickens. She loves all kinds of animals, but she always insisted on chickens." Even so,



PHOTO BY
TAMMY JONES

Tammy and husband Michael didn't want to jump into anything. "We knew it would be a lot of work. We wanted her to be able to handle it."

As the years passed, Missy's love of animals grew, but her fondness for chickens remained central. She started expressing an interest in veterinary science, and her insistence on raising chickens became stronger. "She was determined to get a flock of chickens," recalls Tammy. So, when she turned 10, the family decided that raising a few birds for eggs would help Missy learn about chickens as well as help her earn, save, and appreciate the value of a hard-earned dollar.

Missy got herself an instant flock of sorts as a fourth-grader in the St. Croix Falls School District. Her teacher, Mrs. Fox, enlisted the help of a parent to bring in an incubator and eggs. Every day students took turns turning the eggs and checking the humidity. When the eggs hatched, each student could take a chick home if the parent agreed. As you might imagine, several parents declined. Tammy insisted on at least three, because she had heard that chickens are happier when they have company. By the end of the day, they had seven.

While showing her mother the newly hatched chicks, one of the students accidentally bumped the light, and it fell onto the chicks huddled below. All except one of the chicks seemed unaffected. Fearing that the injured chick was mortally wounded, the teacher asked Tammy if she would bring it home so the kids wouldn't have to watch it die. Much to the surprise of both Tammy and Missy, the chick

lived, and with that they had seven red sex-link chickens to care for.

"I had no idea what we were doing," Tammy confesses. "I knew ahead of time we were getting them, so I grabbed a few books at local farm supply store and showed them to Missy and we just winged it. Missy immediately began to coddle the chickens. She would read to them and sing to them. Just sit and talk with them."

Out of the seven original chicks, four hens remain. The other three, roosters, were given away. Initially, Missy tried to keep one of the roosters she had named Roo. "They were so close," explains Tammy. "They walked around together. They played together, but then one day he attacked Missy, and we got rid of him. It was hard for Missy." While surprising to Missy and Tammy, Roo's behavior is no mystery to seasoned chicken keepers. Roosters, especially young ones, will become aggressive with other animals and humans in order to assert their dominance. While many flock owners have written about training roosters to respect the dominance of humans, it doesn't always work, and the unruly rooster is either shipped off or destroyed.

Despite Roo's bad behavior, Missy remains attached to the four hens, and is raising a second batch of red sex-link chickens that they purchased at the farm supply store. Sex-link chickens are offspring of different crosses. These offspring are distinctly colored, and the color of the down is directly related to the sex of the bird, making it easy for beginners and those wanting birds for egg production to quickly and accurately determine the sex of the bird. Red sex-links are generally considered to be friendly and have a reputation for laying an abundance of large eggs. They were the perfect choice for Missy, who loves to interact with her birds.

There have been many challenges. "I had no idea there was so much to chickens," Tammy admits. "I

thought I would just read a book and we would be on our way. But it's not all fun and games. It's work. It's a challenge. It's a responsibility. And that's what we wanted to teach Missy. On top of it, they can get all sorts of diseases, and usually there isn't a veterinarian around to treat them. You're on your own, and if you get it wrong, the chicken dies."

Tammy thought they were learning the ropes fairly well, until she noticed something under one of the hen's wings. "One of Missy's hens got a sore the size of a soda can under her wing. I was sure it would get infected and the hen would die. It would break Missy's heart," says Tammy. Not finding anything helpful in the books she had purchased, Tammy decided to ask someone at the farm store where they purchased the chickens. But when Tammy mentioned the problem to a lady at the farm store, she suggested a product called Vetericyn. At first, Tammy passed on the advice, because it was expensive. But as the sore grew worse, Tammy decided to purchase it. "It was an awesome product. I hemmed and hawed around because of the price, but it was worth it. The sore healed quickly, and didn't return." Once the sore was gone, both Tammy and Missy began to feel more confident in their role as flock masters, and Missy's passion for chickens deepened.

Missy decided to call the homestead Fluffy Butt Farm, after conferring with her grandfather,

Willie Jorgensen, Jr., in Danbury, Wisconsin. The pair decided that because Missy liked the soft downy feathers and the way the chickens waddled when they walked, the name was good fit.

Last Christmas, as a special gift, Tammy, who is a professional photographer, took some pictures of Missy's chickens and made her a hard-covered coffee table book with photos from the first day the chicks came home until the end of November. "It turned out fabulous and she just adored it," says Tammy. "She almost started crying. She had taken one feather from each of the original seven chicks, and she taped them in the book, titled *My Journey with Chickens*—lovingly raised by Missy Jones. Then inside I put a little sentiment to her from Mike and me, "To view some of Tammy's work visit <http://imagesbytammijones.zenfolio.com/>."

With a little help from her parents, Missy is saving the money from her egg sales. She's determined to go to college and become a veterinarian. While there are no immediate plans to expand the flock, Tammy doesn't rule it out. "As she gets older and closer to college, we might expand to help cover the bills." But for now, the ladies of Fluffy Butt Farm are content to hang out in the countryside, and having a little fun. If you have any advice you'd like to offer, feel free to contact the ladies of Fluffy Butt Farm at tammijones2160@gmail.com. ☺

"I thought I would just read a book
and we would be on our way. But
it's not all fun and games. It's work. It's a
challenge. It's a responsibility."



On Holiday

BY MARSHALL
NYCH
PENNSYLVANIA

HOLIDAYS ON THE farm are a bit removed from the traditions the rest of society observes. Let us work (a fitting word on the farm) our way around the calendar chronologically, stopping at some of the most celebrated holidays along the way.

GROUNDHOG DAY

One of my earliest memories as a youngster was watching the Punxsutawney process unfold on the television screen. My initial thoughts were Dad had found a channel with the most unusual hunting program. The hunters, after strangely swapping their orange caps for top hats and checkered Woolrich for tuxedos, bravely reached into the cavernous unknown. The sport resembled catfish noodling, but rather than a slippery fish at the other end, there was a sharp-toothed rodent. As the early February spectacle continued, with hoards of onlookers, I began to think it must be a joke. I nearly fell out of my chair upon learning a holiday celebrates the farmers' most wanted, vile criminal. A shadow is the last thing on

the rider's mind as the horse plummets into a woodchuck hole. Watch hundreds of dollars worth of soybeans as they seemingly disappear back into the ground. Who would trust the arrival of a season, let alone a simple weather forecast, to such a culprit?

VALENTINE'S DAY

It is unfortunate Cupid arrives a couple weeks too late to fling an arrow at the aforementioned whistle pig. That said, I feel the little guy intentionally avoids the farm. My childhood lacked lace, poetry, chocolates and secret admirers. I always assumed Cupid had heard what the Nych family did with visitors. Uncle Johnny once had a Kirby vacuum salesman put in a six-hour shift. The guy kept going on and on about how his miraculous machine could do just about anything. Aunt Bonnie, much in need of a deserved break, challenged, "Can it milk a cow?" The family soon discovered the salesman sure could.

EASTER

Spring's early beauty shouldn't be a depressing time, but it's tough being happy when all of the other kids are frolicking through the local park in search of eggs. Farm kids don't have to hunt too hard or look too long—they already know where to find eggs. Just yonder the barn, head straight for the chicken coop. Unfortunately, ya' can't miss it. As a farm boy, my parents made me enjoy egg hunts just about every day of the year. The problem is, found within the shell was neither candy nor coin. The yoke, at times literally, was on me. To boot, one of the most popular Easter activities is adorning eggs with patterns and

Most farms, at least mine, only seem to observe the second half of the compound word fireworks.

color. Farm eggs, while delicious and nothing like ones laid in grocery stores, are brown. I found dunking my farm fresh brown eggs in and out of vivid dyes to be less than satisfying. It was much more fun starting with white eggs and, after slapping on every color, ending with a shade of brown.

INDEPENDENCE DAY

Most farms, at least mine, only seem to observe the second half of the compound word fireworks. Come the Fourth of July, farmers are all too busy in their fields. Naturally, they are likely ensuring the corn is knee high. While on the topic of freedom and independence, there are not many liberties for a kid on the back 40. Between chores, I know not how our forefathers had time to ignite fireworks, let alone plot a revolution.

LABOR DAY

Do not even get me started on this cruel and unusual joke. Everyday involves hard labor on the farm. September sets two very different paths in motion. Labor Day is the official start of high school graduates matriculating to their freshman year of college. For the agrarian workforce, Labor Day has less to do with freshman year and more to do with fresh manure.

COLUMBUS DAY

To celebrate Christopher's 1492 discovery, farm kids get the day off of school to make a few discoveries of their own. Children of the corn soon find, with harvest right around the corner, their course and destination are already determined. If the captains of the farm, also known as parents

and grandparents, wouldn't have noticed, I'd have jumped ship that crisp October day. While I should have been exploring every square inch of fall, I was confined to the milk barn. I bet Chris never had to finish chores before sailing the ocean blue.

HALLOWEEN

First, let's clear the air, which is always a good idea anywhere within close proximity to our barns. Before examining October's final day, the reader must realize candy corn has nothing at all to do with bona fide agriculture. Candy corn, unrelated to sweet corn, has everything to do with Halloween. To a farm kid, Halloween means going to school like any other day of the year. Once there, teachers and students keep asking, "Are you dressed like a farmer for Halloween?" Outweighing such awkward social situations, one perk makes trick or treat a true delight on the farm. Few brave, sweet-toothed souls venture long, dusty farm roads. Costumed candy crusaders are a species preferring ritzy housing developments who prey primarily on the distribution of full-size candy bars. The rural lack of customers equates to more leftover candy for the farm kid.

THANKSGIVING

No one appreciates a big, home-cooked meal more than a hungry farm boy. Year round, even the very best restaurant cannot touch the magic Grandma conjures in her kitchen. However, November's

holiday differs greatly from all the meals that were served the prior 11 months. For the first time, main course looks frighteningly similar to a couple of newly formed friends. As a boy, I reveled in the endless pet shop that was my family farm. Acquiring pets, I'd befriend the turkey and watch as he strutted about the barnyard and fanned his majestic tail. I named him Jake. The most loyal of all pets were the piglets, Spanky was my favorite. Upon our great feast, a strange sensation swept over me as I entered Grandma's dining room to a stuffed turkey and baked ham. They sat side by side, identical to the way Jake and Spanky had so many playful afternoons.

CHRISTMAS

While most children clamber down the steps to plow into presents, farm kids awake to a different brand of surprise. Sure these rural children get gifts too. However, the night prior to such a grand scale operation necessitates the year's largest consumption of milk. Somebody has to provide the liquid to wash down all of those homemade Christmas cookies. It's the poor farmers and, more specifically, their kids. To me, the fact Santa could drink such volume only increased his allure. I would never have been able to drink more than a couple of glasses in one sitting. I was astonished how Santa could do it house after house. ☺

Marshall Nych writes from his home in Pennsylvania.

We Had So Much Fun Building The First Cabin, We Built Another



BY CHRIS
BORDELEAU

OUR OFF-GRID ADVENTURE started in 2007. Little did we know that building cabins was fun and that our place would sprout four additional structures in the next six years.

My day job is in the IT industry, so we had a steep learning curve. At the start I could barely hammer a nail straight or cut a board square. I spent several months reading books researching online on forums and YouTube. Our goal was to build structures that would last, but not break the bank. It's a delicate balancing act in both adventure and an education.

Construction started on the main cabin in the fall of 2007. We contracted local Amish to build the 20-by-32 foot shell and paid \$5,000. We spent the early fall clearing the land and preparing the site for the cabin. This included removing several trees, using our old Ford 8N, middle buster and back blade to level the location, and having gravel brought in.

The hemlock logs for the cabin were felled on our land and brought to a local Amish sawmill using a team of horses. There the boards were milled, cut to length and planed if

needed on a diesel-powered sawmill. The boards were then brought back to our site by horse and buggy. I am positive the Amish laugh to themselves at our version of off-the-grid living.

By spring the cabin shell was completed and we started on the interior. Over the next six years we have slowly finished the cabin. The interior walls were covered with a combination of commercial pine tongue and groove boards and locally milled larch that we ship-lapped ourselves.

In keeping with our main goal, the flooring, windows and doors came from a combination of dumpster diving, family and friends, and a couple of purchased windows. Looking around the cabin you will not find more than two windows that match. In

the end it all works and looks like we planned it that way.

When it came time to power the cabin, we had options. We could tie into the power lines at the road 1,200 feet away, but the cost to run the power lines was going to be substantial. We started looking at alternative energy options. We have a good location for wind, but as this is mostly a weekend place and I did not want to worry about it being damaged by a winter storm. In the end we settled on a small solar power system that I designed and installed myself.

Like other aspects of our project, building something affordable that would last was important. When I built this system I sourced two, 180-watt solar panels for \$540 each (similar sized panels can now be found for under \$200). I opted for a large MPPT charge controller planning for expansion. The one we have will handle more than 1kW. I plan to expand our array soon, so this will come in handy.

The inverter is a used 1500 modified sine wave inverter/charger that can charge the batteries from a generator if needed. For batteries, we chose four 6V 225 amp golf cart batteries. We are still using the original batteries five years later, with the only maintenance being filling them with water about once a month.

When I built this system, I figured we spent about \$2,200. I could build a similar system today for about \$1,200 if I sized the charge controller for the two panels and not for the planned expansion.

For heat we found an old wood stove on Craigslist. It was rusty but solid, and after hitting it with a wire wheel, high temp paint and replacing the door gasket, it has served us well. We had a local Amish craftsman build a custom double wall chimney, which we installed. We have not installed running water yet, but will someday (it's always "someday").

The kitchen is a combination of custom-built lower cabinets and an upper cabinet that we found discarded in the trash. We installed a cultured stone tile countertop and sink that empties

into a grey water system. For the stove we converted an old natural gas stove to propane, but the oven has never worked. We have a small propane oven and a custom-built stainless steel oven from the Amish that goes on the wood stove for now.

We estimate that the total cost of the nearly 1,000 square foot cabin (with solar power system) was around \$13,000. Finishing off the remaining tasks will probably add a couple of thousand more, and we plan to someday add a small addition so we can move the sawdust toilet indoors. When we get water we would also like to add a shower (really living large now).

At this point the main cabin is a livable structure. We built a small tool shed/outhouse with a sawdust composting toilet then a 20-foot by 30-foot pole barn for storage, with an attached 10-foot by 30-foot covered area for firewood and to house our future water storage from a planned rainwater collection system.

Over the 2011-12 winter we started planning our second off-grid cabin. This was going to be a smaller 12-foot by 24-foot cabin with two rooms on the first floor and a sleeping loft on the second, overlooking the main living area. The idea was that guests who come to visit would have the option of sleeping indoors rather than in a tent.

Just like the original cabin, building an affordable well-built structure was our main goal. We had also learned a couple of things since that first build. We designed and built this one ourselves. We built all doors, planed our interior wallboards, milled from our timber, and found all windows discarded in the trash.

We are still in the process of finishing the interior of the guest cabin, but have had guests stay over the past year. At less than 500 square feet, with the sleeping loft it cozily sleeps six.

The guest cabin is also heated by wood. This stove is a nice sealed unit donated by a family member. Compared to the older stove I use, it burns much less wood. We had the local Amish again build us a double wall chimney, which we installed. All the

chimneys have an easy to clean design that allows us to clean them from the bottom (a huge plus).

For now the floors of the guest cabin are painted plywood and we still have not decided what we will do in the end with them. This is a cabin where most people don't remove their boots when entering, so we need something that will stand up to that along with the heat fluctuations that come from a building that is not heated throughout the winter.

We plan to add a small 12V DC solar power system to provide lighting, but have been getting along with kerosene, propane and Coleman fuel lanterns. The kitchen area consists of a small hand-built cabinet and countertop with a kerosene Butterfly cook stove.

On this cabin we thought ahead a little and added a small closet that has a sawdust toilet. Guests looking for more privacy can use the nearby outhouse.

The guest cabin, being smaller and more primitive, we were able to keep the costs down. So far we estimate that we have spent around \$3,000 and will probably spend an additional \$1,000 before we are finished. (Are you ever really finished?)

For us, off-the-grid living is a weekend and summer vacation getaway. Working 7-5 in a windowless office on a computer all day would drive anyone to seek a little unplugged time.

Our off-grid adventure started so innocently. We were going to build a small single-room cabin with just a woodstove and lanterns for light. Then we got started and had so much fun building, we haven't stopped. But we are approaching the point where new buildings are not needed and we're looking for additional projects.

In the short term, adding an orchard and gardens along with digging a pond. Long term...I don't think in long term very well...let's just get through the short term. ☺

You can follow my progress on YouTube at <http://youtube.com/buffcleb>, our blog at www.bethnchris.com and Facebook <http://facebook.com/buffcleb>. Most of the projects mentioned above were covered in detail on either our blog or YouTube. Chris Bordeleau [Chris@bethnchris.com]

Is Homesteading Important to Kids?

Part 1 of 2: Youth and Homesteading

BY ALEXIS
GRIFFEE
WATCHTOWER FARM

THERE IS NO DENYING the fact that we live in a digital age. This can be a blessing or a curse. As parents, this presents a new challenge as we seek to keep our children educated in the modern world, without forsaking the knowledge and ways of homesteading. While some video games and electronics can be educational, for the most part they are emotionally starving our children. Friendships are only made through a computer screen, and emphasis is placed only on winning (often through violence). We are raising a generation of kids who lack the ability to function emotionally in a world that exists



outside of a computer. Getting our youth involved in homesteading is about far more than preserving our heritage, knowledge and self-reliance, but it is about teaching our children moral lessons, how to manage emotions and get involved in real life.

The need of getting our youth to unplug and get back to roots is painfully obvious when you review the USDA Census of Agriculture data. Current farmers are aging, while the number of farmers in the United States under 25 years of age has declined by almost 50% in five years. Not only is this data alarming for the large farm producers, but also for the small farmers and consumers. With the decline of farmers, the food produced and the land used for farming will also continue to decline. Knowledge of growing and raising

your own food is already important, but soon it is going to be vital.

How do we combat this digital epidemic and educate youth that are so out of touch with homesteading and agriculture that they think “energy drinks” are their own food group and eggs grow in cartons in the grocery store? Numerous factors create added challenges when it comes to balancing the old with the new. Out of concern, parents can have a tendency to force things on their children and create resentment. At the same time, society and peer pressure is telling their children that digital is better and we need to forget the “ways of old.” We need to get youth actively engaged in homesteading, not just force them to simply appease us as parents.

Parents often want their children to follow in their footsteps. It gives us pride to see our kids doing what we did, and generally surpassing our achievements. However, we have to realize that not every child will be the same. One of the fastest ways to discourage a child in anything is to force them into something that they are not inspired to do. Some kids may find that their heart lies in working the land, while others may enjoy the livestock aspect of homesteading and farming. Due to physical limitations, some children may not be able to raise livestock or farm, but they can still learn and offer other skills that will benefit them, and others, in the future. All of these endeavors are valuable to the future and important. Often kids will start with one project and as they learn and grow, so will the knowledge that they seek.

Personally, my son first started with poultry and now has a steer that he is showing. Children will often start where they are comfortable and bloom from there *if* we provide them with fertile ground to grow.

We must remember to not discourage “gateway activities!” Everyone who has a homestead knows how one thing always leads to another. If your child is fascinated with poultry, and you have aspirations of raising cattle with them, be patient and encouraging. As your child grows in age, knowledge and curiosity, so will their desire to learn and do more. Along with this, we must also remember to keep our children’s involvement age appropriate. You simply cannot expect a 3-year-old to be able to halter break a 600-pound steer. Although young kids have great aspirations and determination, you have to be mindful of their abilities. Giving a child more than they can handle is setting them up for not only failure, but resentment of anything associated with that experience.

Nothing is more discouraging to a child than being forced to do something that they aren’t ready for emotionally or physically. Children have a built-in curiosity and draw to the natural world, we simply have to know how to let them show us where their interests lie and then be prepared to foster that.

There is a great value in involving your children in organizations like 4-H and FFA. Both of these groups are time-tested and are backed by generations of successful farmers and homesteaders. Aside from having leaders and teachers who are trained by these organizations in how to introduce your kids to homesteading, they offer

camaraderie. Children inspire each other, and when they are a member of a group with similar interests, they will naturally grow. This is a great way to combat peer pressure. Society often tells children that they need to follow this or that digital trend to be “cool.” Children have a natural desire to be accepted and to fit in. Surrounding them in a positive group setting that focuses on agriculture will provide them the friendships and acceptance that they crave in a supportive and supervised environment.

Another great benefit to these programs is that you do not have to be an expert to teach your children these things. There are leaders, teachers and tons of material on the subjects that have been created by experts over the years of service within these groups. While some of the material can be purchased, a great majority of

One of the fastest ways to discourage a child in anything is to force them into something that they are not inspired to do.

it that is online for free. Personal budget, nor your own lack of experience, should dissuade you from getting your children involved!

The number one secret to raising a child that unplugs and digs in is you as a parent. Whether or not they admit it, children crave the attention and approval of a parent or a parental figure. If you are supportive (not pushy—there is a difference) and involved, then you will see your children bloom. As a 4-H leader, I see many different families and scenarios. The families where the parents are supportive and involved are the ones where the kids flourish and have an unquenchable desire to tackle their next project.

On the flip side, we know that not every child fits the model of the nuclear family, and that is ok.

Often times there are grandparents or other relatives that take over this role. Additionally, this is why it is vital for community involvement. Even if you do not have children, or your own children are grown and gone, I challenge you to get involved and be a mentor. Knowledge and a desire to guide future generations does not necessarily come with the title of “mom” or “dad.” Even if you do not feel that you are knowledgeable enough to be a leader or teacher in a group like 4-H or FFA, they are always in need of volunteers! It is through volunteers that help with the “mundane” that these groups and their leaders are able to get out and be an advocate for agriculture within the community.

There are numerous benefits to living in the digital age. However, as with anything, there has to be balance. We must learn how to speak to our children in a way that will engage, encourage, and inspire, yet

not belittle them and the world they know. This is one situation where it will take a village to get the children of this generation back in tune with homesteading. We are experiencing a situation unlike anything we have seen before where our kids are caught in a tug of war between the “ways of old” and “progress.” Our children are on the front lines and it is our duty to arm them with knowledge and choices. It is up to all of us to preserve the ways and knowledge of homesteading. We may know how to grow a crop or livestock, but we must remember to put that same effort into growing our future through our youth. ☺



Full Moon Names and Meanings

BY SHIRLEY
KELLY
COLORADO

FULL MOON NAMES date back to Native Americans, of what now is Northern and Eastern United States. The tribes kept track of the seasons by giving distinctive names to each recurring full moon. European settlers followed that custom and created some of their own names. Since the lunar month is only 29 days long on the average, the full moon dates shift from year to year. Have you had the time to look outside when the moon is full? Fall and winter moons appear to be radiant, and most of the time the skies around are luminary with stars and planets.

FULL WOLF MOON JANUARY

Amid the cold, deep snows of midwinter, the wolf pack howls hungrily outside the Indian villages. Thus the name of January's full moon. Sometimes it was also referred to as the Old Moon, or Moon After the Yule. Some called it the Full Snow Moon, but most tribes applied that name to the next moon.

FULL SNOW MOON FEBRUARY

Since the heaviest snow usually falls during this month, native tribes of the north and east most often called February's full moon the Full Snow moon. Some tribes also referred to this Moon as the Full Hunger Moon, since harsh weather conditions in their area made hunting very difficult.

FULL WORM MOON MARCH

As the temperature begins to warm and the ground begins to thaw, earthworm casts appear, heralding the return of robins. The more northern tribes knew this moon as the Full Crow Moon, when the cawing of crows signaled the end of winter; or cover becomes crusted from thawing by day and freezing at night. The Full Sap Moon, marketing time of tapping maple trees, is another variation. To the settlers, it was also known as the Lenten Moon of winter.

FULL PINK MOON APRIL

This name came from the herb moss pink, or wild phlox, which is one of the earliest widespread flowers of spring. Other names for this month's celestial body include the Full Sprouting Grass Moon, the Egg Moon and amongst the coastal tribes the Full Fish Moon, because this was the time that the shad swarm upstream to spawn.

FULL FLOWER MOON MAY

In most areas, flowers are abundant everywhere during this time. Thus, the name of this moon. Other names include the Full Corn Moon, planting moon, or the Milk Moon.

FULL STRAWBERRY MOON JUNE

This name was universal to every Algonquin tribe. However, in Europe they called it Rose Moon. Also because of the relatively short season for harvesting strawberries each year

during the month of June...so the full moon that occurs during that month was christened strawberry!

THE FULL BUCK MOON
JULY

July is normally the month when the new antlers of buck deer push out of their foreheads in coatings of velvety fur. It was also often called the Full Thunder Moon, for the reason that thunderstorms are most frequent this time.

THE STURGEON MOON
AUGUST

The Sturgeon, a large fish common to the Great Lakes and other bodies of water are mostly easily caught during this month caused by a frequently sultry moon. August also prompted a few tribes to call it "The Red Moon, Green Corn Moon or Grain Moon."

THE HARVEST MOON
SEPTEMBER

Many of the Native American tribe's staple foods, such as corn, pumpkins, squash and beans are ready for gathering at this time. The strong light of the Harvest Moon allowed the American Indians and pioneer farmers to work late into the night to harvest their crops. The Harvest Moon does not always occur in September. Traditionally the name goes to the fullest moon closest to the Autumn equinox, which falls during October once or twice a decade. Sometimes September was also called the Corn Moon.

THE HUNTERS MOON
OCTOBER

After fields have been reaped, and most of the leaves have fallen from the trees, the deer are fat and ready for eating. Hunters can walk or ride over the fields of stubble and the game is plentiful. Some years the Harvest Moon falls in October instead of September.

FULL BEAVER MOON
NOVEMBER

This was the time to set beaver traps before the swamps froze, to ensure a supply of warm winter furs. Another interpretation suggests that the Full Beaver Moon comes from the fact that the beavers are now actively preparing for winter. It is sometimes also referred to as the Frosty Moon.

THE FULL COLD MOON OR THE FULL LONG NIGHT MOON
DECEMBER

During this month the winter cold fastens its grip, and nights are at their longest and darkest. It is also sometimes called the Moon before Yule. The term Long Night Moon is doubly appropriate name because the midwinter night is indeed long, and because the Moon is above the horizon for a long time. The midwinter full Moon has a high trajectory across the sky because it is opposite a low Sun. ☾

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Poor Will's COUNTRYSIDE Almanack

Early and Middle Autumn of 2015

BY W. L. FELKER

The garden air
is full of the sound
of crickets, the
year's clock made
audible, ticking
off the days.

— ROBERT FINCH

THE SUN'S PROGRESS

The sun reaches equinox at 3:20 a.m. on September 23, entering Libra at the same moment. October 23 is Cross Quarter Day, the halfway mark between autumn equinox and winter solstice. The sun enters Scorpio at the same time. Daylight Savings Time ends on Sunday, November 1.

THE MOONS OF EARLY AND MIDDLE AUTUMN

SEPTEMBER

- 5: The Windfall Apple Moon enters its final quarter at 4:54 a.m.
- 13: The Orbweaver Moon is new at 1:41 a.m.
- 14: Lunar Apogee
- 21: The moon enters its second quarter at 3:59 a.m.
- 27: The moon is full at 9:50 p.m.
- 27 - 28: A total eclipse of the full moon (at perigee, its position closest to Earth) is visible in most parts of North America from about 8:15 p.m. until 1:15 a.m. Check local media for exact times

OCTOBER

- 4: The moon enters its final quarter at 4:06 p.m.
- 11: Lunar Apogee
- 12: The Deer Mating Moon is new at 7:06 p.m.
- 20: The moon enters its second quarter at 3:31 p.m.
- 26: Lunar Perigee
- 27: The moon is full at 7:05 a.m.

THE PLANETS

Throughout middle autumn, four major lights shine in the east before sunrise. The largest is Venus. The red one is Mars. The twinkling one (the only star in the group) is Regulus, the keystone star of Leo. That means the other

prominent light is Jupiter. Saturn remains hugging the western horizon at dusk.

THE STARS

Throughout the evening, the setting of the Corona Borealis and Hercules mark the closing of tomato and zucchini seasons throughout most of the country. The Summer Triangle, almost overhead, turns leaves red and gold throughout the northern half of the United States. Far on the eastern horizon, the Pleiades are rising, promising full leaf-turn, then leaf-fall, then winter.

THE SHOOTING STARS

October 2 - November 7 (especially on the night of October 21-22): Look for the Orionid meteors after midnight near giant Orion.

METEOROLOGY

Weather history suggests that cold waves usually cross the Mississippi River on or about the following dates: September 2, 8, 12, 15, 20, 24 and 29; October 2, 7, 13, 17, 23, and 30.

A CALENDAR OF HOLIDAYS AND SPECIAL OCCASIONS FOR HOMESTEADERS

September 7, 2015: Labor Day
September 13 – 15, 2015: Rosh Hashanah: Jewish New Year
September 23-24, 2015: Eid Al-Adha: (Festival of Sacrifice)
September 27, 2015: Harvest Moon Festival, Chuseok: Often observed by Korean Americans and others of Asian descent.
October 13 – 22, 2015: Navaratri/Navadurgara: This Hindu feast honors the goddess Durga.

THE ALMANACK DAYBOOK

SEPTEMBER

- 1: Check the average killing frost date in your area, then subtract 30 days for light frost, and 30 more days for the chance of a slight frost.
- 2: Explore the Jewish market in your area for Rosh Hashana sales.
- 3: Milking records remind you which animals produce the most milk over the longest time.
- 4: Schedule fall pasture improvements. Consider a green manure crop for the garden.
- 5: Review last year's winter feed costs per animal and estimate your expenses this year.
- 6: Peak health and nutrition at breeding time contributes to the production of twins.
- 7: Labor Day is time for lamb, chevon or chicken from the farm for the last big barbeque of the summer.
- 8: Explore the Asian market near your homestead to support the Chinese Harvest Moon Festival and Chuseok.
- 9: Temperatures, which began to cool at the pivot time of August 10, now decline more noticeably throughout the country.
- 10: Worm your livestock while the moon is dark.
- 11: The 13th is NewMoon day, the beginning of some of the best days in early fall for planting and transplanting.
- 12: Today marks the start of a decline in percentage of daily sunshine.
- 13: The more carefully your estrus cycling records are kept, the less guess work will be involved in calculating the lactation period of your herd and flock.
- 14: Your livestock can graze an area close now, and then you can fertilize and seed those fields in

- early spring with a legume.
- 15: Cull livestock as feed and costs dictate.
 - 16: Make final preparations for the Halloween market: pumpkins, gourds, Indian corn and more.
 - 17: Goats love apples, but be careful of other autumn windfalls: oak leaves, acorns, peaches, and plums may be harmful to your herd.
 - 18: Late producers like oats, and summer-seeded brassicas could extend your pasture season next year.
 - 19: If you have a doe with a long lactation cycle, consider milking her for another year. She might continue to give milk for six to 10 more months without rebreeding.
 - 20: Pollen season declines quickly after the passage of this equinox weather system.
 - 21: Segregating your herd and flock into feeding groups according to their different nutritional needs can help ensure that each group gets the kind of feed mix it needs.
 - 22: Check the weight of animals about to be bred and adjust feed as needed.
 - 23: The demand for goat milk rises in the fall, and prices start to rise too, remaining at their best through the winter months.
 - 24: After the September 24 high moves east, light frost occurs more often than at any other time up to this point in September.
 - 25: If you ran out of forage in mid-summer, try putting in more Bermuda grass.
 - 26: The moon is full tomorrow. As it wanes through the next two weeks, plan to dig in spring bulbs. Keep the ground moist to encourage autumn growth.
 - 27: Tomorrow's Full Moon increases the likelihood that the final front of September will be potent. Don't forget the lunar eclipse tonight.
 - 28: Schedule garlic planting as the moon wanes.
 - 29: Average temperatures now start to fall at the rate of four degrees per week in most of the United States and Canada.
 - 30: When streaks of scarlet appear in the oaks and shades of pink in the dogwood trees, then cut gourds, winter squash and pumpkins for winter storage.

OCTOBER

- 1: Test your soil after harvest and fertilize as needed.
- 2: The two mornings following the first October weather system are the most likely to bring a damaging freeze so far in the season.
- 3: Do your Thanksgiving turkey

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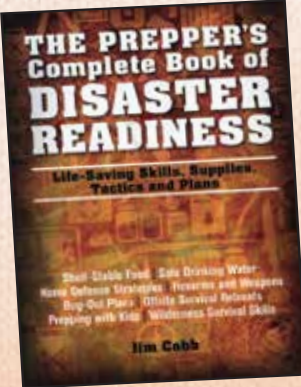
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marketing now. Have your turkeys all placed before the leaves turn!

- 4: And check sludge depth in septic tanks before the weather turns much colder.
- 5: Explore the Hindu market in your area as Navartri approaches (beginning on the 13th).
- 6: Autumn is a good time to examine your horses for bot eggs. Check the sheep and goats, too!
- 7: When leaves reach peak color, then mating season begins for the white-tailed deer.
- 8: Plants and bulbs intended for spring forcing should be placed in light soil now and stored in a place where temperatures remain cool (but not freezing).
- 9: When maple leaves are down, then plant crocus, daffodils, tulips, snowdrops, and aconites.
- 10: The October 10 cold front almost always brings in a chillier and more dramatic sub-season of autumn known as Middle Fall.
- 11: Finish picking peaches, then harvest potatoes, fall apples, sugar beets, grapes, dry onions, corn, soybeans and sunflowers.
- 12: Barn swallows fly south.
- 13: As the moon waxes, bring in the honey from your hives (leaving plenty for the bees).
- 14: Colder ground temperatures (in the 40s and 50s) combine with a reduction in the average amount of daylight and sunlight this month to bring an end to the grazing season.
- 15: Dig and store your caladiums, dahlias, tuberous begonias and gladiolus bulbs before the ground freezes.
- 16: Cut and strip tobacco.
- 17: When the soft heads of cattails start to break apart, then complete autumn pruning of trees and shrubs.
- 18: Add barley to the feed of does most likely to abort or which have been under unusual stress.
- 19: When the night temperatures drop below 50, feed sugar or corn syrup to beehives that need it.
- 20: The whether market is typically strong in the fall; hobbyists and larger goat herders now move their neutered kids born in March and April to regional buyers.
- 21: Look for the Orionid meteors in Orion after midnight.
- 22: Animals which can be kept at relatively low cost in the summer turn out to be much more expensive as pastures become dormant.
- 23: Treat for external and

internal parasites as livestock comes in from pasture.

- 24: When the burning bush is completely red, then snow becomes a possibility.
- 25: Heaping leaves around kale and collards can often keep these hardy vegetables alive through numerous heavy frosts.
- 26: When the first killing frost takes the peppers and tomatoes, then dig up the onions, remove the mum tops, cut flowers and herbs for drying.
- 27: Full Moon day! Expect cold, wind and maybe even snow.
- 28: Frost can alter the chemical makeup of grasses and alfalfa, turning them poisonous to many animals.
- 29: Remove tops from everbearing raspberries.
- 30: Daylight Savings Time ends on November 1. Make a gradual feeding transition from Daylight Savings Time to Standard Time.
- 31: The budding of last year's Christmas cacti is a marker for planting amaryllis and paperwhite bulbs for mid-December blooms.

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
September 1 - 4:	Midnight to Dawn;	Afternoons
September 5 - 13:	Mornings;	Evenings
September 13 - 20:	Afternoons;	Midnight to Dawn
September 21 - 26:	Evenings;	Mornings
September 27 - October 3:	Midnight to Dawn;	Afternoons
October 4 - 11:	Mornings;	Evenings
October 12 -19:	Afternoons;	Midnight to Dawn
October 20 - 26:	Evenings;	Mornings
October 21 - 27:	Midnight to Dawn;	Afternoons
October 28 - 31:	Mornings;	Evenings

WINNERS OF THE JULY - AUGUST SCKRAMBLER

As of my deadline to COUNTRYSIDE, 33 correct responses had been received to the July-August Sckrambler. A prize of \$5 was promised to 1st, the 10th, the 25th, the 66th and the 130th person to return the correct Sckrambler solution. Kimberly Russell of Eureka, Nevada, was the

first; Goeffry Hallstead of Canandaigua, New York, was the 10th, and Susan Fischer of La Vergne, Tennessee, was the 25th. If a 66th and 130th solution arrive before the answers are printed, those players will also win a prize.

ANSWERS TO THE JULY-AUGUST SCKRAMBLER

EMHOSTDAE	HOMESTEAD
SOUHE	HOUSE
ABNR	BARN
LELW	WELL
UPPM	PUMP
DRGANE	GARDEN
HEEPS	SHEEP
ATSGO	GOATS
RBBTSAI	RABBITS
ELTATC	CATTLE
GOHS	HOGS
ROHSSE	HORSES
SHIFDPON	FISHPOND
URFIT EESTR	FRUIT TREES
MAFYIL	FAMILY
POEH	HOPE
OWKR	WORK
RTCRTAO	TRACTOR
CUKRT	TRUCK

THE SEPTEMBER-OCTOBER SCKRAMBLER

If you are the 1st, the 15th, the 45th, the 56th or the 99th person to return your correct Sckrambler solutions by my deadline of October 10, you will win \$5. There should be no typos in this puzzle, and no typo prize will be awarded. If you happen to find a typo, however, you may simply skip that word without penalty. Send your entries by regular mail (postcards preferred) to Poor Will, P.O. Box 431, Yellow Springs, OH 45387. The names of any winners whose correct responses are received after my deadline to COUNTRYSIDE will appear in a later issue.

EBSE	UENEQ
VIEH	LEIV
NEYHO	UPRES
TIMES	EMARF
ORDOB BXO	KOMSRE
NTISG	WSRAM
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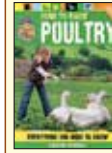
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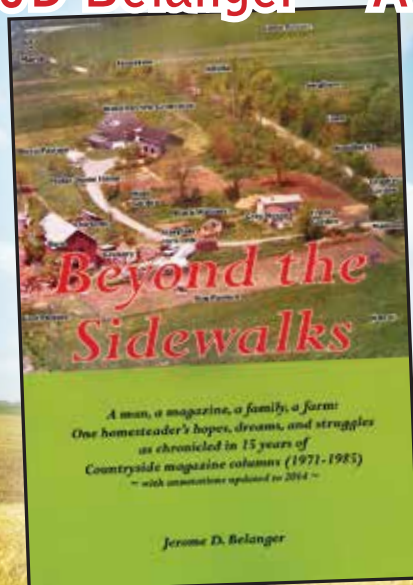
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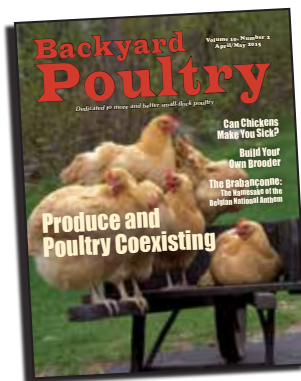
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“Gun control? You won’t believe their plans for food...”

Bad News...

Washington has an agenda, and it’s MORE than just your guns and ammo.

They think people like you and me are a bit “odd.” They don’t understand why we keep firearms and a food stockpile in case of crisis.

But those people are just hiding their heads in the sand. They are dead wrong -- and **you are dead right.**

You’ve seen the evidence and you know the situation is way too serious not to do something about it. When a crisis hits, you’ll be ready. You’ll make darn sure your family won’t go hungry.

The fact is, if you don’t take action or if you stockpile the wrong foods, you could be setting your family up to starve. It sounds harsh, but the truth is too many people with good intentions are making critical mistakes with their food stockpiles.

Mistakes like...

- ▶ Buying MREs (meals ready to eat) with a 5 year shelf life (depending on where you buy them, they could be nearly expired)...
- ▶ Getting gross survival foods that taste terrible and are so high in salt, MSG and preservatives you could clog your arteries and get yourself sick...
- ▶ Or simply buying the wrong foods and leaving a critical hole in your meal plan, which means your family can become malnourished...

Well, I decided to stop worrying. Obviously, waiting for the government to give me a handout in a disaster just wasn’t an option for me. And I was completely turned off by the crazy prices of survival food sold by most stores.

So I got in touch with my buddy Frank Bates and put my order in for his Food4Patriots survival food kits.

This is Frank’s new line of survival food:

- ▶ **Food4Patriots is an incredible value.** This high quality survival food is without any fillers or poor-quality “franken-food” that the other guys use to pad their survival meals. They are made and packaged right here in the U.S.A. You won’t believe the prices on these kits – a fraction of the price that other brands charge.
- ▶ There’s no fancy packaging, it’s military-grade sturdy stuff and can stand up to the crazy things that happen in a crisis. This food has a **shelf life of up to 25 years**, so you have complete peace of mind for the long term. And he’s using the most compact kits so you can store them anywhere in your home without any extra hassle. They’re sturdy, waterproof and stack easily. And extremely covert too.
- ▶ You can make these meals in less than 20 minutes; just add boiling water, simmer, and serve. I tried ‘em and I think they **taste as good or better than any other survival food I’ve EVER had.** And you get a whole slew of choices, including breakfast, lunch and dinner so you don’t get stuck eating the same thing day-in and day-out.
- ▶ Frank has come up with some impressive FREE bonuses that are ONLY available to folks who purchase one of his kits on a first-come, first-served basis. For example, my 3-month kit came with 5,400+ heirloom survival seeds, 4 hard copy books, an 11-in-1 survival tool, and some other cool stuff.



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I want to make sure you don’t miss out on this because **this is the #1 item to hoard today.**

Here’s why... If you don’t take action to get your food stockpile right now, you’ll be in the same boat as the brainwashed masses who think “everything is fine.” And if a crisis hits and your family asks, “What are we going to eat?” your mouth will go dry and you’ll feel powerless.

But what if you decide right now to secure your food stockpile instead? Just **imagine how much better you’ll feel right away.** And if a crisis hits and your family asks, “What are we going to eat?” you’ll calmly reassure them that they’re safe and they will have plenty to eat.

Listen, I can’t predict the future. I don’t know exactly when or how a crisis will hit. But from everything I see, it could be soon and it could be a big one. That’s why I really want you to get the same peace of mind that I do.

P.S. Got a call from Frank and you’ll never believe who just tried to buy up his entire supply of food! You’ll be shocked!

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