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FEATURED PHOTO



This bird appeared at my bird feeder recently. It wasn't until I heard it sing that I identified it as a chickadee. —Ruth Zook, Pennsylvania

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My 2-year-old Boston Terrier comforts a newborn baby goat in front of the woodstove. I brought the goat inside to recover from single digit temperatures when its mother couldn't take care of it. —[Kathy LeFevre, Nevada](#)



My Plymouth Barred Rocks the first time they saw snow. They didn't want to step in it, so they hopped on the wheelbarrow so they could see without getting their feet cold! —[Beti Spangel, New York](#)



"Horses in the Snow," taken at Wind River Ranch in Estes Park at Christmas while visiting friends. —[Alethea Wilcox, Colorado](#)



My 16-month-old daughter enjoying some winter sunshine with our chickens. —[Susan Sepeoski, New Hampshire](#)



This is Captain Jack and Sadie. These unlikely friends are actually best friends. They belong to my daughter. —[Wanda Forehand, Arkansas](#)



This girl's name is Bonnie here on White Eagle Ranch in Virginia. —[Alex Kamwell, Virginia](#)

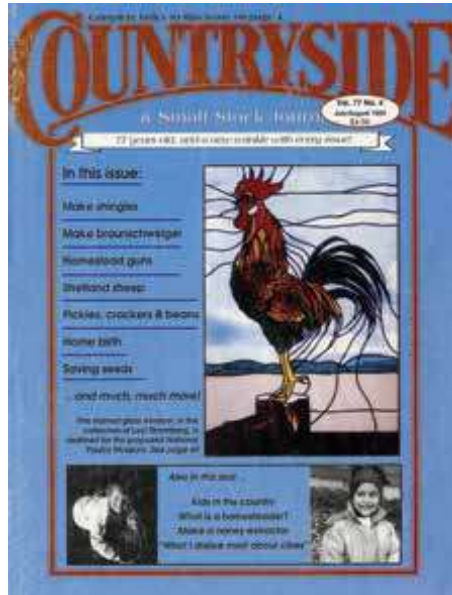
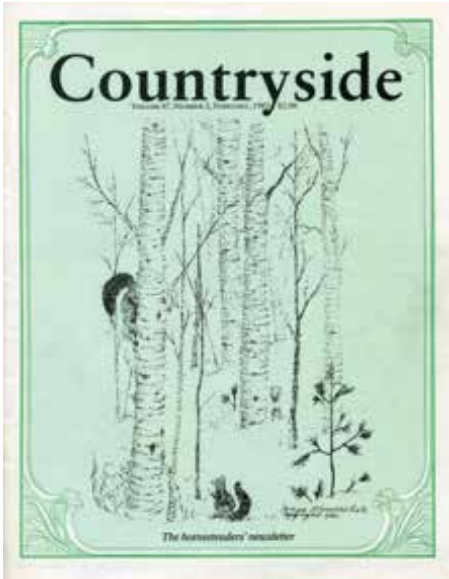
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watching the
first snowfall of
the year.

— Dan
Rinehart,
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In 1917 ...

To me, 1917 is our year of independence. When the government enacted the Federal Farm Loan Act, which established 12 regional loan banks where small farmers could borrow up to 50 percent of their land's value, and Congress passed the Stock-Raising Homestead Act that provided settlers in the West 640 acres of public land for ranching purposes, small farmers suddenly had security they could only dream about a year earlier.



That same year, a family of homesteaders in Wisconsin started Small Stock Magazine, and as homesteaders settled in the West's cracked desolation and small farmers spread throughout the country, so did our small group of live-stock magazines. A half-century later, COUNTRYSIDE magazine started, and a community of like-minded individuals began to connect through its inky pages. Goat farmers met rabbit farmers, and pretty soon, wheat farmers were weighing in. The issues were not just about seed and slaughter. They involved all aspects of life. In the 70s, we published several essays by women lamenting their place on the homestead, the toil and work, the envy of the man on machine, and today, their quest for equality continues. More than one man wrote about watching their children leave the family homestead to move into cities, and how at times, they felt abandoned. This collection of history, of your creations, vulnerabilities, tragedies and joys, has stood time's withering test. To honor them, we published as many as we could in this issue's cover story.

Of course these come with a disclaimer. It is always dangerous to select and filter history, so I know a few of the talented homesteaders and writers who have contributed through the years were left out. To them, I also want to say thank you. It is not because your work is unappreciated.

Thanks again for reading and contributing. Because of all of you, the next 100 years is looking up.

RYAN SLABAUGH
Editor, COUNTRYSIDE

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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A First Time Homesteaders View of a Country Lifestyle

COUNTRYSIDE: When we first moved out to the country I was surprised at the number of city folks who wanted to know exactly what I was going to do to fill my time each day. I had thought it a strange question then and an even stranger question now. Could it be that my productivity was in question? Were they thinking that all the vegetation around me would somehow filter into my mind and it would collapse into a vegetative state?

Nothing could have been farther from the truth.

Productivity can take on many forms. One definition of productivity is to be creative.

Since moving to the country nine years ago, I have spent the winter months writing books. I have written three books and had them published. My latest book, *Country Wit and Wisdom*, deals with our adventures as first-time homesteaders.

Productivity can also mean fertile such as a productive land. Since my husband loves to garden, each year we expanded our garden little by little and now we have reached a point where we supply much of our own organic produce. We preserve our produce so it will last from harvest to harvest. We have added cows and chickens to our homestead for a supply of meat and

eggs. We even have planted a few fruit trees. I would have to say that we are productive people.

The city folks were not the only ones with questions about our move. Country folk had a few questions of their own. So are you the type of person who can problem solve? How about doing manual labor and working with your hands? You're going to need that out here. Not many mechanics around, the same goes for plumbers and electricians. We assured them that we were well suited for this task. My husband had built houses in a large metropolitan area, so plumbing and electrical were nothing new to him. He was already a novice backyard mechanic.

As first time homesteaders for everything we thought we knew there was a plethora of things we did not know. Our years of city living did absolutely nothing to prepare us for castrating a bull. It seemed like a very tricky business and one that should not be taken lightly. If not done precisely correct the repercussions could have grave consequences for all concerned. With this in mind and hat in hand we sought help from our neighbors who were far more experienced in animal husbandry. They were very gracious in sharing their knowledge with us and even offered to give us a live demonstration using our bull. We readily accepted their offer. We have found that country folks will help you

provided they are not approached with arrogance. No matter how smart you are or think you are, you can always learn something from everyone you meet.

The little community around our homestead has a population of 600 people.

It is a town where most of the building on the square is a little more than 100 years old. They possess a certain charm and character lacking in modern buildings. One building still has the original tin ceiling intact. They honor the past and at the same time try and integrate bits of the current trends into it. We recently got our first baristas machine put into a commercial building.

I must admit that our social life takes on a really different form from city folks.

No one in our little community has to strive for recognition. Everybody knows your name. Our school goes from pre-school to 12th grade. Total enrollment is about 110 students in the whole school. The one and only gas station in town is where most of the people connect one on one. It is also one of two places to eat in town and this is where people come to dine. We tend to talk more face to face rather than by cell phones.

Besides, at certain places in town cell phone reception is non-existent.

Once a month during summer we

do have summer concerts right out in the middle of town on the square. Local groups come to entertain us for free. We rope off the square and sit in the middle of the street in lawn chairs. There is also an open-mic portion for those who want to sing. They even accommodate people like me who cannot sing a lick but love to tell jokes. So we can come and both be entertained and be part of the entertainment.

We have come to truly enjoy country living. The country life is one of constant challenges to keep you on your toes and enough antics to keep you amused. The self-sufficient lifestyle also propels you toward a life of gratitude for all the things you possess. We tend not to take things for granted anymore. We savor each and every day of our lives.

Grace Ann Neuharth
Kingston, Arkansas

It's true. There's nothing like the feeling a small town with good character can give you. If you like this, Country Wit and Wisdom by Grace Neuharth is now available on Amazon.com.

Thanks to Ryan Moore

COUNTRYSIDE: I want to applaud and thank Ryan Moore for expressing the views of many longtime readers.

I discovered COUNTRYSIDE, along with the then great magazine *Mother Earth News*, back in the 1970s. Through the years I've witnessed the decline, and sometimes death of many magazines, but not COUNTRYSIDE. It remained the reader-written magazine it started out to be. It's readers were a "community of like-minded individuals." COUNTRYSIDE would not let me down!

On a closet shelf I have a box of letters from COUNTRYSIDE readers offering friendship and support while I was going through a difficult time. Does this still happen?

I don't believe Jd Belanger sold the magazine with the intention of "selling out" his faithful readers. However, some of us may feel he has done that.

Again, thank you Mr. Moore!

Wilma Hinman

We Lose A Reader

COUNTRYSIDE: I have copies of COUNTRYSIDE dating back to 1986, so perhaps I've been subscribing that long. I mourn the loss of what COUNTRYSIDE was (unique and special), and despise what it has become (crass and ordinary). I won't be re-subscribing.

John Blum
Custer, Michigan

We Keep A Reader

COUNTRYSIDE: I'd like to put in my two-cent's about your new layout. It's like getting a new dress, some people like the fashion statement and some don't. I like new, once in a while. With that said, I would like to see more on canning recipes in the future. Keep up the good work.

Linda Nolan
Arkansas

Linda, we have good news. We have a whole canning series starting in 2016 to be researched and written by Gail Damerow. Thanks for the nudge.

No Snake Oil, Please

COUNTRYSIDE: I have been receiving your magazine for several years now, and have learned much from the information on those pages. If I went to college and graduated on the dean's list, yet could apply nothing I learned, did I really learn anything at all? I hope to one day put into practice the education I have received from you.

COUNTRYSIDE is the connective tissue between settling the land and sustaining a living from that land—the conjunctive between dirt and dinner plate. It is really not about the paper; it is the content on the paper that matters. For the quality of mentorship provided in CountrySide, I wouldn't care if you printed it on a napkin, as long as you keep printing it.

Minor hyperbole aside, I would be remiss not to mention a real concern of mine, one I see echoing in the comments of other readers: there appears to be an incremental progression of content geared toward the "Mother

Earth" crowd. The first COUNTRYSIDE publication I picked up drew me in with an article of a 9-year-old dressing out a rabbit. Now, too many articles contain words like "environmental advocacy" and "social justice." The last couple of issues contained articles by Becky Rupert in which she postulates, "alternative medicine holds a very important place in homesteading." Granted, an alternative to medicine is what homesteaders and Grandma had in mind with things such as cottonwood balm, charcoal antidotes, or even rosehip tea—not this "holistic" Kool-Aid.

A U.C. Berkeley Wellness Letter warned: "except for the ghostly molecules, homeopathic solutions may contain nothing more than water or alcohol. Thus, they are not likely to harm you. (Becky said as much.) But can they do you any good? Be wary of anybody—and any product—that promises to cure what no one else can." (U.C. Berkeley Wellness Letter, Sept. 1995, pp.4-5) "Holistic medicine" is sometimes spelled "wholistic" because it supposedly deals with the whole person: mind, body, and spirit—aha, spirit. What kind of medicine, which comes from a bottle, do you give the spirit?

Please keep our COUNTRYSIDE on par and free of duplicitous content—no snake oil, please.

James Day
Sikeston, Missouri

We love readers like James. The exercise we went through to create this issue—reading 44 years' worth of CountrySides—only proves James's point. While we can never replicate Jd Belanger—he was truly one of a kind—we can do our best to carry on the voice with which he started and built this magazine. And to that point, we promise never to sell snake oil, we promise. But we do promise to share all sorts of different points of view. You'll find all sorts of takes on medicine throughout our 44-year history. Truly, if there is one thing that COUNTRYSIDE is about, it is, "To each their own."

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GMO Discussion Needed

COUNTRYSIDE: It was with disappointment that I read the article by John Hibma, entitled; "More Pros Than Cons, Genetically Engineered Crops Divide the Food Movement."

The article made a meager attempt to list the pros and cons of GE crops at the beginning. It then proceeded to promote GMO crops according to the pro diatribe so often used by the promoters of GE crops.

First, there was tiresome unproven and exaggerated claim that GE crops can feed the world. Second, there was the token expert who wipes away all of our concerns with the mention of countless unnamed studies and then the demonization of all those who opposed them as incompetent. Last, those who are involved in requiring GMO labeling are discredited by being labeled as those that are only "emotional" or ignorance of plant breeding and its process.

The concluding statement throws out the dream of good for future humanity with this course.

I would have liked to see a serious discussion and not a promotion of GE crops. Let me list a few thoughts that I have as I read this article:

I do not understand why Dr. Margaret Smith and John Hibma have no concerns over the lack of biodiversity that the GE movement is creating. The Cavendish banana and the Irish potato famine have a similar problem—too much of one variety. Biodiversity is of great importance for the world and for avoidance of serious problems in agriculture, yet it is being ignored for profit.

I am concerned that the mantra that GE crops will feed the world is so easily thrown around. GE crops will do much to cause serious starvation and create more poverty in much of two-thirds of the world. Sustainable growing methods that the average couple in a village can reproduce without loans and cash can feed the world. I believe this because: Rodale Institute has documented that they can easily perform as well as GE agriculture while improving the ground.

I have seen, in my own growing with low tech-sustainable methods, that I need no other "progress," and in my travels, work, and study in and for several countries, I have seen what works to feed the world.

I am bothered by the methods used by this industry in our country and other countries. I see injustice being done to those who have no power to stop it. From what I have seen, the average person in the village will only suffer from the imperialism of the GMO industry that can buy off government officials in most countries.

I am concerned that the issue of a company owning the seed in my feed is not discussed. This serious threat to future freedom cannot be ignored. The people of Haiti burned many tons of GE seeds that they were given. Their response was that they did not want to be made slaves. Most farmers in the world know the value of owning your own seed.

I wondered why the article only compared GE agriculture to conventional agriculture. I would like to see a serious and balanced comparison of GE agriculture and sustainable agriculture. Documented would be best. I am not impressed that the studies promoting GE and discrediting the other side are cited without documentation.

I am curious to know who funds Dr. Smith's research and institution.

There are so many questions in this discussion that need to be brought to the table. I am not convinced that there is a desire for real discussion nor is there real concern for the health and welfare of our country or other countries. It smells like exploitation in the name of supposed progress with the desire to paste on all who disagree the label of ignorant. While the proven methods of a sustainable way that can meet the needs of all is ignored.

Paul F. Goodman

Unsafe Canning Practices?

COUNTRYSIDE: In the Nov/Dec 2015 issue of COUNTRYSIDE, Kay Wolfe states in her article "A Guide To Pre-

serving Tomatoes," that she doesn't add lemon juice to her tomatoes because "she only raises acidic tomatoes."

I would like to refer you and her to the Ball Complete Book of Home Preserving, which is an universally recognized standard of home canning, that states in its article on Tomato Essentials under the heading of Acidification: "Although tomatoes are classified as high-acid foods, they have a pH of 4.6, which falls very close to the dividing line between high and low-acid foods. Differences among varieties of tomatoes, growing conditions, their maturity, and how they are handled can cause their natural acidity level to vary. As a result, homemade tomato products must be 'acidified' by adding bottled lemon juice or citric acid before they are processed. We specify the use of bottled lemon juice rather than freshly squeezed because the commercial product has a known and consistent pH. Fresh lemons produce juice of variable acidity."

Further down in the same article under the heading of Heat Processing it also states in the last paragraph that: "Acidification is required for all jars of home-canned tomatoes, regardless of whether they are processed in a boiling-water canner or a pressure canner."

Regardless of what Ms. Wolfe chooses to do with her own family and her canning practices, I think that COUNTRYSIDE should make it clear to everyone that for safety's sake, all tomatoes should be acidified before processing. This is in accordance with USDA recommendations and Ball Blue Book, and other Ball publication guidelines.

Gary W. Brown
Mississippi

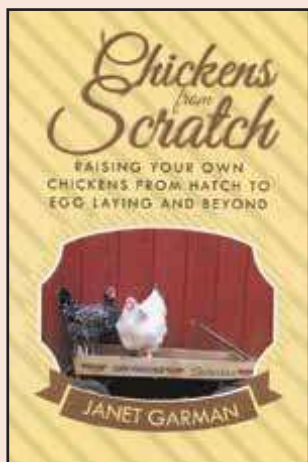
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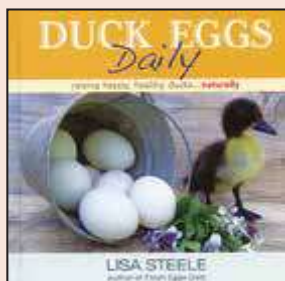


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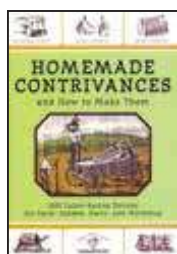


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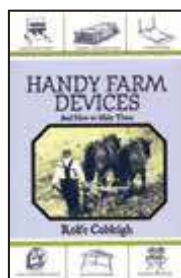


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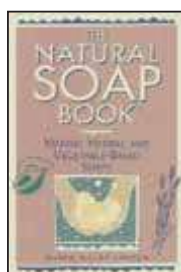


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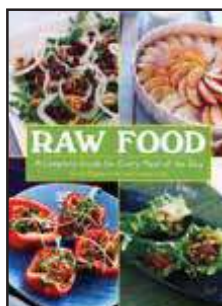


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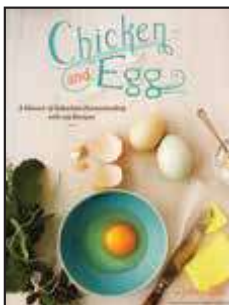


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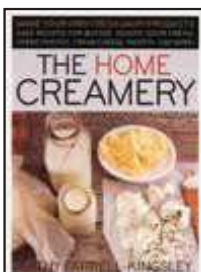


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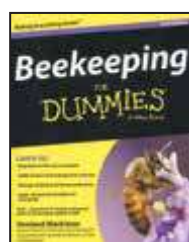


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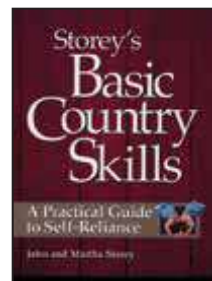


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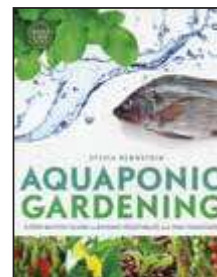


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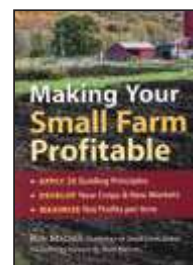
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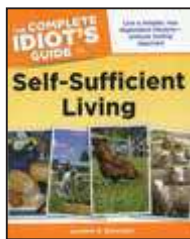


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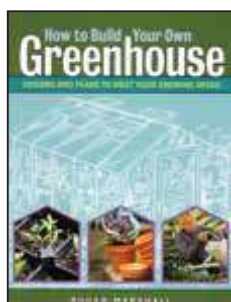


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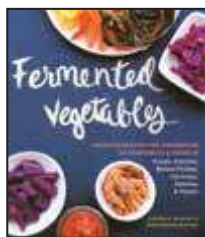
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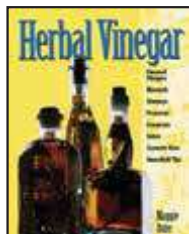


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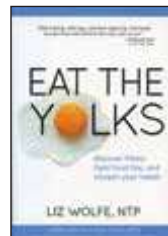


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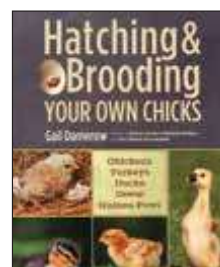


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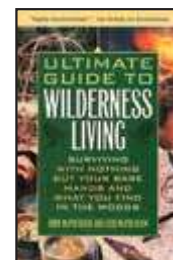


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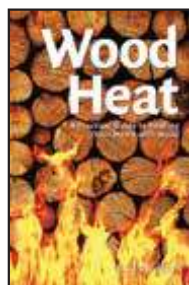


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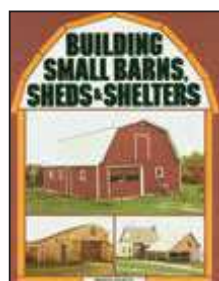


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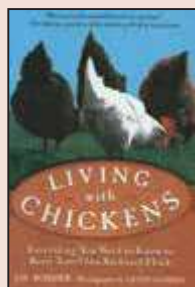


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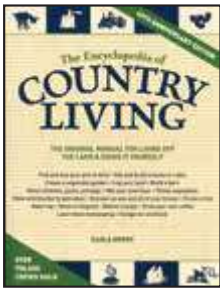
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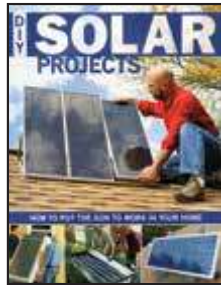


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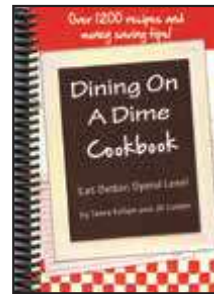


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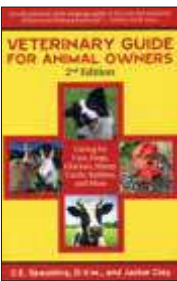


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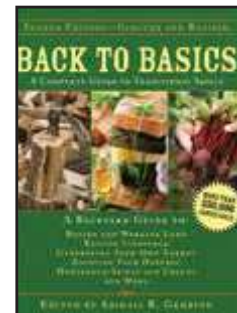
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BY
NANCY
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FARRIS

WHEN I WAS A CHILD, my dad always planted green peas in mid-March. We lived near Bingamton, New York.

When we moved to low-country South Carolina, Dad assumed we needed to plant our peas earlier. Local gardeners told him that “English peas” weren’t worth the bother.

Green peas don’t have a long period of productivity in my garden. I must sandwich this crop between wet, frosty nights of March and torrid days of May. Because I plan carefully for succession planting after the pea vines wither, that space produces something through most of the summer. Legumes have the unique ability to grab nitrogen from air and fix it into soil. Crops growing after the peas die—okra, tomatoes, or winter squash—happily soak up the extra nitrogen.

Snow peas start the spring season. I don’t consider a stir-fry complete without these lay-flat-on-your-plate pods. After trying several varieties, I now grow Norii (Park’s Seed Co.). Tender and sweet, these pods are delightful cooked briefly in a skillet, dressed with a dab of butter. They add authenticity to a stir-fry with bok choy and broccoli, seasoned with a splash of soy sauce.

Late in January, we spread a layer of bedding from the goat barn. Don (my husband) uses the rotary tiller to mix it into the soil. He repeats this step weekly to aerate the soil, so it will warm up and dry out. We usually get a winter storm in February; sometimes snow, more often sleet and freezing rain. After that, we can plant cold tolerant crops.

I provide support for my peas. If they grow on the ground, especially during a cool, rainy spell, the vines deteriorate. Besides, it’s easier to pick from vines that aren’t sprawled on the ground.

For shorter peas like Sugar Snap, Sugar Spring, Little Marvel and Laxton’s Progress, we use step posts, which are quick and easy

The newer Green Arrow has become our favorite. Though advertised as growing up to three-feet high, we have seen vines grow over the top of a five-foot fence.

to set. We fasten 30-inch poultry netting on the posts. For snow peas and for shelling peas like Green Arrow and Alderman, we set taller posts and use 60-inch utility wire.

After the fences are in place, we make deep furrows, about four inches away from the fence, spread compost at a rate of two pounds per 50-foot row (or I could sprinkle in a half-cup of 5-10-5 fertilizer) and cover that with an inch of soil. We then place the pea seeds and cover with about an inch of soil. If we had sandy soil, we would cover an inch and a half deep.

A few years ago, while cleaning up the garden, we left several tomato cages along the edge. On impulse, I planted a fall crop of snow peas alongside these tomato cages. To my delight, the peas quickly grew up the sides of the cages and began producing their bounty. That year, we did not get a killing frost until mid-December. The peas continued to bloom and bear through several cold spells with night temperatures below 30°F.

However, in February we had two days of ice and snow with night temperatures in the single digits. The snow peas survived the episode but they did not produce anymore.

Snow peas begin bearing in about 50 days. When the first blooms appear, I know pods will be ready for picking within two days. After that, I harvest the pods every other day. If left on the vines, pods become too large and tough. Snow peas will plump up and fill the pods, but the resulting peas are hard and starchy, with a bland flavor.

Snap peas need about 60 days to bear a crop. I leave these pods

until they are firm and plump, filled with round green peas. After picking, I remove each end and break the pod into two or three pieces. In recent years, stringless varieties have been developed.

For shell peas, my mother always insisted on Lincoln. Mom cooked them with little red potatoes, floating in butter-laced cream. We owned a dairy and cholesterol was not a household word. Ah, the good old days!

I have grown Lincoln, but this variety does not stand up well to hot weather. Wando better tolerates the climate here, but I soon realized why area gardeners don't bother to grow green peas. Anyone accustomed to sweet, tender Lincoln peas won't be satisfied with the starchy, bland Wando.

The newer Green Arrow has become our favorite. Though advertised as growing up to three-feet high, we have seen vines grow over the top of a five-foot fence. The pods are long and well filled with sweet, succulent peas. This variety is resistant

to powdery mildew and fusarium wilt. When hot sun partners with high humidity, fungus comes to dance all over my garden. We need resistant varieties.

I still grow an earlier pea like Little Marvel or Progress #9. These don't produce large crops after weather warms, but they are ready a week earlier and I can sit on my "Lawn Buddy" to pick the pods.



RIGHT: Green Arrow peas can grow very tall.

OPPOSITE PAGE: Nancy supports peas with fences.

PHOTOS BY DON FARRIS

All peas are susceptible to aphid attacks. Rather than douse my food crops with poison, I use a strong spray from a pistol grip on my water hose. Aimed at the underside of leaves, this will dislodge many aphids. Usually, before the infestation becomes serious, platoons of little red ladybugs swarm in to devour the enemy.

Green peas can be dried or canned in jars as my mom did them when I was a child. After we bought a home freezer, we agreed that frozen peas had better color and flavor. To freeze peas, I cook them for about a minute in a small amount of water. To cool, I pour them into a shallow container and

lay zipped bags of ice on top. Then I pack the peas into freezer containers.

It's difficult to find really good green peas at the grocery store. That's why I recommend you try growing your own. Two ounces of seed will plant a 25-foot row. Once you taste fresh peas from your garden, you will know why it is definitely worth a bit of effort to produce them. 🌱



Nancy picks Little Marvel while seated on her Lawn Buddy.

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Winter Cover Crops and Green Manure Strategies

Protecting the Soil Against Winter Will Help You Next Spring and Summer

BY
ANITA B.
STONE

COVER CROP STRATEGIES REFER TO cover crops scheduled into a crop rotation plan. Organic farming relies on soil health and cycling of nutrients through the soil using natural processes. Cover crops are usually a legume planted to keep soil from leaching, eroding and weeding over to improve the conditions associated with sustainable agriculture. In agriculture, a green manure is a type of cover crop grown primarily to add nutrients and organic matter to the soil. Typically, green manure crops are grown solely to be turned under, while green and



soft to be incorporated into the soil for improvement. So the question commonly asked includes the reason for using green manures. First they increase the percentage of organic matter in the soil, thus improving water retention and aeration. The root systems of some green manures grow deep in the soil and typically bring up nutrients that might otherwise be unavailable to certain crops. Third, normal cover crops suppress weeds and prevent soil erosion and compaction. When allowed to flower, some crops create a habitat for beneficial insects. Cover crops used for these purposes are of two classes: those that gather nitrogen from the air and add it to the

soil, and those that cannot do this but merely protect the surface and conserve what nutrients are already present. For example, soon after the corn crop harvest, many farmers plant soybeans as a green manure crop. The soybeans restore nitrogen to the soil for the next season. It is common to see these in tobacco fields once harvested. Crimson clover (sow an ounce to 200 square feet), winter vetch (an ounce to about 60 square feet), and Canada field peas (an ounce to about 40 square feet) are the most suitable nitrogen-gathering crops for most landscapes.

Crops of the other type include buckwheat (one ounce to about 60 square feet), ryegrass, winter rye, barley and oats (one ounce to 30 square feet). A good cover crop combination is buckwheat, crimson clover, rye and winter vetch sown all at once in mid July, either on an empty landscape or between rows of late vegetables. The first frost will kill the buckwheat and perhaps the crimson clover won't live over winter, but the rye and vetch will; they will continue growing in spring until dug or plowed under. Winter cover crops such as oats and rye have been used for many years. Crops such as sweet clover, crimson clover and hairy vetch perform the vital function of fertilization, with the addition of animal manures when used. Berseem, a Mediterranean clover, is a cool, fast growing crop and resembles alfalfa. Berseem is being used in the United States as an annual winter legume. Most feed and

A Red Clover crop is a type of "green manure," which increases the percentage of organic matter in the soil and helps root strength and weed suppression, among other qualities.

PHOTO BY CHRIS J. KOTTYAN

supply stores can provide you with this seed crop.

Green manuring can be historically traced to the fallow cycle of crop rotation, which was used to permit soils to rest for a time. This process works, but is incredibly superseded by a crop rotation plan, producing more cash crops and providing future cash crops.

The knowledge that cover crops protect bare soil against erosion is critical. Green manures come from behind and improve soil fertility. Because a cover crop is primarily added to the soil, it becomes a green manure. So cover crops and green manures are interchangeable terms, perhaps even working symbiotically towards the same end result to improve and protect the soil while allowing crop growth and additional nutritional value.

Certain strategies depend on the benefits for the farm. Due to the additional fixed nitrogen added to the system, soybeans have become one of the main green manures used in mulch farming practices along with alfalfa, which also fixes large amounts of nitrogen over the years. Crops that grow late in the season can still obtain nutrition that would be lost without cover crops. Ideally, select the benefit of the cover crop, and then decide what to plant. For example, legume cover crops will provide nitrogen but they are not hard at work with weeds. If you select a rotational plan with cash crops, you can select the cover crop required to work well with that particular crop. Also, take into consideration seed cost, winter hardiness, and how the crop acts to soil conditions, and tillage equipment.

Cover crop strategies prioritize how the cover crop fits into a crop rotation plan.



Soybeans can serve as quality cover crops. After corn harvest, soybeans are planted to keep nitrogen levels in the soil.

Ideally, select the benefit of the cover crop, and then decide what to plant.

There are several strategies for the use of cover crops. First, consider whether a fallow crop requires taking land out of cash crop production for all or part of a season. Secondly, plan for winter crops that are sown in late summer or fall and remain in place until spring. Third, use methods to smother crops that are grown during spring, summer or fall between crops.

Emphatically, a major goal of cover cropping is to avoid bare soil between cash crop plantings. This protects the soil and inhales sunlight, producing topnotch soil quality. The field lends itself to more traffic, reduces compaction and potential for animal feed production.

Fallow cover crops rank high in rotation benefits because the soil has a resting period from cultivation. This, in turn, lessens diseases and adds biomass to the soil to maintain its structure and supply of organic carbon and nitrogen. Although fallow crops can be expensive in terms of lost crop production because they are grown instead of a cash crop, the bottom line serves the land well.

Fallow crops certainly excel over a mass production of weeds that take over and invade the land.

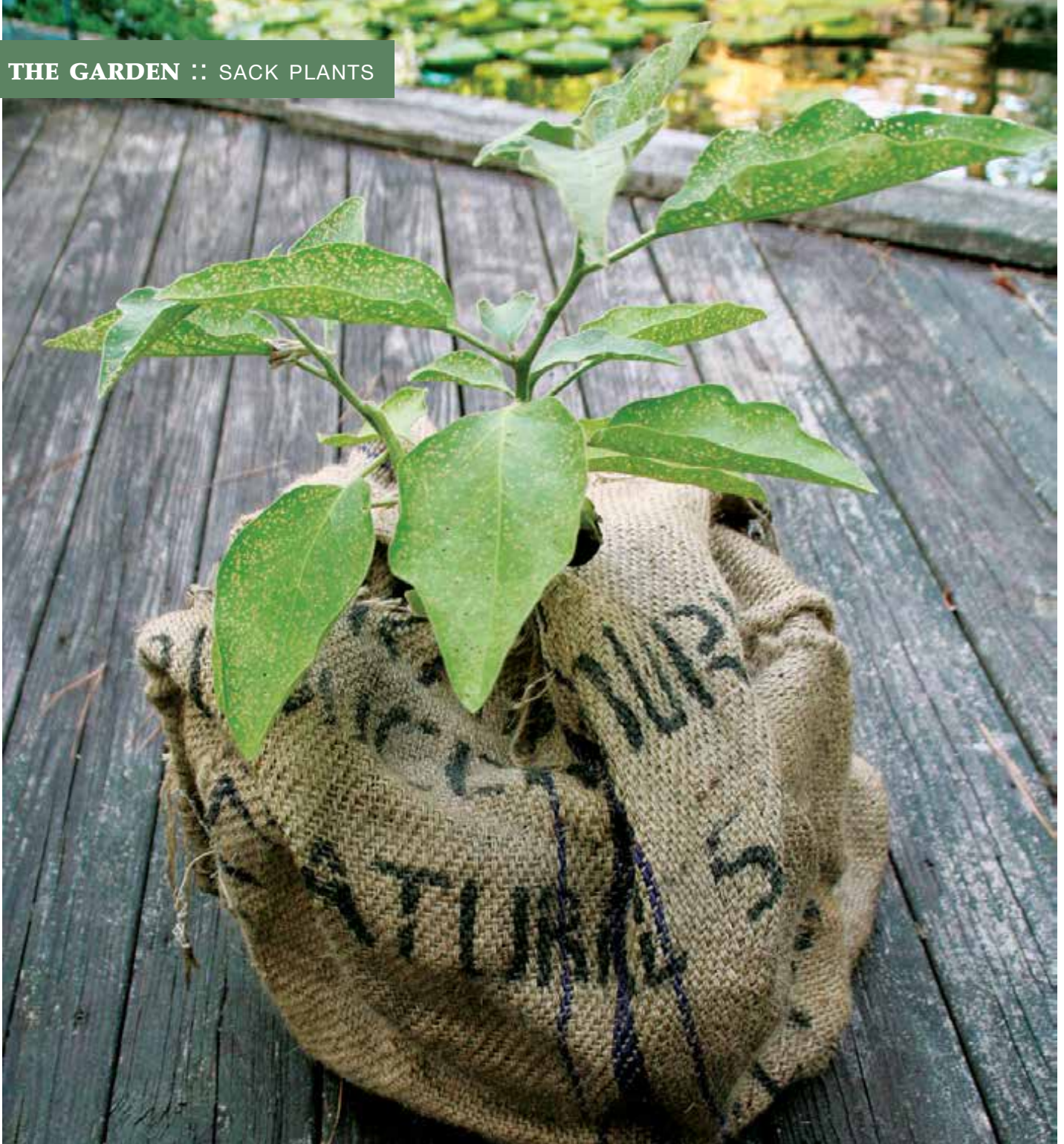
One of the best ways to get a jump on the winter cover crop season is to inter-seed, or under-sow a cover crop into a standing cash crop. If you did not get around to a very late vegetable harvest, and it is too late to put down winter rye to protect the soil, a solution is to inter-seed with a choice selection, an advantage that some winter protection gets established and the soil is not left bare.

Inter-seeding requires good soil and seed contact, ample water and weed control so the cover crop has a chance to es-

tablish. Timing is essential. Sowing requires delay to minimize competition with crops, but early enough so the cover crop can survive with the vegetable crop. Following the last cultivation, inter-seed a cover crop. If your crop includes peppers, tomatoes, kale or cabbage it is suggested to sow winter cover crops.

Small, slow growing crops are not recommended for inter-seeding. Carrots and onions will suffer in the field. Hardy crops like winter squash and sweet corn are more likely to produce well. If the cash crop is winter squash, inter-seed cover crops prior to running vines. Perennial or annual ryegrass are excellent manures for winter squash. Low growing red clover is a short-lived perennial used for soil acidity or poor drainage. It can be oversown into corn.

Whatever strategy is used, prioritize the cash crops along with the green manures for quality soil to produce the highest yield on the farm. Keeping a journal is a beneficial method to determine which cover crops, green manures and cash crops yield the best interaction strategy for top production. 🌱



Go Landless

Sack Gardens Can Help You Grow Surplus

BY ANITA
STONE
NORTH CAROLINA

WHEN YOU THINK ABOUT THE COST of goods and work involved in traditional land gardening, the first item is ground soil, which has to be tilled and fed properly. Tools are required involving shovels, spades and a bevy of other instruments. Planning, designing and planting are relevant to a landscape garden. If you want to avoid traditional gardening, then a landless sack garden is an excellent choice. You can sack garden any time of the year because the sun is always available, or covering during wind and frost is also doable.

Homesteaders, farmers, gardeners and agriculturalists are always seeking new ways to increase crop production without sacrificing water conservation, without increasing financial stress and using only a small amount of space to provide nutritional needs. An idea that originated in Kenya, known as Sack Farming, has become popular among farmers. Growing landless plants using burlap sacks has become an urban gardener's paradise. The process allows you to grow food in areas with limited access, little water, and could improve dry communities across the globe.

Imagine living in an environment where food is scarce and almost non-productive riverbeds exist, where areas of dry land spread across the globe, including those arid landscapes in the United States where water is at a premium.

Animal herders in Kenya discovered sack farming, which has been executed in some of the driest places in the landscape. This type of farming continues to grow in popularity as an alternative method for crop production lessening the use of land space. Sustainable food growth ensures proper nutrition to families who live in areas where crop yields are extremely low. The most important asset is that gardeners can plant their own seeds and become producers of large crop yields for families and extend the crops to nutritionally deprived communities.

So what is sack farming? It is a process of filling a series of individual burlap sacks with soil, manure and pebbles for drainage. The rocks release micronutrients into the soil, including boron, cobalt copper, iron, manganese, molybdenum, chlorine and zinc, all essential for high yields and healthy plant growth. Once seeds are planted inside each sack, plants grow up to the top and in the sides of the sacks with the use of stakes. This method works well for anyone experiencing limited access to proper soil and ample water.

Animal herders in Kenya discovered sack farming, which has been executed in some of the driest places in the landscape.

Families are learning to switch from a trade existence, to a healthy agriculture existence where crop growth is limitless. According to Caroline Wambul of Thompson Reuters Foundation, families struggled to feed their families until they discovered sack farming. "Two years after setting up a sack farm, one family now grows enough vegetables, including spinach, lettuce, beets and arugula to feed the family and sell the surplus," Wambul reports.

Another benefit of sack gardens becomes evident when you situate an empty burlap sack in a raised bed garden or on a higher construction type of elevated structure, then fill with proper ingredients. This works well for those have difficulty bending, those with back problems, people in wheelchairs and anyone who has a disability, limiting them from planting in the ground. Sacks can be placed and filled anywhere there are stoops, porches, decks, and

even parking places.

Chard, kale, eggplant, cherry tomatoes and even herbs can become a community aide for yourself and for those less fortunate. If more farmers and homesteaders utilized sack farming, they would discover that the method requires a small amount of space, as little as only two square feet or up to one-fourth of an acre. This is an example of the theory that less is more because using less space frees up more area for multiple crops, which under traditional soil planting would not produce multiple high crop yields.

Because water conservation has become a major environmental issue, sack gardening offers a method to save and utilize water to the fullest capacity. A free flow of water to the roots, whether through rainwater or gathering of saved buckets of water, helps to maintain moisture on a daily basis. Plants remain hydrated with less water than by traditional



Sack farming requires less water and space compared to regular ground gardening.

watering methods. If you use recycled water, such as rainwater or laundry water, that makes your farming even more economical. Rainwater, for example, proves to be useful where there is no water reservoir to save the liquid.

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Because of low overhead, both urban and rural families are offered the opportunity to create income and employment by utilizing sacks. Repurposing burlap, which is often free, saves money. And when growers save seeds from the previous year's crops, they simply replant the seeds, thus saving more money. When planted into the sack, seeds are protected from wind and harsh weather, where they can be controlled to yield high crop production. The sack method creates income and employment to both urban and rural families. And can be used in any climate change due to its adaptability.

Using healthy soil promotes a more productive garden and a high quality harvest. When you use sack gardening as the basis of crop production, you also have the choice of using organics. There is full control of whether or not herbicides, fungicides or insecticides are used in sack gardens and because of the small space contained inside the sacks, you can mulch and compost easily. Natural doses of fertilizer can also be controlled to increase productivity within the small areas. Growers also have the choice as to planting heirlooms seeds and organic seeds, and prohibiting the use of GMO (genetically modified) seeds. Several countries have successfully outlawed the use of GMOs distributed by large corporations.

A global network of women-led groups, which help women solve community problems by changing some of the ways people live, continue to learn and utilize new methods of crop growth. The group is known as Grassroots Organizations Operating Together in Sisterhood or GROOTS.

After having planted a variety of vegetables in burlap sacks, I found crop production and yields above average using half the money, half the time and half the space usually spent growing and maintaining fresh healthy foods on the land. ☺

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Leaf-Cutter Ants Finally Meet Their Match

A 15-Year Study Discovers Potential Solution to the Famous Garden Wreckers



A fungus-growing ant from the genus *Trachymyrmex*, the closest living relatives of leaf-cutter ants, tending to a fungal garden. Both leaf-cutter ants and their *Trachymyrmex* relatives cultivate a specialized fungus (white) in subterranean farms. Researchers found that the same type of fungal parasites attack the farms of both *Trachymyrmex* and their leaf-cutter relatives.

PHOTO BY: S. SOLOMON/RICE UNIVERSITY

NEW CLUES HAVE EMERGED in the battle to combat leaf-cutter ants, which can wreck havoc across gardens in North and South America.

A 15-year study of leaf-cutter ants and their relatives across North and South America found that their nests are susceptible to infection by a diverse group of specialized fungal parasites. The discovery by biologists from Rice University, São Paulo State University in Rio Claro, Brazil, and the University of Texas at Austin, could provide new clues for controlling the agricultural and garden pests.

The study, which is available online in Royal Society Open Science, is one of the largest ever undertaken of parasites associated with leaf-cutter ants. It began in 2000 and involved collecting, cataloging and analyzing samples of parasitic fungi called *Escovopsis* from dozens of colonies of leaf-cutter ants and their relatives in Brazil, Argentina, Panama, Mexico and the Caribbean islands of Guadeloupe and Trinidad and Tobago. Researchers identified 61 new strains of



Scott Solomon, an evolutionary biologist at Rice, had trouble at first, discovering the ant grew its own food, a fungus that co-evolved in a symbiotic relationship with the insect.

PHOTO BY: TOMMY LAVERGNE/RICE UNIVERSITY

the fungi, which attack the ants' food source.

"Leaf-cutter ants are difficult to control with ordinary means, partly because they're farmers," said Scott Solomon, an evolutionary biologist at Rice University. "They don't respond to most baits and poisons because they grow their own food, a specialized

fungus that's co-evolved with them in a symbiotic relationship for the last 50 million years."

Leaf-cutter ants inhabit areas from the southern United States to Argentina, and there are at least 40 species, including the Texas native *Atta texana*, which is found only in Texas and Louisiana. Ecologists call the ants "mutualists" because they cooperate with another species for mutual benefit. Each leaf-cutter species has its own mutualist partner, a fungus that it grows and cultivates for food and that in turn depends on the ants for food and shelter.

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The leaf-cutter name comes from the ants' farming style. Worker ants range widely, cutting and gathering leaves, which are brought underground into climate-controlled chambers where the fungal gardens are kept. A leaf-cutter colony, which can be more than 60 feet deep and hundreds of feet wide, often contains dozens of farming chambers and millions of worker ants.

In Texas, the ants are known to damage citrus, plum, peach and other fruit trees, nut and ornamental plants as well as some forage crops. They can also decimate pine seedlings in parts of the East Texas and Louisiana, making it difficult for foresters to establish new crops.

"They've evolved one of the most complex and fascinating symbiotic relationships in nature," said Solomon, a professor in the practice of ecology and evolutionary biology in Rice's Department of BioSciences. "We study that relationship, partly to learn about the process of evolution but also to see if we can find new ways to control the ants."

SOLUTIONS

Escovopsis is a fungal parasite that attacks the ants' fungal crops. *Escovopsis* was first identified about 25 years ago, and earlier studies suggested that it is highly specialized and found only in association with fungus-growing ants. Evolutionary analyses suggested that *Escovopsis* co-evolved along with the ants and their fungal crops, since a different strain infects the fungal partners of each of the major groups of fungus-growing ants.

Solomon began collecting leaf-cutting ants and their fungi in Central America in 2002 as a graduate student working with UT-Austin's Ulrich Mueller, a co-author on the study. In 2007 they expanded their work, thanks to a National Science Foundation international



postdoctoral fellowship that allowed Solomon to spend a year working with study co-authors Andre Rodrigues and Mauricio Bacci at São Paulo State in Rio Claro, Brazil.

"Expanding the collections into Brazil was very important for this study because that is where many of the leaf-cutter ants and their fungal-farming relatives live, including many species that we knew very little about," Solomon said.

To collect samples, the team traveled across much of Brazil in search of leaf-cutter ants and their relatives. When they found a colony, they would dig up a farming chamber and then use sterile instruments and containers

to collect a palm-sized fragment of fungal garden. At the lab, the fungi from these fragments were isolated and studied, both via DNA sequencing and with traditional microscopy.

The research revealed 61 new strains of *Escovopsis*, more than three times the number that had been cataloged in all previous studies. It also found that *Escovopsis* is more of a generalist than was previously thought; the same genetic variant was found invading the farms of distantly related fungus-growing ant species, and as many as three different forms of *Escovopsis* were found in the same ant colony.

"That could be significant because the more general and broadly applicable a control strategy is, the more economical it is to develop and test," Solomon said. "Based on what we know so far, it could be possible to develop an *Escovopsis*-based control strategy in which a single form of the parasite could be used to target several different species of ant."

Solomon said a significant amount of research still needs to be done before such a strategy could be developed. For example, biologists have yet to document the complete life cycle of *Escovopsis*. Such studies would be needed to fully understand how the parasite undermines a colony's health and how broadly it might be used against leaf-cutter species. ©

"Leaf-cutter ants are difficult to control with ordinary means, partly because they're farmers."

— Scott Solomon, evolutionary biologist



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Recipes



Fried Apples

- 6 good, large cooking apples
- ¼ lb. butter
- 1/3 cup brown (or white) sugar
- Cinnamon for sprinkling

Core apples, then slice stem and blossom ends. Melt ¼ lb. butter in heavy skillet. Add sliced apples and 1/3 cup brown sugar, plus a nice sprinkle of ground cinnamon. Stir so all apples cook. Excellent with fresh cream drizzled over them or a scoop of vanilla ice cream.

— Bonnie Wolfe



Mom's Goulash

SERVES 6

- 1 ½ lbs. lean ground beef, brown and drain
- 2 pints stewed tomatoes (preferably home canned with bell peppers, celery and onion)
- 1 ½ cup all-natural ketchup
- 3 cups elbow macaroni, cook and drain

I combine everything in the frying pan I used to brown the meat. Heat until flavors combine, about 20–30 minutes, on low heat.

We eat this with homemade bread/ biscuits served with homemade jelly (grape is our favorite with this dish).

— Bonnie Wolfe



Zucchini Pineapple

- 4 quarts cubed zucchini - peeled and cut into 1/2" cubes (3 very large zucchini, with the guts scooped out, are about what is needed)
- 46 ounces of canned, unsweetened pineapple juice
- 1 1/2 cups bottled lemon juice
- 3 cups sugar

Mix all ingredients in a large saucepan and bring to a boil. Simmer 20 minutes. Fill hot jars with hot mixture and cooking liquid, leaving 1/2" headspace. Remove air bubbles. Wipe jar rims. Adjust lids. Process in boiling water bath—half pints or pints for 15 minutes. Makes 8 pints.

—Cheryl Z., Odell, Illinois



Stuffed Chicken Galore!

BY HABEEB SALLOUM

STUFFED CHICKEN WITH RICE is the most favored way of stuffing chicken in the whole of the Middle East. Various versions of it are prepared in all parts of the Arabian Peninsula, which includes all the Arab Gulf countries and the lands of the Fertile Crescent.

Hailing from that part of the world, my mother prepared various types of rice stuffing. Eventually, though, as the years rolled by, she began to use bread stuffing, making it once in a while only since my father never really liked it as he considered it strange. Yet, for us children, we liked both and as I grew in years and I travelled the world I added other ingredients to my stuffing for all types of fowls.

From my storehouse of stuffed chicken recipes I suggest these since they cover a wide-range of chicken stuffed with a variety of ingredients — some a little exotic.

Our Homestead Stuffed Chicken

SERVES 6

On the farm this was Mother's most often prepared stuffing.

- 2 tablespoons lemon juice
- 1 teaspoon allspice
- 1 teaspoon garlic powder
- 2 1/2 teaspoons salt
- One 4 to 5 pound chicken, thoroughly washed and dried
- 1/2 cup melted butter
- 1/2 pound lamb or beef with a little fat, cut into 1/2-inch cubes
- 1 large onion, finely chopped
- 1 1/2 cups split chickpeas, soaked overnight and drained, or 1 cup cooked chickpeas
- 1/2 cup rice
- 1 teaspoon black pepper
- 1/2 teaspoon nutmeg
- 1/2 teaspoon cinnamon
- 4 tablespoons toasted slivered almonds
- 1 1/2 cups water

Mix lemon juice, allspice, garlic powder and 1 1/2 teaspoons of the salt; rub both inside and outside of the chicken, set aside.

To make the stuffing, heat 4 tablespoons of the butter in a saucepan then sauté meat over medium heat until it begins to brown. Stir in the onion and sauté for a further 5 minutes. Stir in remaining ingredients, including the remaining 1 teaspoon salt. Bring to boil, cook over medium/low heat for 8 minutes, stirring a few times then allow to cool.

Preheat the oven to 375°F.

Stuff the chicken, including neck opening, sew closed. Baste with the remaining butter. Roast covered for 1 1/2 hours or until chicken is well cooked, basting every 30 minutes with the pan juices. Serve chicken hot with its stuffing.

Our Family's Bread Stuffing Recipe

SERVES ABOUT 6

This is my favorite bread stuffing for chicken that I often prepare.

One 4 to 5 pound chicken, thoroughly washed and dried
2 tablespoons lemon juice
2 teaspoons salt
3 cups toasted croutons
1 medium onion, finely chopped and sautéed lightly in butter until limp and just starting to brown
1 cup chopped roasted chestnuts
1/2 cup finely chopped fresh parsley
1/2 cup butter, melted
1 teaspoon dried sage
1/2 teaspoon dried rosemary
1 teaspoon salt
1/2 teaspoon black pepper
1/2 teaspoon cinnamon
1/2 teaspoon dried savory
1/8 teaspoon cayenne
1/2 cup water

BASTING

4 tablespoons olive oil
1 teaspoon salt
1/2 teaspoon dried sage
1/2 teaspoon dried rosemary
1/2 teaspoon ginger
1/2 teaspoon cinnamon
1/2 teaspoon black pepper
1/2 cup water

Rub chicken inside and out with a mixture of the lemon juice and 1 teaspoon of the salt, set aside.

Mix all the remaining ingredients for the stuffing, including the remaining salt.

Stuff the chicken including the neck, then sew openings and place in a roaster.

Preheat the oven to 375°F.

Mix all the basting ingredients then baste the chicken and cover.

Roast for one and a half hours, basting every 30 minutes (if basting juice finishes, baste from pan juices). Uncover and bake for a further 15 minutes or until chicken begins to brown.

Place stuffed chicken on a serving platter and serve with its stuffing.



Rice and Nut Stuffed Chicken

SERVES ABOUT 6

I have prepared this succulent dish that I first tried in the United Arab Emirates according to my own taste.

1 whole (4 to 5 pound) chicken, thoroughly washed
3 tablespoons flour mixed with 1 teaspoon salt
1/3 cup cooking oil
1/2 pound ground beef
1 medium onion, finely chopped
4 tablespoons slivered almonds
4 tablespoons raw, whole cashews
4 tablespoons pine nuts
1/2 cup rice, washed and drained
4 tablespoons raisins, soaked for 30 minutes and drained
1/2 teaspoon salt
1 teaspoon cinnamon
1 teaspoon freshly ground black pepper
1/2 teaspoon cardamom
1/2 teaspoon cloves
1 1/2 cups water
1/2 teaspoon dried rosemary
1/2 teaspoon dried sage
4 tablespoons butter at room temperature

Thoroughly clean the chicken then rub with the flour/salt mixture, both inside and out, and set aside.

For the stuffing, in a saucepan, heat the oil then sauté the meat over medium low heat for 8 minutes. Stir in the onion and sauté for a further 5 minutes. Stir in the almonds, cashews and the pine nuts then sauté for a further 3 minutes. Stir in the rice, raisins, salt, 1/2 teaspoon of the cinnamon, 1/2 teaspoon of the pepper, 1/4 teaspoon of the cardamom, 1/4 teaspoon of the cloves and 1 cup of the water. Bring to boil then cook over medium/low heat for 10 minutes, stirring a few times then allow to cool.

For the basting, in a small bowl combine the remaining 1/2 teaspoon of the cinnamon, 1/2 teaspoon of the pepper, the remaining 1/4 teaspoon of the cardamom and the remaining 1/4 teaspoon of the cloves as well as the rosemary, sage, and the remaining water. Set aside.

Preheat oven to 375°F.

Stuff the chicken, including neck opening, then sew closed and rub all over with the butter then brush with some of the basting. Cover and bake for 1 1/2 hours or until chicken is well cooked, basting every 30 minutes with the baste mix. Serve chicken with its stuffing while hot.



Chicken with Pomegranate Stuffing

SERVES ABOUT 6

The pomegranate seeds give the stuffing a tangy-delicious taste.

1 chicken, about 5 pounds
1/2 cup olive oil
1 teaspoon cumin
1 teaspoon paprika
1/2 teaspoon black pepper
1/8 teaspoon cayenne
4 tablespoons finely chopped fresh coriander leaves
2 teaspoons salt
5 tablespoons butter
1 medium onion, finely chopped
4 cloves garlic, crushed
1/2 cup slivered almonds
1 cup pomegranate seeds
1 teaspoon dried thyme
1/2 teaspoon sage
1/2 teaspoon rosemary
1/2 cup water
3 cups toasted bread, cut into small cubes

Thoroughly clean and wash the chicken and dry it well, then set aside.

Prepare a basting by thoroughly mixing the olive oil, cumin, paprika, pepper, cayenne, coriander leaves and 1 teaspoon of the salt, then set aside.

Prepare stuffing by melting butter over medium heat in a saucepan, then sautéing onion, garlic, and almonds, until onions begin to brown. Remove from heat, stir in remaining salt, pomegranate seeds, thyme, sage, rosemary, water and bread cubes, thoroughly mix and set aside.

Rub inside of chicken, including the neck opening with about a third of the basting juice, then stuff both the inside and the neck opening. Sew openings, then baste on the outside. Roast covered in a 375°F preheated oven until the chicken is well cooked, basting every 30 minutes with the remaining basting juice. Serve chicken with stuffing and cooked rice.



Chicken with Burghul Stuffing *Dajaaj Mihshee bi-Burghul*

SERVES ABOUT 6

Pleasure, to the Arabs, was defined by drink, clothes, sex, scent, sound and food. Al-Baghdadi, a 13th-century historian, considered eating as the finest of all pleasures and therefore wrote a book on cooking. We do not know if al-Baghdadi knew about chicken with burghul stuffing, but if he had, he would have considered it among the top of culinary delights.

- 1 large roasting chicken (about 5 pounds)
- 1/2 cup pine nuts
- 1/2 cup butter
- 1/2 cup finely chopped onions
- 1 cup coarse burghul, soaked in hot water for 5 minutes, then thoroughly drained
- 1 cup chicken stock
- 1 cup chopped parsley
- 2 teaspoons salt
- 1/2 teaspoon black pepper
- 1/2 teaspoon allspice
- 1 teaspoon ground coriander seeds
- 1 teaspoon cinnamon

Wash and dry chicken, then set aside.

Sauté pine nuts in butter until golden, then remove with slotted spoon and set aside. Reserve butter in pan.

To make stuffing, sauté onions in reserved butter until limp. Add burghul, then stirfry for few minutes. Add remaining ingredients, except cinnamon, cook over medium heat until stock is absorbed. Remove from heat and allow to cool, then stir in pine nuts.

Stuff chicken and sew up, then place in a roaster. Brush with additional butter and cinnamon. Cover and roast in a preheated oven at 325°F for 2 1/2 hours. Remove cover, allow to bake until chicken turns golden brown.

Meat Stuffed Chicken *Rellenong Manok*

SERVES 4 TO 6

In the Philippines the chicken used in this recipe is de-boned without piercing the skin, but due to the considerable work this involves, I have kept the chicken as is without the process of removing bones.



- 4 tablespoons soy sauce
- 1 tablespoon sugar
- 3 tablespoons lemon juice
- 3 to 4 pound chicken, washed
- 1/4 pound ground ham
- 1/4 pound sausage, cut into small pieces
- 1/2 cup shredded cheddar cheese
- 4 tablespoons breadcrumbs
- 1 medium onion, finely chopped
- 5 cloves garlic, crushed
- 1 egg beaten
- 2 tablespoons raisins, soaked for 30 minutes and drained
- 2 tablespoons sweet relish
- 1 teaspoon salt
- 1/2 teaspoon black pepper
- 1/2 cup water
- 4 tablespoons butter, melted
- 2 tablespoons flour
- 1 teaspoon garlic powder

Combine 3 tablespoons of the soy sauce, sugar and lemon juice, then rub chicken in and out with mixture and marinate for 3 to 4 hours.

Combine ham, sausage, cheddar cheese, breadcrumbs, onion, garlic, egg, raisins, relish, salt, pepper and water to make stuffing.

Stuff the chicken, both back and neck, then sew closed. Rub with butter, place in a roasting pan and cover. Roast in a preheated 325°F oven for 2 1/2 hours, basting every 30 minutes from the pan juices, remove cover and continue roasting for 15 minutes or until chicken turns golden brown.

Take out drippings from the roaster and place in a small saucepan, add flour, garlic powder and the 1 remaining tablespoon of soy sauce. Cook, stirring constantly, while adding a little water to make gravy-sauce. Serve hot with mashed potatoes.



Spicy Roast Chicken

SERVES 4

This type of Asian roast chicken is somewhat different. All the ingredients are not used as stuffing but rubbed both inside and out.

- 1 chicken, about 4 pounds, thoroughly washed and dried
- 4 tablespoons soy sauce
- 4 cloves garlic, crushed
- 2 tablespoons honey
- 2 tablespoons vinegar
- 1/2 teaspoon salt
- 1 teaspoon finely chopped fresh ginger
- 1/4 teaspoon ground aniseed
- 1/4 teaspoon cinnamon
- 1/4 teaspoon ground fennel
- 1/4 teaspoon black pepper
- 1/4 teaspoon ground nutmeg
- 1/4 teaspoon ground cloves
- 1/4 cup boiling water

Place chicken in roasting pan, then set aside.

Combine remaining ingredients, then rub chicken inside and out with the mixture. Cover and roast for 30 minutes in a 400°F preheated oven. Lower oven heat to 350°F, then roast covered for a further hour or until the chicken is well cooked, basting with remaining basting juice, then the pan juices a number of times, roasting uncovered for the last 15 minutes.

Mushroom Stuffed Chicken

SERVES ABOUT 6

Not the usual type of stuffing, this stuffing is delicious and wholesome. It takes longer to roast this type of stuffed chicken, but every minute is worth the wait.

- One 4 to 5 pound chicken, thoroughly washed and dried
- 2 teaspoons lemon juice
- 2 teaspoons salt
- 1/2 cup butter
- 1 medium onion, finely chopped
- 4 cloves garlic, crushed
- 3 cups mushrooms, chopped
- 3 cups dry croutons
- 1 teaspoon dried oregano
- 1/2 teaspoon nutmeg
- 1/8 teaspoon cayenne
- 1 teaspoon black pepper
- 1 teaspoon cumin
- 1 teaspoon dried sage
- 1 teaspoon dried rosemary
- 1 cup water

Rub chicken inside and out with a mixture of the lemon juice and 1 teaspoon of the salt, set aside.

Prepare stuffing by melting 5 tablespoons of the butter in a saucepan then adding the onion, garlic and mushrooms. Sauté over medium heat, stirring often for 8 minutes then remove from heat and allow to cool.

Stir in remaining salt, the croutons, oregano, nutmeg, cayenne, and 1/2 teaspoon of each of the following: pepper, cumin, sage, and rosemary, as well as 1/2 cup of the water. Let cool.

Prepare a baste by combining the remaining 1/2 teaspoon of the following: pepper, cumin, sage, and rosemary; as well as the remaining water. Set aside.



Stuff chicken including the neck opening, then sew and place in a roaster.

Rub chicken with the remaining butter

Roast in a 375°F preheated oven for 1 1/2 hours, basting every 30 minutes (if basting juice finishes, baste from pan juices). Then bake uncovered for a further 15 minutes.

Serve hot with stuffing and mashed potatoes.

Orange Stuffed Roast Chicken

SERVES 4 TO 6

The honey and oranges give the chicken a sweet zesty taste that opens the appetite.

- One 4 to 5 pound chicken, thoroughly washed and dried
- 1 teaspoon garlic powder
- 2 teaspoons dried basil
- 1 teaspoon nutmeg
- 1 teaspoon powdered ginger
- 1/2 teaspoon dried rosemary
- 1/2 teaspoon powdered sage
- 1/2 teaspoon black pepper
- 1/8 teaspoon ground cloves
- 2 teaspoons salt
- 4 tablespoons lemon juice
- 3 small oranges, peeled and quartered
- 1/2 cup water
- 1/2 cup honey
- 1/4 cup melted butter
- 1/2 cup undiluted orange juice

Preheat oven to 375°F

In a small bowl thoroughly mix the garlic, all the herbs, spices, salt and lemon juice then rub the mixture on the inside and outside of the chicken. Stuff chicken with orange quarters and place in roaster atop a rack, breast up then add the water.

In a saucepan combine the honey, butter and orange juice. Simmer together over medium-low heat until the mixture turns syrupy. Pour a quarter of the mixture over the chicken, saving the remainder for basting.

Cover and roast chicken for 30 minutes. Turn chicken breast down, reduce heat to 325°F and roast covered for another 2 hours, with the last 20 minutes uncovered, or until well-done, basting from the remaining baste, then from the pan juices every 20 minutes. Remove from oven and allow to sit for 10 minutes then serve.

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IN THE KITCHEN :: STUFFED CHICKEN



Stuffed Chicken with Couscous

SERVES ABOUT 6

Although not widely known in North America, chicken couscous stuffing because of its delicious taste and simplicity to prepare, has a bright future.

- 1 chicken, 4 to 5 pounds, washed and dried
- 2 tablespoons lemon juice
- 1 1/2 teaspoons salt
- 2/3 cup instant couscous
- 6 tablespoons butter, melted
- 3 tablespoons cooking oil
- 1/4 pound hot sausage, cut into small pieces
- 1 medium size onion, finely chopped
- 4 cloves garlic, crushed
- 1/4 cup pulverized blanched almonds
- 1/4 cup raisins, soaked for 30 minutes and drained
- 1/2 teaspoon rosemary
- 1/2 teaspoon sage
- 1/2 teaspoon black pepper
- 1/2 teaspoon cinnamon
- 1 teaspoon ground ginger
- 1/2 cup hot water

Rub chicken inside and out with a mixture of the lemon juice and 1 teaspoon of the salt, set aside.

Cook couscous according to directions on package; then fluff and mix with 4 tablespoons of butter and set aside.

In a frying pan, heat oil, then stir-fry hot sausage over medium heat for 5 minutes. Add onion and garlic, stir-fry for another 5 minutes.

Stir frying pan contents into couscous, add remaining 1/2 teaspoon of salt, almonds, raisins, rosemary and half of the following: sage, pepper, cinnamon and ginger. Thoroughly mix to complete the stuffing.

Stuff chicken including the neck opening, then sew and place in a roaster.

Make a basting juice by combining 1/2 cup hot water with the remaining sage, pepper, cinnamon, ginger, and 2 tablespoons of butter then baste the chicken and cover.

Bake in a 375°F preheated oven for 1 1/2 hours, or until chicken is well cooked, basting every 30 minutes.

Place chicken on a serving platter, serve immediately with stuffing, the sauce from the roast pan and mashed potatoes. ☺

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The family goes into action to make our unconventional cider press, complete with a sledgehammer press and cheesecloth filter.



An Unconventional Cider Press

BY LUKE
POTRZEBA

THIS FALL WAS MARKED BY a bumper crop of apples in my parents' old apple orchard. When I went to visit them one weekend, we gathered many bags of apples. Some were for eating, making applesauce, others for pigs, and lastly we had about eight bushels of apples for cider. We recalled that as a kid, we had a press and enjoyed the process and result. Now that I had a family of my own, we wanted to press cider from the apples, but did not have a press or grinder. A quick look on Craigslist showed used presses in the area available for around \$300 to \$500. But they were several hours away and may not be worth

the cost. We also entertained the idea of purchasing a new press, but could not justify the cost, and the shipping time was a concern with apple quality being at its peak. So, I ended up saying, "I'll take the apples home and make a press."

I knew that I could figure out how to make a press using materials at hand, oak for a frame, a 20-ton jack for pressing, and some other oak boards for the platform and basket. But building a press would take time and just take up lots of space when it was not in use. After more thinking, and looking around the shop, I had an idea! What about that trash compactor that I pulled out of the kitchen and stuck in the corner of the garage? That might just work! Okay, now to make this idea work and ensure that it would be clean and food safe. Now, where was that stainless steel sheet that I salvaged from a kitchen?

After finding and bending the stainless steel to fit the cabinet of the trash compactor, I needed to purchase food safe silicone and hardware to fasten the pieces together. All parts for the catch pan were assembled after work on Monday and Tuesday. Wednesday evening was the trial run. I decided to go low tech for creating apple mash, so I used an eight-pound sledgehammer in a food-safe five-gallon bucket. My daughters used a one-pound hammer to help make the mash. The head of the sledgehammer was covered with plastic to prevent rust in the mash and keep things clean.

I decided to use cheesecloth to create bags of mash that would

I turned the switch and 20 seconds later the compactor plate had reached its max pressure and cider was pouring into the catch bucket.



Items needed for creating your own low-cost cider:

- Good source of organic apples and help to harvest
- Food-safe bucket for creating mash
- Ability to smash apples with a sledge hammer
- Old, working trash compactor
- Stainless steel for a liner for the compactor
- Clean bed sheets cut in squares for creating apple mash "cheeses"
- Hardwood (oak or maple) for the pressing boards
- Pot for catching the cider

be placed between boards in the press. The first bag was placed directly on the stainless steel, which was followed by another bag of mash and so on. The compactor accommodated four layers of mash in bags. After the compactor press was loaded, then it was time to make the first press. I turned the switch and 20 seconds later the compactor plate had reached its max pressure and cider was pouring into the catch bucket. I was amazed how quickly the cider gushed from the press. When the compactor started to slow and before it would switch directions, I quickly turned the switch to off to maintain the pressure on the stack. Once the cider was done flowing, I turned the compactor off and the plate returned to the starting position. At that point, I unloaded the cheese-cloth bags from the press and dumped out the bags. The mash came out as a big dry apple pancake and went onto the compost pile.

That first night I ended up making 2 1/2 gallons from approximately one bushel of apples! The next day I pressed more after work, another 21 quarts for the freezer. And finally, my parents came by to visit, and guess what, they brought enough apples to press another 7 1/2 gallons! Now we have lots of yummy cider that only cost our time and a few dollars to purchase the stainless hardware and caulk. My family is now looking forward to the next stellar apple harvest and the next cider press marathon. Maybe by next time I'll have a real grinder ready to create the apple mash. ©

Wild Coffee Alternatives

For Those Times When You're Too "Jangled" to Drink Coffee, and When Tea Just Won't Cut It

BY
CHRISTOPHER
NYERGES

YOU'VE HEARD ALL THE pros and cons regarding regular coffee. Some are good, some are not good. Even if you're a regular coffee drinker, there are times when your body wants something else, something warming and filling, but with none of the "speed" of coffee. Fortunately, there are many coffee alternatives. You can drink them straight, or with honey and cream. Some you can buy, some you have to make yourself.

You might want to experiment with as many of the following that you can find in your area so you learn their individual flavors and aromas. Then, try some combinations. Then experiment with different roasts, that is, roasting darker or lighter.



Just about everyone who makes their own "backwoods coffee" has a favorite blend and "recipe." Try several of these as you experiment until you find what you like the best.

ACORNS

Acorns grow worldwide, falling from the trees in the autumn. Generally, you find them the thickest during September and October. They are bitter in the raw state and so must be peeled and then "leached"—boiled or soaked to remove the tannic acid. Once the

bitterness is gone, there are many things you can do with the acorns.

If you want to use it in your "coffee" blend, then grind it coarsely. Roast it as dark or light as you generally like coffee. However, in all cases, the darker roasts (those that are nearly black) can be borderline carcinogenic, depending on the material being roasted. This is due to the fact that you are nearly burning the material, and in some cases, excess heat causes certain oils to be produced which are not good for you to consume. I generally roast to a brown color, sometimes dark brown, but I never let it approach black.

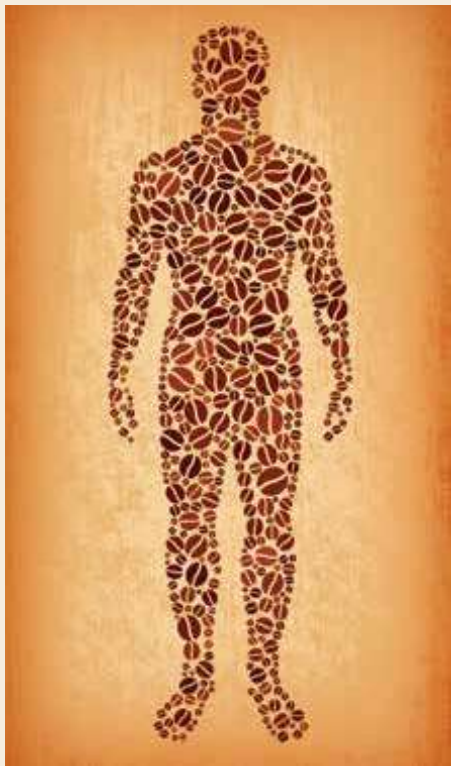
BURDOCK

Burdock root also has many other uses besides a coffee substitute. It is generally preferred to use the first year root, though the tougher second year roots can be used as well. Wash the root, and then grate it or cut it into slices. Slowly dry in your oven, and then grind coarsely. Then roast it to your desired darkness, and mix with your coffee blends.

CALIFORNIA COFFEEBERRY

Collect the berries in the fall when the fruit have turned nearly black. Then you need to remove all the seeds, which is easiest done by simply rubbing all the seeds between your hands in a dishpan, and then washing away the pulp.

When you have just seed, let it dry, then roast it until it is brown. Grind and percolate as you would ordinary coffee.



Coffee: Healthful or Detrimental?

“BUT ISN’T COFFEE BAD FOR MY HEALTH?”

Much has been said and written about the benefits vs. the detrimental effects of coffee. But what is the “bottom line”? Are there beneficial qualities? Does it harm me? Should it be abstained from? Is it okay to drink coffee in moderation?

These and similar questions are not easily answered because, in the tests and statistical data, researchers and doctors do not use—or attempt to define—a consistent standard for what is meant by “coffee.”

Coffee has also been accused of causing, or contributing to, cancer, heart diseases, hypertension, hepatitis and cirrhosis of the liver. Dr. John Timson of the University of Manchester in England, while admitting that coffee is mildly addictive, states that, at present, there is no hard scientific evidence that links the use of coffee to any of the above-mentioned diseases.

Unfortunately, in virtually all studies done on the health effects of coffee, researchers indiscriminately lump all “coffees” together. But no two cups of coffee are alike. And it is not likely that any standard will ever be established for coffee research. Why? Because brewed coffee contains not only caffeine, but vari-

ous acids, oils and alcohols, the qualities of which vary depending on the way the coffee beans are handled from farm to cup.

According to Dr. Neil Solomon, “Caffeine is a strong stimulant with drug-like properties and is considered to have an unfavorable effect on nutrient absorption.”

The FDA (Food and Drug Administration) has placed caffeine on their Generally-Recognized-As-Safe list. Caffeine acts as a stimulant to the central nervous system. If used in excess, it contributes to nervousness, irritability, sleeplessness, anxiety, and heart palpitations.

QUALITATIVE FACTORS

According to Timothy Hall, a teacher with the L.A. Unified School District who has given numerous lectures on coffee, there are at least 30 factors which affect the beverage called “a cup of coffee,” all of which must be taken into account if one is to draw a useful conclusion about coffee’s “good” or “bad” effects.

According to Timothy Hall, one cannot answer “Is coffee good for me?” until one has explored the following questions. In some cases, definitive answers to the following may be hard to come by, if not next to impossible. Some factors, however, are completely within our control.

THE PLANT

What is the type or variety of coffee plant? Of the two primary types of coffee—Arabica and Robusta—Arabica is considered the better of the two. Where and how was it grown? How was it fertilized?

The elevation, quality of soil, and the amount of water received during growing all affect the quality of the fruit. This is why coffee connoisseurs have individual preferences regarding the country of origin.

What was the quality of care in picking, cleaning and storing the beans?

ROASTING

What was the method of roasting?

The depth of darkness of the brown in coffee color is due to the proportion of cresylic acid (cresol) present after the beans have been roasted. The darker the roast, the greater the tar content.

GRINDING

What was the grinding procedure? How hot did the beans get during the grinding process? Though not everyone will notice the difference, any grinder, which grinds at a high temperature can result in the loss of aromatic oils. One solution is to grind with a hand mill. Another solution (when using an electric mill) is to only grind enough for a few cups at a time, since prolonged grinding may result in excessive heat. How much time elapsed between grinding and brewing? Remember: if you smell it, you’re losing it. If you don’t plan to use your grinds immediately, then put them in a covered container and place in the refrigerator.

How was the coffee handled and stored between the grinding and brewing?

WATER

How much coffee grounds are used in relation to water? Obviously, a cup of coffee made with one scoop of grounds is vastly different than one made with six scoops of grounds. A person with stomach disorders will have difficulty with the stronger brew.

What is the quality of the water? (After all, the primary constituent of “a cup of coffee” is water.)

TEMPERATURE

What was the temperature of the coffee grounds, and the temperature of the water, when you began to brew?

What were the temperatures when you finished brewing?

Fusel oil, released into the water whenever coffee grounds are boiled, causes bitterness; however, fusel oil is *not* released into water at less than boiling temperatures.

CLEANLINESS

What was the level of cleanliness of the coffee maker?

Old coffee stains are a combination of “dirt” and oxidized insoluble fats. When fat oxidizes, it becomes rancid. Rancid fat “flavors” all coffee that is brewed in coffee pots that have not been scrubbed spotless.

PREPARATION

What type of coffee maker was used (vacuum, drip, percolator)?

(Space doesn't permit us to review every coffeemaker on the market however, so let the buyer beware.)

Did I brew the grounds using the percolation, infusion, or decoction method? Infusion refers to adding the grounds to the water and letting them steep. A camper might do this. Decoction refers to actually cooking the grounds—even boiling—to make a strong brew. Though this might be acceptable in a prison camp when one is trying to extend the available grounds as far as possible, it is the least desirable choice. Percolation—pouring the hot water through the grounds—is the best option.

What type of materials did I use in the making of the beverage? Stainless steel, glass, aluminum, porcelain, and plastic all affect the quality (and the flavor) of the finished product.

ADDITIVES

What have I added to the finished product? Sugar? Salt? Egg? Vanilla? Cinnamon? Chocolate? Honey? Sweet-'n-Low? Saccharin? Cream? Milk? Powdered milk? Half and half? Cloves? Cardamon? Coffee-mate? Brandy?

INSTANT COFFEE

Was the coffee instant?

Instants are made two ways: spray dry or freeze dry. Both are begun as a very concentrated brew made with coffee grounds and superheated water. In the spray dry method, the concentrated brew is sprayed into a chamber where hot, dry air is pumped. The air removed the moisture, leaving bubble-shaped particles behind; the particles are then ground into powder. In the freeze-dry method, the concentrated brew is first frozen, and is then introduced into a vacuum chamber which removed the moisture, leaving a solid mass; the mass is then reduced to granules.

Instants vary due to the varying strengths of the initial concentrated brew, and differences in drying methods (temperature, etc.). Though the quality of instants may vary, most coffee-lovers will only drink instant when the circumstances dictate simplicity, or if nothing else is available. A detailed comparison of the quality of instant coffees was done by *Consumer Reports* magazine, a copy of which may be obtained by writing to the magazine.

DECAFFEINATED

Is the coffee decaffeinated?

The chemical formerly used to remove the caffeine was trichloroethylene (found to cause liver cancer in laboratory mice). Currently, methylene chloride is used, a chemical under study by the National Cancer Institute. A non-chemical method of decaffeination that has been gaining popularity is the steam method.

SERVING

What type of cup is the coffee served in? How long after brewing is the coffee served? What do I use as a stirring device?

How many cups do I drink at one sitting?

Of the factors under our control, the quality of our thinking (as we brew the coffee) has a direct effect on the finished product. Also, the way in which we drink the beverage has an effect (i.e., slow thoughtful sips vs. hurried gulps).

Hall asserts that in his tests, the quality of one's thinking has proven to be the most important factor. States Hall, "If you brew your coffee with precise intent, you can alchemically transmute those common grounds into a veritable elixir."

AN ALCHEMY EXPERIMENT

Here are a few guidelines if you'd like to begin alchemically changing "a cuppa coffee" to "wonderful elixir." This is the procedure that Timothy Hall was taught by his mentor, R. E. White of WTI in the mid-1970s.

Begin with meticulously clean utensils. Stainless steel, French porcelain, glass, or copper are preferred; softer metals (e.g., aluminum) should not be used.

First, measure the needed amount of water (spring water is better than the chlorine and fluoride-laden city tap water) and set on the stove to boil.

Next, prepare your filter. An ideal filter is a simple cloth bag sewed into a cone, using the densest cotton flannel. These are reusable indefinitely—far superior to commercial paper filters. The bag is suspended over your cup, or a second pot; the coffee grounds are measured into the bag (a fine grind works best).

Another ideal system is a French ceramic pot with a ceramic cone that fits into the top, and a gold-plated reusable filter.

You measure your grounds into the filter.

When the water has boiled, stand squarely and strongly on both legs; breathe deeply; then, slowly pour the water in a clockwise circular motion over the grounds. While pouring, visualize and feel the energy of Love flowing from your heart, down your arm, and into the beverage. We call this "chi," and much has been written about this "chi" energy in books on Chinese healing and martial arts. You may need to "imagine" the feeling at first, but with practice you will find it easy. It sometimes feels like a mild electric shock.

If you wish to add anything to the resultant beverage, try raw honey and raw cream.

One of the main problems with extensive coffee ingestion is that it either removes or destroys the B-vitamins from the body, resulting in a slowly cumulative degeneration of the sheaths of the body's nerve fibers. This is what causes the "nervousness" with heavy coffee-drinkers. Honey, cream and B vitamins, when added to the diet, help to offset any harmful effects.

When the above process is done thoughtfully and lovingly, the process is somewhat analogous to the Japanese tea ceremony. And it *can* result in a truly fine elixir.

Please try this method of "elixir-making" in your own Alchemical Chamber (aka "kitchen") and let us know your results.

So is coffee "good" or "bad"? As always, it depends on the way you interact with it.

Coffee says: "As you care for me, and as you treat my fruits, so shall I be able to provide sustenance to you, my dear humans. Ignore me, and I have nothing, or little, to offer but 'cheap thrills' of your lower aspects of autonomic nervous system."

Coffee also says: "Compromise and/or adulterate me and you'll not only have something of little value, but your choice to exploit/adulterate me will change my potential beneficence into an exploitation/adulteration of your own body and brain."

As is nearly always the case with such matter of "health," *all* is choice, choice, and *choice*, and consequence of choice.

The flavor and aroma in this case is very much like regular coffee, but a bit on the weak side. With a bit of honey and cream, it really can pass for coffee, but without any caffeine.



CAROB

Carob is the pod from a large tree native to the Middle East. The pods mature brown, and can be eaten right off the tree. They are sweet, and rich in calcium and B vitamins.

When ground and roasted, and percolated into a coffee-like beverage, it will have a sweet and heavy aroma and flavor. It will be only slightly reminiscent of regular coffee, but you will like its flavor. You should also break open the pods and remove all the hard seeds before you grind the pods.



CHICORY

Chicory roots have long been used in the South as a coffee substitute. Some people really like chicory, and others say it is too bitter. It's all a matter of personal preference.

Ideally, the roots should be dug before the plant flowers. Wash them, and let them dry. Then break them up, or coarsely grind them, and roast them. The dark French roast is very popular with chicory, but I find it quite acceptable with a mild brown roast. Percolate as you would ordinary coffee grounds,

and serve with honey and cream.

Chicory is also commonly added to regular coffee grounds as an extender. In fact, you could "extend" regular coffee with any of the substances mentioned here. This is a good point to remember if coffee is hard to get for whatever reason.



DANDELION

Dandelion is just second to chicory as a coffee substitute. Follow the instructions for chicory. Though it is somewhat better to collect the dandelion roots before the plants flower, as a practical matter it is easier to locate the plants when you see all the yellow tops. Either way, the roots make a good coffee, and the flavor is better than chicory, in my opinion.

GRAINS (BARLEY, WHEAT)

Various grains have long been roasted and percolated like coffee, or added to various coffee blends. Barley and wheat are popular, and several commercial alternative coffees have these grains.

Most of the wild grass seeds would work as well. Experiment and see which ones you prefer. Keep notes as you try the various wild grasses in your area, so you can repeat the "recipe" the next time, and share it with your friends.

SOW THISTLE

Sow thistle roots tend to be smaller and more tender than dandelion, to which it is related. Nevertheless, treat these roots as you would dandelion, and either use them alone or mixed with other wild plants.

You might want to experiment with as many of the following that you can find in your area so you learn their individual flavors and aromas.



These are by no means the only roots and seeds you can use to make your coffee alternatives. But these are the ones that have a long history of being used that way, and this should get you started.

Sure, teas are an okay alternative to regular coffee, but sometimes the teas don't quite do it. When you want something heavier, something with body, that's when you can try any of these roasted roots or seeds for a satisfying alternative to the caffeine-coffee.

You can buy coffee-alternatives at the market, or you can simply utilize these wild roots and nuts and seeds, which are almost always ignored by "civilized folks." When you make anything yourself, the benefits are much more than "saving money." You realize that—in each small way—you have choice and you have control. As you become

A COMPARISON OF SOME WILD COFFEE ALTERNATIVES

	HOW PROCESSED	AROMA/ FLAVOR	HOW BEST SERVED
ACORNS	Once leached, grind, roast, percolate	Grain-like aroma and flavor	Blend with other items
BURDOCK	Wash root, dry, grind, roast, percolate	Bland aroma, and strong flavor	Blend with other items; medium to dark roast
CALIF. COFFEEBERRY	Clean seeds, dry, roast, grind, percolate	Very close to regular coffee	Can be served by itself; okay with or without honey and cream
CAROB	Dry entire pod, remove seeds, grind	Sweet, rich aroma and flavor	Good by itself; blends well with any others
CHICORY	Wash roots, dry, grind, roast, percolate	Somewhat coffee-like aroma; often bitter flavor	Roast medium or dark, depending on taste; best blended and served with cream
DANDELION	Wash roots, dry, grind, roast, percolate	Reminiscent of a grain beverage	Best blended with carob; medium roast
GRAINS (including wild grass seeds)	Roast the grains, and percolate as you'd do with ordinary coffee grounds	Good; can be reminiscent of regular coffee, depending how roasted and blended	Can be served alone, with or without honey and cream
SOW THISTLE	Wash roots, dry, grind, roast, percolate	Similar to dandelion; can be made to resemble regular coffee	Best blended; medium roast



more attuned to the wild bounty of the natural world, your eyes open and the world becomes a different place. It is only through several generations of brainwashing that we've arrived at the place where one is embarrassed to pick up weeds or acorns or carob pods. And just imagine—the folks who are laughing at you (or pitying you) as you collect from nature's crops are prisoners of their own thinking. I'm generalizing, but they work all day to pay for the car that they must have to get to the job which is needed to pay for the car to get to the store to buy the food that they believe is the only "real" food, and thus it continues.

By learning to collect your own food, your own herbs, your own "coffees," you have freed yourself just a little more from "the system." But that is, as they say, another story.

In a sense, doing these activities of self-reliance force you to think along different pathways than convention. We thus become more integrated with nature's rhythms, and there is a positive effect on our health, our emotional well-being, and our interaction with our local environment.

We do not dismiss such "simple things" as insignificant. We have heard it said somewhere (a quote from a wise man, no doubt) that we need not worry about the "big things," but that we should concern ourselves with little things and with the details, that life is all details anyway. Such "little details" are the stuff of the thread of Archimedes, and we believe that by tracing such threads back to their source, we can truly "find our way back home."

I think I've had too much regular coffee for the day; it's now time for me to make a pot of carob-dandelion coffee! ☺

Nyerges is the author of Guide to Wild Foods and Useful Plants, How to Survive Anywhere, Extreme Simplicity and other books. He has led ethnobotany walks since 1974. He can be reached at Box 41834, Eagle Rock, CA 90401, or www.SchoolofSelf-Reliance.com.

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Buying a Chainsaw? Which One?



BY BEN
HOFFMAN
MAINE

BUYING A CHAINSAW CAN BE a frustrating experience. What brand should I buy? What size bar should I get? How many horsepower? And the list goes on, depending on your purpose in buying it in the first place. Are you just going to limb some trees in the orchard, or do you plan to cut firewood? Are you going into the woods and cut trees down, or buy tree-length wood from a logger?

First, and foremost, buy from a saw shop that services what it sells, preferably one that deals with loggers. This may be difficult as increased mechanization in the woods has reduced chainsaw use, sales have declined and many saw shops have gone out of business. But shops that deal with professional loggers can answer most of your questions and, most importantly, service what they sell. If you buy online, or from a big box store, the service ends when your credit card is swiped.

There are many different makes and models, but for me, I stick with the major brands—Stihl and, Husqvarna—principally because they are popular with loggers, hence there are more dealers offering service as well as sales. I have owned both and do not have a favorite. There are other excellent saws on the market, and if there is a dealer who provides service, go for it. I had a Husky 44 for 30 years and could always get parts and service. With a 12-inch bar, I safely cut and limbed a 22-inch elm tree. My very favorite saw was a 56 cc Stihl

with a 14-inch bar, big enough to safely fall and limb a 30-inch white pine tree.

A year ago, my first excursion into “homeowner” models was a 32 cc Jonsereds with a 14-inch bar. It easily handled a 22-inch ash and is my backup in case my 52 cc Husky gets pinched. If you need a saw for occasional cutting, the \$199.95 saw is fine, but it is not designed for cutting several cords of firewood. My experience has been that the bars and chains do not stand up to cutting hardwoods such as oak, rock maple and ash. If you need a saw for more than occasional work, expect to pay \$300-350. If you are cutting oak, beech ash or hickory, get at least a 52 cc model. For softwood—pine, spruce, fir and cedar—44 cc is fine.

BAR LENGTH?

The longer the bar, the more risk of accidents and the greater the likelihood of striking rocks. When I was a logging contractor, I bought a saw with a 21-inch bar but two weeks later switched to an 18-incher. You can cut a tree with a diameter of 2.2 times twice the length of the bar, so why get a long bar? Unfortunately, most current ads for saws feature bar length. Years ago, listening to my tirade about people using long bars, my wife suggested that bar length might somehow be subconsciously equated with manhood.

If you are cutting the tree down in the woods, consider the work involved. Based on time studies, sawing time to fell a tree is about 15 percent of total work time but removing limbs may take from 35 percent (hardwoods) to 55 percent (softwoods). So a smaller,

My current saw stable.

The 52cc Husky with 16-inch bar can handle trees up to 34 inches in diameter at the stump.

The 32cc Jonsereds is for limbing and just in case I get the Husky bound in a cut. (I also carry a sharp axe in case both get bound.)

The Jonsereds' narrow kerf is fine for carpentry work. My wife claims

I measure it with a micrometer, mark it with a crayon, then cut it with a chainsaw.

lighter saw is desirable. A 16-inch bar should be adequate for most non-pros; if a good quality 14 were available, that would be my choice. The shorter the bar, the safer and more efficient the saw, and the less weight you drag around. One of my first saws weighed 35 pounds — many modern saws run 10 to 12 pounds.

KEEPING IT SHARP

Regardless of what you get, like any cutting tool, the sharper the saw, the better it performs. Having filed saws for years, I have no problem keeping the chain sharp. But when I was logging, I took my saw to the dealer every Friday and sharpened the chain on his machine. That assured that all teeth were the same height, depth and sharpness, at least on Monday. If teeth are not uniform, you might cut in circles. I still use a file in the woods but bought a cheap chain grinder from Harbor Freight (See their ad on page 117.) You'd be surprised at how many new friends I have. But best of all, my woodcutting is much more efficient; the chips coming from my chain resemble ribbons, not fine sawdust, and the motor isn't screaming.

For a novice filer, file guides take the guesswork out of sharpening chains.

SAFETY

Chainsaws are dangerous tools and can cause serious accidents, so safety and safety clothing are of paramount importance. Do not use a chainsaw unless you have, at a minimum, a safety helmet with face and ear protection (take it from one with stitch marks in his scalp), plus safety pants or chaps. My 33-year-old chaps (no cuts!) wrap around the legs and zip—no laces or straps to catch in the brush. I keep duct-taping the tired fabric because my new chaps, with straps, snag on brush. Last winter I bought safety pants—waterproof nylon, insulated, with sleeves inside the legs to hold Kevlar safety pads. Much more fun in the snow, and no snagging. Never launder Kevlar pads as that will reorient the fabric, so I slip the pads out and launder the pants. Check out Labonville.com.

You can also buy safety boots with Kevlar protection, and steel toes. Nothing like dropping a log on your foot without steel toes. And non-slip gloves are important when handling a saw. Safety equipment is not cheap, but it beats the heck out of the emergency room. You will also need a couple of wedges, files, bar and chain oil, 2-cycle engine oil to mix with the

gas, and a one or two gallon gas can for fuel. Most modern saws use a 50-to-1 ratio of gas to oil and make little smoke. Older saws used more oil and created a great cloud of smoke that kept the black flies, skeeters and no-see-ums away.

SUMMARY

So, if you're going to buy a chainsaw for cutting firewood, expect to pay about \$500 for saw, chaps, helmet and accessories. With regular cleaning and maintenance, using sharp chains, a modern saw can last 30 years or more. My 1973 Stihl 031 is still running, but it lacks the safety features of newer saws. Gloves and boots should already be in your wardrobe if you spend any time in the woods. If you buy from a reputable dealer, a used, reconditioned saw is a good way to cut your initial expense, and he'll treat you well when you trade up for a new saw.

To summarize—purchase a 45 cc to 55 cc displacement with a 16-inch bar and chain. I'll get into more details on safety, and my reasons for these recommendations, in future articles on felling and processing standing trees. If you only cut up long lengths of purchased wood, more horsepower is fine, but stick to a short bar. ☺



Minimum safety gear includes a helmet with ear and face protection, safety chaps with Kevlar pads from ankle to waist, steel-toed boots and gripper gloves. A bright-colored shirt is an added safety feature in the woods.

Chainsaws are dangerous tools and can cause serious accidents, so safety and safety clothing are of paramount importance. Do not use a chainsaw unless you have, at a minimum, a safety helmet with face and ear protection (take it from one with stitch marks in his scalp), plus safety pants or chaps.



A cheap chain grinder from Harbor Freight makes up for poor filing.



Solar power could help, but before you install thousands of dollars in panels, ask yourself: Is there a cheaper, more efficient way? Would a backup fuel-powered generator be more practical in times of emergency?

Why You Should KISS Emergency Preparedness

BY PATRICE LEWIS
IDAHO

HOW MANY OF YOU ARE confident the economy is solid, your employment is secure, the value of the dollar is sound and the power grid is permanent?

It's no wonder the subject of preparedness has gone mainstream. We're not stupid. We know something's amiss in our beloved nation.

Americans have grown up accustomed to Just-In-Time distribution, smoothly operating roads and services, and an abundance of resources such as food, clean water and electricity. But the evidence of our own

eyes and pocket books has begun to make us suspect that these services and resources may not be as stable as we've been led to believe. It's the realization of what life would be like without those goods and services that is driving the preparedness movement, which is a movement I applaud to the highest degree. The more people who are prepared to take care of themselves in the event of disaster, the better.

However there is a modest downside now that prepping has gone mainstream. Experts are becoming involved. There are hundreds, possibly thousands of businesses that have sprung up to supply every possible whim of the new, more affluent preppers, everything from an impressive array of freeze-dried food with a 25-year shelf life, to luxurious underground bunkers outfitted with all the comforts of home.

With the increase in interest among younger, more tech-savvy preppers, there is a natural desire to apply high-tech solutions to issues of personal preparedness. It's a lot more fun, after all, to figure out how the latest whiz-bang technology can be used in case of service failures.

I happen to think all attempts to improve one's self-sufficiency are a good thing. But while technology has provided preppers with many efficient and creative innovations, it's tempting to think expensive, high-tech options are always superior to the low-tech tools and skills used by our ancestors.

Many people have moved off-grid and therefore have a variety of alternative high-tech amenities already in place (or planned) for

day-to-day living. This discussion is not an attack on technology as a whole. There's a difference between having systems in place to provide everyday modern comforts—whether conventional or alternative—and systems meant as backups to carry us through stressful times when modern amenities may not be available.

Make no mistake, I love modern technology. But there's no question cheap electricity and abundant grocery stores breed dependency on a system that may not be so dependable after all.

Incidentally, whenever I address the subject of low-tech living, I make frequent references to generic pioneer ancestors. The reason I do this is because I hold them as a useful standard of knowledge and skills to which we should aspire. These are people who created homes and livelihoods out of virgin wilderness with a minimum of hand tools. Many of the solutions the pioneers used to meet their needs had the advantage of long-term dependability. If something low-tech broke, they could either fix it or make another.

A TALE OF TWO PREPPERS

My family has been “prepping” for a number of years now. We were already situated on 20 acres when we decided this route, and we've tried to look at every possible contingency to brace ourselves for what may be a bumpy future. We live in a conventional on-grid home, and because going off-grid was beyond our budget, we've opted to explore the most viable and frugal options to address what I call the Seven Core Areas of Preparedness (food, water, heat, lighting, sanitation, medical and protection).

Most of the time, these options are low-tech, meaning they're something the pioneers might have used as they set up homesteads across America. Our logic is these solutions are time-tested, less likely to fail, and relatively inexpensive.

Make no mistake,
I love modern
technology. But
there's no question
cheap electricity
and abundant
grocery stores breed
dependency on a
system that may not
be so dependable
after all.

In short, low-tech solutions give us a lot of bang for our buck.

We embarked on a long-term goal of food self-sufficiency. After many years of work, so far we grow or raise our own beef, chicken, eggs, fruit, most (but not all) vegetables and most dairy. On a shoestring budget, we've built barns, fences, chicken coops, a pond, and a huge garden.

Over the years we've assembled a collection of low-tech tools and equipment. This includes scythes (for wheat, which we've grown and harvested by hand), bucksaws, mauls, carpentry tools, a pressure canner, a wood stove, a wood cookstove, water storage and filters, kerosene lamps, etc.

We've taught ourselves skills such as canning, carpentry, gardening, wood cutting, drip irrigation, fencing, construction, milking, cheesemaking, scything, and animal husbandry. We've made endless mistakes and labored to fix them. When we find a solution that works, we make sure we have spare parts or the means to repair or improve upon that solution.

Our logic is, should the power grid go down, we will be able to transition to our low-tech backups. We're aware these options are more

work, but they're also dependable.

We know some people (the “Smith” family) with similar circumstances—20 acres, a middle-class income, and a conventional on-grid home—who also decided to become preppers. But they've taken the opposite tact. They've embraced high technology to address those seven core areas. I wish the following description of the Smith family was an exaggerated caricature, but I assure you it's not.

The logic behind the Smith's high-tech preps is they do not want anything like a grid-down situation to interrupt their current comfortable lifestyle. They do not want to go without conveniences such as hot showers, bright lights, refrigeration, or flush toilets. If “the end of the world as we know it” (TEOTWAWKI) hits, they want to carry on exactly as before.

Accordingly they've gone into debt to the tune of approximately \$65,000 to install a complete solar array, deep-cell batteries, windmill, dome greenhouse and an aquaponics system. While on the surface these may seem like sensible investments, I've seen the difficulties and limitations the Smiths have faced as they've installed these projects.

The Smiths do not want to learn the skills, or acquire the tools, to live a low-tech lifestyle because they are certain their high-tech solutions will insulate them from such inconveniences. In other words, they are investing in high-tech stuff at the expense of learning low-tech skills. Why bother, after all, if technology will save them?

The Smiths built a greenhouse and an aquaponics system to raise tilapia, a fast-growing tropical fish. (By the way, we're located about two hours from the Canadian border.) They are convinced aquaponics is the long-term permanent solution to their food needs. While the idea behind aquaponics is fairly sound, and the Smiths have labored hard to get

the system up and running, it is entirely dependent on heating the greenhouse and tanks with propane to keep everything alive during our bitterly-cold northern winters. Their system will only last as long as their propane.

After several years of tweaking and improving these systems, I think the Smiths finally realized their greenhouse and 1,500-gallon tank of fish will not feed the family for more than a week or two, even under the best conditions. Belatedly they came to understand the importance of a garden. So this past summer (not spring, summer) they plowed up some ground for vegetables. They planted their potatoes in early July and did not install any means to water them (they assumed the potatoes would get enough water to grow from moisture in the ground—we had been in drought conditions for two months). They were disappointed when the result of their efforts was five pounds of potatoes they could have purchased for \$2 at the local grocery store.

During a cold spring windstorm last year, we lost power for seven hours. It was not a problem for us—we kept the woodstove purring, had the oil lamps lit, cooked dinner on the wood cookstove, and used our emergency five-gallon bucket toilet when nature called. The Smiths, I kid you not, lost power too (despite their solar panels and batteries) because something went wrong with their array. But because they didn't have so much as a candle in the house (why did they need candles when their solar system would supply everything they needed?), they sat in a cold dark house with no means to cook dinner or stay warm.

After the power came back, they tried to remedy why their solar system failed, but they opted not to purchase any backups such as candles or kerosene lamps, because next time everything would work flawlessly, by golly.

I give the Smiths a lot of credit for trying their best to become self-sufficient, and we've applauded some of their wiser decisions (installing a wood cookstove, for example); but it's painful to watch them go deeply into debt to acquire tools and solutions that are not dependable, repairable, or (dare I say it) renewable.

The moral of the story is this: Don't indulge only in high-tech solutions at the expense of their low-tech alternatives.

Even folks who regularly live off-grid understand the need for backups to their backups in the form of kerosene lamps, simple water purification systems and more.

My argument is, if they're going to go into more than \$65,000 of debt to become more prepared, how much more could they have done if they'd opted to go low-tech?

Imagine what \$65,000 could buy (remember, they already have a house and 20 acres). They could have decades of firewood. They could have endless kerosene lamps and barrels of kerosene. They could have composting toilets and an outhouse. They could have an enormous garden, livestock and the

infrastructure to keep them going for years. They could have hand pumps, water filters, and other non-electric means of purifying water. They could have a pharmacy's worth of medical supplies and an army's worth of firearms and ammunition.

Instead they have a solar array that fails frequently and an aquaponics system that provides a few meals of fish per year and a handful of vegetables. They have no backup systems at all—no lighting, no means of basic sanitation, no sustainable food production. In our prepper-oriented community, the Smiths are regarded with something akin to pity.

I realize this is an extreme example, but it has proven useful in reinforcing my opinion that low-tech solutions are viable and sensible.

KISSING EMERGENCY PREPAREDNESS

The point of this article is to encourage you to keep the KISS principle in mind when prepping: Keep It Simple, Stupid. The more complicated the solution, the less likely it is to work flawlessly and forever.

Please don't make the mistake of thinking "simple" means "easy." It doesn't. Using a woodstove to heat your home in the winter is simple. It doesn't break down, it always works, it doesn't require electricity...but let's face it, it's a lot easier to turn up a thermostat and fire up the central heating. Using a wood stove means you have to obtain wood, split it into manageable pieces, stack those pieces out of the weather, start the stove early in the morning, stoke the stove periodically throughout the day, and deal with ash and splinters. None of this is easy. But it's very, very simple.

But technophiles always see a problem as an opportunity to indulge in all sorts of pricey, complicated systems—"toys for boys," pardon the stereotype.

Pioneer methods are for pansies. The more expensive and technical the solutions to their basic needs, the better.

But the technophiles are missing the big picture. Almost invariably, high-tech solutions are complicated, require continuous maintenance (often by professionals), necessitate specialized parts, and are prone—simply because of their complexity—to breaking down. For the cost of a solar array or even a generator, I can buy a whole lotta beans, bullets and Band-Aids.

Remember, the more moving parts something has, the more likely it is to break or malfunction. Unless you have the knowledge and spare parts to fix what's broken (and let's face it, many technophiles don't), it might be better to ensure that you have multiple low-tech backup options available. While high-tech stuff can be wonderful, you also have to be practical and realistic.

Another thing to think about is that blazing lights and a noisy generator draw attention. If you have the only brightly lit house—the envy of your neighbors!—then you might attract more than envy...and more than neighbors. Just saying.

THE IMPORTANCE OF SKILLS

One of my frequent laments is what I call the "death of knowledge." For thousands of years of civilization, mankind has honed hundreds of survival skills. What bugs me is this: We've forgotten thousands of years' worth of skills in less than three generations. Should the grid ever fail, the loss of those skills could prove fatal to many.

It's easy to guess why these skills have been lost as modern technology became widespread. Low-tech skills require more time and more work, and are less efficient.

The knowledge required to use low-tech tools is often overlooked among preppers. Low-tech living can be a surprisingly difficult prospect, mostly because few of us have grown up learning the



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Flooding in Washington state made getting supplies in and out more difficult.

necessary skills at our parents' knees. With rare exceptions (except perhaps among COUNTRYSIDE readers), your average urban dweller isn't called upon us to sew on a treadle machine, cook on a wood cookstove, milk a cow, cut and split firewood by hand, build without power tools, or repair anything from a shoe to a window screen.

There's no doubt modern methods are usually highly efficient—a combine harvests wheat far more efficiently than hand-scything (take it from someone who knows)—but it also means there is an enormous wealth of skills that we've lost in the last century.

If modern conveniences become unavailable, we'd have to get by on our own. Can you imagine how helpless we would be if we were teleported back to the days of the pioneers? You and I wouldn't have the faintest idea how to "make do." Our pioneer forefathers (and mothers) had a staggering vari-

ety of knowledge that has largely been lost today. They could cook (truly from scratch), sew, shoot, preserve food, and a zillion other things we've let lapse over the last century of easy living.

The problem with these kinds of skills is they take time to learn...and the time not to learn them is when the bleep has hit the fan and people are scared and panicky. If you're coping with a long-term power outage and need to preserve the food in your chest freezer before it rots, are you going to wait until then to teach yourself how to can?

"Skills" are more important than "stuff" most of the time; yet "stuff" is what most people think of when they get into prepping. We invest too much in things and not enough in education. Knowledge is of limited use without the proper tools and equipment; but tools are useless without the knowledge of how to use them. Both are important.

SENSIBLE COMPROMISES

And yet, people have to balance low-tech solutions against whatever physical limitations they may have. Many low-tech solutions are low-tech because they're labor-intensive, so they won't work for everyone. To someone who is elderly, disabled, or in poor health, livestock and gardening might be beyond their physical abilities, in which case those MREs and freeze-dried foods are a smart resource.

But physical limitations aside, too often we avoid low-tech solutions because of the workload involved. Even people in robust health often don't think in terms of choosing low-tech options because it's such hard work.

True story: A couple of years ago we grew a half-acre wheat field as an experiment. While we used a tractor to break up the soil, the rest of the work was done by hand. We sowed by hand, we scythed by hand, we raked by hand, we

bundled into sheaves by hand, we threshed by hand, we winnowed by hand, and we ground the wheat into flour by hand (well, okay, we used a hand-operated grain grinder, but you get the point). It was a tremendous amount of work that gave us a deep appreciation for what early farmers did as a matter of course. Nor is it an experiment we're anxious to repeat unless we have to.

The point is, not everyone has the physical ability (or frankly the interest) to engage in such tough activities. So don't. Prepare yourself to handle things commensurate with your abilities...but don't overlook the fact that low-tech living is almost always more labor-intensive than high-tech.

DON'T OWN STUFF YOU CAN'T FIX

One of the problems with our luxurious modern society is we will do anything and spend whatever it takes so we will never be deprived of our creature-comforts. If the power is out, we still want our hot showers, bright lights and flush toilets.

But our pioneer forefathers didn't have those luxuries and they mostly got along. I'm not saying they didn't stink or experience discomfort using an outhouse in freezing weather, but that was just the way things were.

If the time comes when utilities are unavailable and our lives revert (temporarily or long-term) to life without modern amenities, then we can't expect to keep our creature comforts at the same level. Remember this: Ultimately it's better to learn to live with *less* than to be dependent on *more*.

One of the dangers of technophiles is they often can't fix the stuff they buy. Of course I could be wrong—many people are technologically savvy, in which case I recommend a stash of replacement parts for if/when an item breaks. But otherwise, be careful of owning stuff you can't fix.

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If your prepping efforts depend on high-tech things such as generators, solar panels, windmills, pumps, and communications devices—and then something goes wrong—what will you do if service experts or parts aren't available?

We can't be too purist about the notion of only owning stuff we can fix. I don't have the faintest clue how to fix a computer, yet our family owns several. Ditto for the car, the well pump, and the chain saw. These items are useful and valuable and help make our lives easier and more productive. But arguably they're not critical to our survival. If they were knocked out of commission, we have low-tech backups so we won't be hungry, thirsty, sitting in the dark and unable to stay warm.



RULE OF THREE

Even those currently living off-grid know the wisdom of having the Rule of Three in place—essentially backups to your backups. If your solar panels fail, have a generator. If your generator fails, have a woodstove and oil lamps.

The same applies to lower-tech options: make sure you have backups to your backups, or at least multiple versions of the same useful, dependable item. If your Aladdin oil lamp breaks, make sure you have a regular oil lamp ready to light. Lay in a good supply of candles as well. And don't forget the matches.

Now let's face it, by no stretch of the imagination are oil lamps anywhere near as bright as incandescent bulbs or CFLs powered by solar panels or a generator. But so what? Is it necessary to have home lighting so bright that you're forced to squint? Prior to electricity, the world was a much darker place; but it's better to have a candle to light than to sit around in the dark when your generator runs out of fuel.

BLOOMING WHERE YOU'RE PLANTED

Since everyone's circumstances are different, it's important to make whatever concessions are necessary depending on your health, finances and physical location.

It's not easy going low-tech in modern houses. The most obvious low-tech solution for heating, for example, is a wood stove...a solution that's difficult in the suburbs (where will you get your wood?) or impossible in the city (high rise apartments frown on wood stoves).

In our modern culture, and with

the vast ignorance we have about low-tech living, the best we can hope for is a blend of high- and low-tech answers. I'm not about to give up the convenience of flashlights (a high-tech gizmo) in favor of a hurricane lamp if I'm trying to find out what kind of predator is harassing our livestock at midnight. But if my flashlight fails, at least a hurricane lamp is available.

The moral of the story is this: Don't indulge only in high-tech solutions at the expense of their low-tech alternatives. Even folks who regularly live off-grid understand the need for backups to their backups in the form of kerosene lamps, simple water purification systems and more.

As you acquire more skills and the equipment necessary to tackle low-tech living, you may discover a lovely side-effect: a sense of accomplishment. Low-tech living is harder, requires more knowledge, and is sometimes messy; but it can also be soul-satisfying, peaceful, and fun. And if you get used to low-tech living now, your learning curve will be less and your pocketbook will thank you.

Prepping isn't a destination, it's a lifestyle. In this high-tech world, I prefer to take refuge in a lower-tech standard of living that will serve us equally well in both normal and emergency times. As someone once said, "Reject convenience and select inconvenience now. It will help in adjusting to life without later."

So before you rush out and buy \$50,000 worth of solar panels and a room full of deep cycle batteries, ask yourself whether there's a simpler solution to your survival needs. If you still think that those panels are the best bang for your prepper-buck, then go for it! But don't forget that if something goes wrong...well, it's better to light one candle than to curse the darkness. So make sure you have a few candles in stock. ☺

Farmers And Stockmen Set To Get Free Survival Food.

Company vows to keep up with the rush to supply all who call toll free and beat the deadline to claim up to four free 72-hour survival food kits.



Farmers and stockmen around the country are rushing to claim up to four free 72-hour kits before the deadline.

In a crisis, your number one need is food. But not just any food. What everyone – yes, even farmers – should have is good-for-25-years survival food to rely on when the time comes that food is scarce.

Well, right now – in what is truly an unprecedented move – 72-hour survival food kits are being given away by Food4Patriots to readers of Countryside Magazine, as long as they call a special toll-free hotline and beat the program deadline.

“This is all happening because we’re worried that some people in Washington may want to control more than just guns and ammo,” explained Frank Bates, a spokesman for the company. “We already know that some of those folks may want to take away our guns. What’s next, controlling our food?”

how much survival food is currently available and exactly where it is stored. Truthfully, we don’t really know why this information is being gathered, but it’s got lot of folks pretty concerned. After all, you don’t ever want to rely on others to keep your family fed in a crisis.”

Experts say that everyone needs at least a three-day supply of non-perishable food on hand. So, to help ensure all they’ll have emergency food available when they need it, Food4Patriots is giving away up to four 72-hour survival food kits to any reader who requests them.

Understand, this is real food and it’s ready in minutes. It not only tastes good, it’s good for you – unlike the MREs you’ve probably had. Plus, this food lasts for 25 years, far longer than MREs.

Each kit contains enough meals for three days. You’ll get four servings each of such familiar dishes as Liberty Bell Potato Cheddar Soup, Blue Ribbon Creamy Chicken Rice, Travelers Stew, and the always-loved Granny’s Homestyle Potato Soup.

The company’s usual price for the 72-hour kit is \$27.00 plus shipping. But, through this special offer, Countryside Magazine readers who act quickly can receive as many as four free kits and pay only a \$9.95 shipping and handling fee for each kit claimed through this offer.

Bates pointed out that the foods in these kits are all packed in durable, re-sealable Mylar pouches that guarantee they’ll stay fresh and delicious for at least 25 years. Because the last thing you need is food that’s gone stale or is filled with bugs.

In an emergency, a 72-hour kit could actually save your life. In fact, many folks like to keep a kit in the trunk of their car – just in case.

“We’re trying to ensure no one gets left out, but they have to hurry as we only have a limited supply of 72-hour kits we can give away,” Bates warned. “And the program will be ended no matter what at midnight, February 29, 2016.



Your family will enjoy meals much like what they’re eating now.

It’s already been reported that there is an effort underway to determine

HOW TO GET YOUR FREE 72-HOUR SURVIVAL FOOD KIT:

Food4Patriots is committed to giving up to four free 72-hour kits to all Countryside Magazine readers who call their toll-free hotline. However, the response to this survival food giveaway has been so great that additional agents had to be brought on to handle the volume of calls. As a result, the company’s free kit inventory is disappearing fast.

If you wish to claim up to four free 72-hour survival food kits, you must do so immediately. Simply call the toll-free hotline and give the agent the approval code shown below. Provide your delivery instructions and agree to pay the \$9.95 shipping and handling fee for each kit claimed. It really is that easy.

Approval Code: 72FREE
Toll-Free Hotline: 1-800-728-0227
Offer Cut-Off Date: 02/29/2016

Please note: Food4Patriots says they will continue to give away these 72-hour kits for as long as their supplies last.

Unfortunately, due to media exposure, their phone lines may be busy when you call. The company advises that if this happens, you should just keep calling.

Need Another Refrigerator?

Here Are Some Ideas for Non-Electric Refrigerators for Home, Cabin or Backup

BY JOHN HOHMAN

ABSORPTION REFRIGERATORS, also known as gas refrigerators, LP gas fridges or propane gas fridges, are fridges that use LP gas to keep food cold. These fridges were invented in the early 1900s. They use no electricity and have no moving parts and are whisper-quiet.

Because of this, they may last as much as three times as long as an electric fridge. These fridges function the same as an RV refrigerator; however, they are designed to be free standing and have complete cabinets, instead of just doors.



They are designed to fit in with the rest of the kitchen appliances. This product shines in situations where electricity is a problem such as an off-grid home, remote cabin or cottage, and as an emergency back-up to existing refrigerators and freezers. Fridges of 8 cubic feet to 10 cubic feet can replace two good-sized ice chests. Propane fridges are reliable, safe and easy to use. Some of the most common brands on the market are: Diamond, Dometic, EZ Freeze, Crystal Cold, and Unique.

ABOUT THE REFRIGERATOR

Gas refrigerators are made in a two-door style as a refrigerator-freezer combination with sizes ranging from 8-cubic-feet all the way to 19-cubic-feet. Most refrigerators have a freezer, with sizes ranging from 1 cubic foot freezer compartment to an extravagant 4-cubic-foot freezer compartment and fridge compartments ranging from 7 cubic feet to 15 cubic feet. Whether there needs to be lots of space or just moderate space there are models and makes to fit.

A flame at the burner produces the heat that circulates the gas inside, which is an ammonia solution pressurized with hydrogen. There is a thermostat to control the temperature and gas flow. A thermocouple acts as a gas safety control. Should the flame blow out, the thermocouple will shut off the gas supply, preventing a gas leak. Gas fridges run on Liquid Petroleum (LP) or Natural Gas (NG). LP gas is the same gas that is used for most gas grills. The gas is purchased in a tank that can be found at convenience stores and most stores that sell grills. Gas refrigerators work exceedingly well, don't operate on electricity and can be used almost anywhere. In addition, propane is also very portable and there are usually fill stations close to marinas, at gas stations and various other outlets. Propane refrigerators will consume from 1 to 1.5 pounds of gas a day depending on the size of refrigerator, which means that a 20-pound bottle will last approximately 15 days.

The gas hookup is the same as propane stove, hot plate or a gas grill. The temperature performance of these refrigerators will compare to an electric fridge. Taken care of, these units can easily provide a decade of economical, trouble-free and quiet operation. Although there are no moving parts, there is some maintenance involved. Maintenance is very simple and most repairs can be made in the field. A good manufacturer will provide a maintenance DVD along with the new refrigerator that shows how to maintain the refrigerator or makes it available free of charge.

Most units can be shipped to semi remote places very easily and personally taken home to any other location. Transportation for these refrigerators is easy since the weight ranges from 160 pounds to 280 pounds and can be manhandled by two people. This is nearly as light as a conventional electric fridge. They can be transported by any vehicle. They are often transported on a boat across the water to a camp. Some people even install them in houseboats! Many hunting camps are only accessible by airplane. Again, simply load the fridge into the plane and fly it into the camp.

FINDING THE RIGHT FRIDGE

Gas refrigerators can be purchased online or at stores all across the U.S. There are many options to choose from when shopping for an absorption type refrigerator. Since a person could be investing a few thousand dollars in this venture they will want to choose well. Begin the research on the Internet. This would help to become familiar with the different brands and types of fridges. Buyers should not forget to ask others who have bought gas refrigerators for recommendations. Often the best information comes from people who have owned these units or have had experience with them.

When looking at the product, take note of the workmanship. Although, to the casual observer, the differences from manufacturer to manufacturer are subtle, they can still be detected. Is it neatly done? Is it built sturdily? Lower prices may look attractive, but a close look and, a person may understand why the price is lower. And a person should not forget about service after the sale! Ask the dealer how they handle service problems. There may still be some refrigerators from Explorer and Cool Fun that are still operating. Both of these American companies are out of business because of operating and service problems. As with many products manufactured outside of the United States, service and warranty become a problem.

Search for a company that has proven itself. Make sure it comes with a good owner's manual, which is expected, and look for certification. A few of the manufacturers offer various lengths of warranty. This is a good start, but find out how confident the manufacturer is in their warranty and what is covered. Try to determine, by asking others, if they have had a warranty issue and how it was handled. In other words, how well does the manufacturer and dealers take care of their customers? When there is trouble, it's nice to have a responsive company to fall back on. And, one last thought about certification. Certification means that another organization tested the refrigerator to see if it met certain, published, specifications. CSA certification is not required in the U.S., but it can provide a higher level of assurance for safety and performance; this certification is recognized in the U.S., but it is a requirement in Canada. ☺

Editor's Note: See another story about how to repair gas refrigerators in this issue on page 88.

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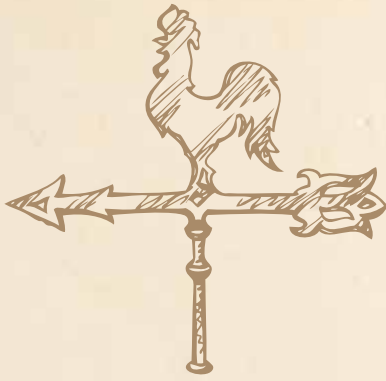


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THE
Countryside
Tale





I**N 1972,** JD BELANGER, the founder of this magazine, combined *Rabbit World*, which was 32 pages long, with *Dairy Goat Guide*, which was 12 pages, and *Countryside*, which was 20 pages, into a single, 64-page magazine called “Countryside and Small Stock Journal.” Customers who had been paying \$11 for all three magazines suddenly found themselves paying \$5 for a bigger magazine. As Belanger wrote in 1975, “Many people commented, ‘I’m going to renew quick before you come to your senses.’”

Two years later, the price increased to \$9 and the magazine added a few issues per year. Forty-four years later, and 100 years since the very beginning of our publications, we are still alive, charge a little bit more, publish twice as many pages, distribute a little less frequently, but still, we’re alive. We published through multiple recessions, and are now in a one-unthinkable era where people tell us, “print is dead,” leaving those of us with ink on our fingers two decisions: give up, or tread harder.

We’re not giving up. Because neither did he. As Jd had to make changes to the magazine through the years, he too risked alienating his audience, so he wrote about them often, trying to explain. He raised prices, trimmed pages, added pages and went to color. And he did so with a grace, style and honesty, in a way that built a shadow under which any future editor will

humbly operate. This ability—to adapt and thrive—is at the root of all things we write about in the magazine, was at the roots of his vision for this magazine, and was instilled in us by the words he used in every issue in his column, *Beyond the Sidewalks*.

In it, Belanger would address changes—in life, the publication, in politics—with a paternal voice, which comforted, consoled and uplifted. He nurtured and grew a movement that, four decades later, is now booming again. Local food, good values and self-sustainability have never been more a part of the national conversation. And no longer are homesteaders these long-lost enigmas. We are alive, and even on reality television shows, for better, or more likely, worse. Either way, the public consciousness is shifting again, and this time, it’s toward reality. Living better, cleaner, more humbly, is not just in style. It’s a necessity.

We will leave you with samples of the best writing the editors through the years have published at COUNTRYSIDE, many of which are from Jd’s column, many of which are from the pens of readers. These writers and thinkers carefully measure how drastically our lives and culture have changed. But in contrast, like most history, you’ll notice a contradiction: how very much our lives, problems and solutions, have also very much stayed the same.

— Ryan Slabaugh and the team at Countryside

The Best of Countryside

These pieces were selected after editors sorted through nearly 45 years' worth of issues of **Countryside and Small Stock Journal**, which came about nearly 55 years of other iterations of smaller publications. We would be lying if we said we read every word of every issue, but we came close. What lies ahead are the passages that caused us to pause and think, to wonder about the world, to laugh, to cry, and maybe even to shake our heads. Most of all, with the words they chose, the subjects they addressed and the voices they used, these passages embodied the spirit of the magazine. Anyway, we felt they were worth remembering again as we celebrate 100 years of publishing, and we hope you do too.



FEB. 1973

EVER WONDER WHAT this time of the year was like for the real, old-time pioneers? Our apples are shriveled to prunes, the potatoes are starting to get soft, the winter squash is in the last stages of edibility, the hens wouldn't be laying at all without the electric lights, most of the goats are dry in preparation for kidding, we lost way too many baby rabbits in the cold, and in general, the larder that was filled with good things to eat just a short time ago looks more like a warehouse for empty glass jars. Well, for one thing, the pioneers ate vinegar pie.

Jd Belanger, Beyond the Sidewalks

IF WASTING ANYTHING IS against your nature, consider Mother Nature herself. The forest is full of seedlings that will never become trees; the trees are full of seeds that will never become seedlings. If Nature prepares for emergencies...and "wastes" a lot in the process...maybe it shouldn't bother us mortals too much. We aren't dealing with machines that can be turned on and off at will. Do we need a new definition of "waste"? There's always the mulch pile, where nothing is wasted.

Unbylined, What is Waste?

MAY-JUNE 1973

THERE IS NO SUCH THING as a pig fence. Just a line you draw and by mutual agreement the pig stays inside. Pigs are very strong and intelligent, natural fence breakers, so heavy construction will save a lot of trouble.

Richard Ethan Ettelson, Pig Power

BY THE TIME THE JUDGE GETS his hands on it, your pride and joy has had the third degree and is so tensed up that it's expecting the worst. Then have Mr. Judge light up an El Ropero De Stinko and Mr. Rabbit isn't accustomed to fire and smoke.

W.H. Smith, Help!



APRIL 1973

THE CLIMATE OF HOSTILITY and ridicule that has surrounded natural or organic agriculture has softened somewhat in recent months, only to be replaced by a certain amount of confusion. What exactly is natural agriculture? A few years ago, whenever the topic came up, it usually centered on insecticides...and most people I talked with, at least, were convinced we'd all starve to death without poisons. Now, even the federal government is "going organic" ... half-heartedly, perhaps, but when you consider this is a 180-degree turnabout affecting a multi-million dollar industry, that's something!

Jd Belanger, What is Organic Gardening?

SEPTEMBER 1974

ACTUALLY, A FANTASTIC amount of potential food is going to waste on this planet. If you can't harvest it with a \$20,000 machine and package it in plastic, nobody recognizes it as food. Virtually every home in America could raise a couple of rabbits, and most of them a goat, without even touching land now under cultivation. The

time hasn't been right. It won't be until an hour of time spent caring for the homestead in a labor-intensive situation will be worth as much as an hour spent making money to buy food in a capital-intensive situation. That hour is coming. Keep readin' those headlines, folks.

Jd Belanger, Beyond the Sidewalks

OUR GOSLINGS WERE ONLY A few days old when a sudden, cold shower caught one a puddle away from mother hen. When it was brought in to me it was completely chilled (cold to the touch all over), wet, not breathing enough to be perceived, and completely limp. Only an occasional spasmodic twitch indicated that life remained. I grabbed the nearest mixing bowl, filled it with hot water, and immersed the little gosling until only his head and beak were above water. Then, I began artificial respiration—gently but firmly squeezing his rib cage in and out. As the water cooled, it was changed for hot. After about 20 minutes of this the twitching became more regular, his eyes opened, and he began breathing on his own again. When these signs of life grew stronger, I rubbed him with a towel, which had been warming on the back of a woodstove, wrapped him securely in another warm, dry towel, and placed him in a box in the back of the stove. In less than two hours, he was on his feet exploring the box. I kept him in overnight, and the next day, returned him to mother hen. He lived to healthy adulthood.

Donna Nelson, Surprise! Laying Mash Induces Laying!

JANUARY 1975

YET, I SAY THINGS are looking up! Things are looking up because we are learning, and that means there's hope.

Jd Belanger, Beyond the Sidewalks

APRIL 1975

SPRING IS THE SEASON of hope, because a young man's fancy turns to love...and because an old man stoops to plant tiny seeds in the moist and fertile soil without even bothering to wonder whether he'll be the one to reap the harvest. In spring, it doesn't really matter.

Jd Belanger, Beyond the Sidewalks

THERE BEFORE MY EYES were coop doors ripped from their hinges, the wind slamming them against the hutches. Feed dishes, sawdust and straw were strewn about. Rabbits were all over the place. Some could move, some could not—dead where they stood. When the shock wore off, I set about gathering up the loose rabbits and finding them temporary housing. Several rabbits were missing, and to this day, I don't know their fate. ... Over a cup of coffee I tried to figure out what in blazes had attacked my coops with such ferocity. I concluded it had to be dogs. But where I live, and the people I know, wouldn't house an animal that vicious in their homes. I discovered several days later that the attack was initiated by two German Shepherds who had been wandering around for over a week. Most of my neighbors had seen them rummaging through garbage cans and roaming in and out of back yards in the district. No one seemed to know whom they belonged to or where they came from, or for that matter, where they disappeared to at night.

S. Cable Spence, Marauding Dogs Invade Rabbitry



SEPTEMBER 1976

HAVE YOU BEEN TAKEN over by *Mother Earth News* or have you just lost your way in the beginning of the battle? It's so sad to see you wasting precious time and energy on plastic sex-appeal instead of lowering your price, or better still, improving your magazine.

*Jon Johansson, New Look
Creates A Stir*

THE ROAD PIGTAILS through the mountains with their oak opens and coastal pine groves, past vast ranches etched with cattle trails and occasional jeep tracks, past national forest campgrounds and lookout towers, and spills onto the plain, which is richly aureoled in gold, bronze and copper dotted here and there with alkali white against the electric blue sky and the brown and black mountains. Each cluster of ranch or farm houses and outbuildings, often miles apart, is startling for its seemingly lavish setting of leaf and grass green.

Lea Landmann, Dry Farming Works

APRIL 1977

THE VACANT GAZES and fixed smiles tell it all. Those people haven't the slightest idea of what farmers do, or how or why, or where their food comes from. And that, I fear, is at the very heart of most of our major problems today.

*Jd Belanger, Why Buy The Cow If
the Milk Is Free?*

THE CARRE OPERATION IS very much a family operation. Father and son (Michel) are in charge of the commercial production; mother and (married) sister take care of the home food production. One remarkably jovial hired hand is employed as well. A centuries old

agricultural tradition is reflected in the architectural and horticultural design of the Carre farm. Located just outside the barnyard are the compost piles and a supply of straw, which is mixed with horse manure, guano and biodynamic preparations for composting. The horse manure is provided by the three-and-one-half-year-old Breton horse, which earns its keep plowing, planting and cultivating. "I did use a tractor for a while after the horse died," Michel Carre laughed, "but the machines compacted the earth. The horse can tiptoe!"

Healthier Tischbein, It's A Tradition



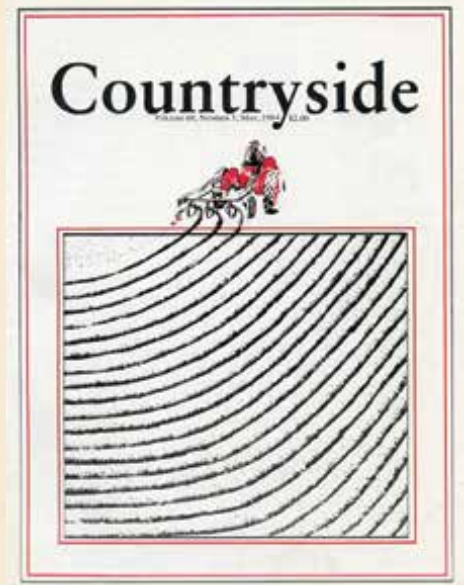
JUNE 1982

LATER ON, when I went away to school and roamed around a bit, and joined the Marines and roamed some more, I found out that reliance on milk and dairy products as a staple food wasn't a universal trait, that we Wisconsinites were something of a strange breed when it came to malts and cheese and butter. I even met people who had never even tasted good cheese — who wouldn't recognize it if they did — and I began to realize that a taste for good dairy products is a learned trait.

*Jd Belanger, Has Milk
Lost its Magic?*

USUALLY A NEW homesteader's way of doing things evolves by combining the wisdom of the past with the scientific and technological possibilities of the present.

Pat Katz, Butter Making Basics



JUNE 1984

MY DADDY WORKS HARD, but he is fun too. He takes me out to get the eggs, and he holds me up high so I can pet the goats. He doesn't even yell at me when I'm a little careless and hurt the goats' noses. He just looks at me gently and says, "Be careful, honey."

*Amanda Smith, My Daddy, A
Father's Day Tribute*

THERE IS NO PRACTICAL way of making a well-balanced cat or dog food at home. Those years when homesteading was a necessity, dogs and cats were fed a wide assortment of foods: table scraps, guts and bones from animals killed for food (remember in the "good old days" there was more of this type of food than found today, even on most homesteads), surplus milk, whey from making cheese, unused



buttermilk, and more. Animals also hunted for themselves. Today the dog that kills a deer is usually shot by a conservation officer or a farmer (dogs don't always distinguish goats and sheep from deer). Also, in the early 1900s, an old dog was seven or eight, not 16 or 17.

C.E. Spaulding, Take a good look at your dog's food

NOVEMBER 1984

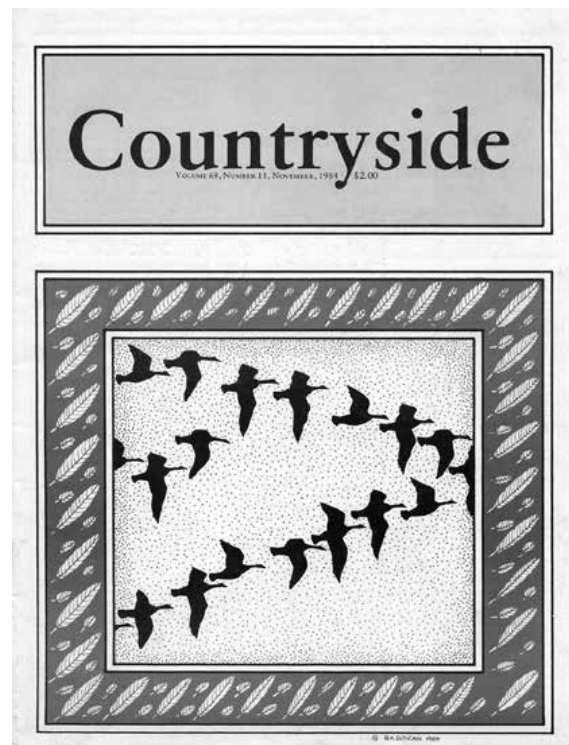
LAST WEEK, Tammy, the typesetter, and Anne-marie, the art director, were running the tying machines, and Steve was putting the bundles into the proper mail sacks, labeling the sacks, and hauling them to the post office. If one person slows down, the whole operation falters. Seems to be a lesson there.

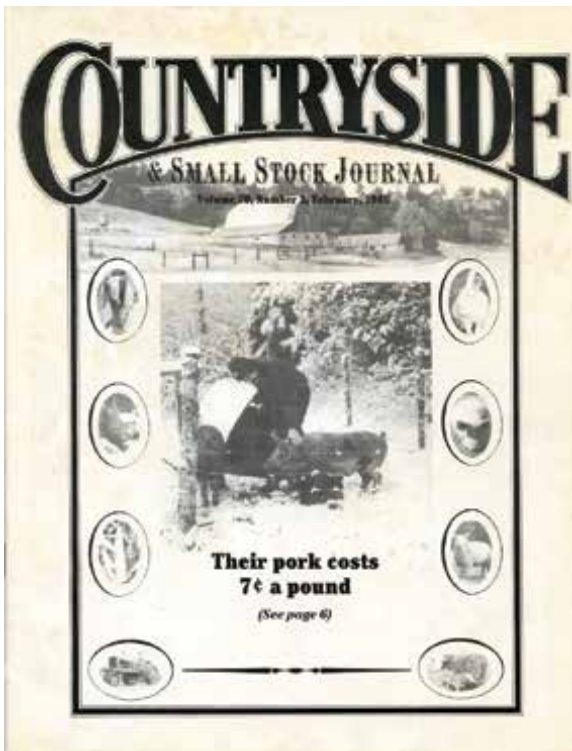
Jd Belanger, What colored stickers on your magazines mean

"THE MAIN THING I'D DO IS quit working outside the home," said Emily Oguss of Surrey, British Columbia. "I consider myself to be a feminist, and as a scientist I can't complain that my career has been boring. But the raising of small children and the maintenance of a complicated household (including livestock and garden) are not jobs that are easy to delegate. My income has been essential, especially in the

last two years when my husband has not had regular work. But lately I have begun to feel like 'the totaled woman.' I've got it all: all the financial responsibility, all the parenting responsibility, all the coping."

Linda Reedy, You've just won a \$100,000 lottery!





MARCH/APRIL 1986

I HAVE ONE MOUSE named Miracle. He got loose and my cat Frosty caught him and brought him to me as if to say, "Put him back." So I did and now he is a grandfather of many mice, caged or marketed. I've lost none to the cats yet.

Marshall Malcomb, Hobby Mice Make Money

FOR THOSE PROSPECTORS, we climbed steep mountainsides, our backs loaded with picks and shovels and heavy gear. We strode across deserts and trotted through rapids, often carrying our masters on our backs along with their pans and ponchos. But when gold ran out, so did the prospectors. They turned our forebears into the wild. Our grandparents became known as "feral animals," those which reverted to the wilds from domesticity. It takes a few of us to begin an Ass family, then form a herd, and finally amass a population. That's just what we did!

Jack 3523 and Jenny 3518, official Asses Certified by the U.S. Department of the Interior, as told to Rene Gnam, How Jack and Jenny Found A New Home

JANUARY 1987

IT WAS ONLY LATER, while driving around the countryside, that he noticed other farmers' pigs smelled and his didn't. He suspected the yeast had something to do with it. His suspicion was confirmed several times, when he ran out of grist and resorted to feeding ear corn. The pigs started smelling like pigs again.

Jd Belanger, He Raises Pigs That Don't Smell Like Pigs



SEPTEMBER/ OCTOBER 1987

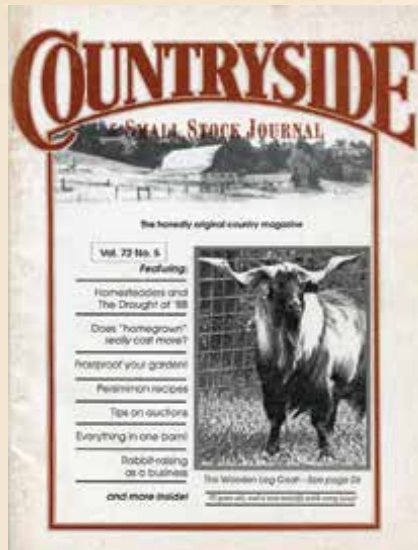
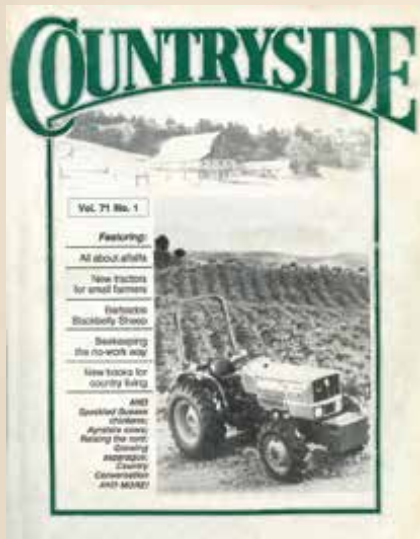
SCROUNGING IS AN ART that is commendable. So much good stuff is actually thrown away, especially in this country, that it makes me sick not to be able to use more than I do. Didn't have the cash for new materials, anyway.

Dorothy T. Moore, I Guess I've Always Been A Homesteader

I SOON RESENT THE TIME

I spent commuting and my job became a dead end. I found myself having less and less patience, not to mention, the physical and mental fatigue. There always seemed to be a lot of tension at home because there were more chores than time or energy allowed. I even began to have resentful feelings toward my husband, who does not completely share my desire for "the homesteading" life. It seemed if things were to get done, I had to take care of them.

Karen Stevenson, Juggling the Homestead



JULY/AUGUST 1988

WITH THE PRESIDENTIAL race down to two contenders now, it should be easier to make a choice. But do you really think it makes any difference, so far as small farming is concerned, which one wins? This is not a political problem, and politics isn't going to solve it. And no political candidate—or office holder—is going to be in favor of the family farm when the chips are down. Too many people belong to too many stronger interests.

Chris Orrall, The Government Is Best, Which Governs Least

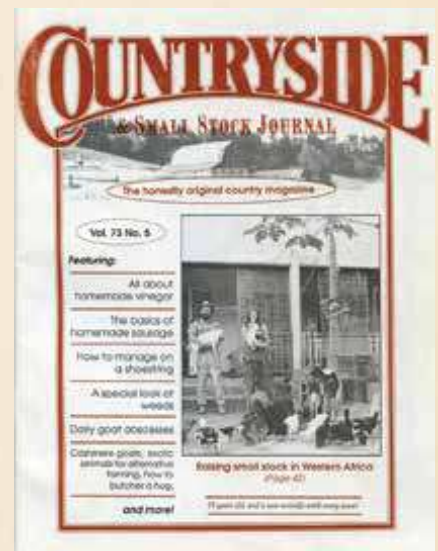
OUR MOVE FOUND US OUR contentment, but not without a price of rude eye-opening. I had never planned a garden, never touched a live pig before, I'm still not real sure about how to can food, I had never had the glorious pleasure of sitting in a freezing cold barn and catching a newborn goat and I had no idea what difference corn or oats or wheat could possibly make in a grain mix for an animal. We combed libraries and bookstores and read, read, read!

Casey Parson, The Biggest Countryside Misconceptions Have Been My Own

MAY/JUNE 1989

FIVE YEARS AGO, we brought my grandfather to live with us after he broke his hip. He was blind, deaf and never walked right. He just wouldn't have been able to live with most people and spoil their fine home or lifestyle, whereas we put the hospital bed, commode, etc., in the living room near the wood stove, where he lived comfortably for three years and died where he was allowed to die at age 96. No amount of modern conveniences could make me feel like I did the day he died just as he had asked to.

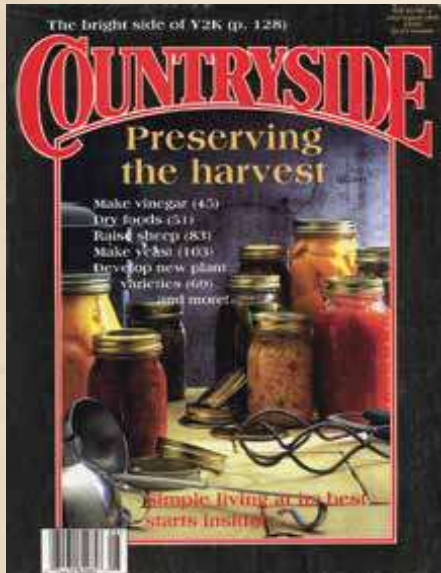
Jd Belanger, I Love Being A Homesteader, And The Feeling That Goes With It



THEY USED TO SAY HOW awful it was in the country with no TV or running water. They complained about the chores and refused to ask their friends out. But as they move away, each one says how dull the city is! They get homesick for the sledding, hide-and-seek, and even taking care of the animals. If I had to do it over again, I wouldn't get so put out with their complaining. I guess it's just the nature of teenagers to be discontented. One daughter has a country place and is

hoping her husband will put up a fence so she can raise a few calves. Our "city slicker" son wants to come home in June. So I think they kinda like the place.

*Kathy and Richard Hendricks,
We Do Have A TV*



JANUARY 1999

THERE IS NO NEED TO stop working after the sun goes down. Just juggle the days and nights and a few thousand human beings and production will be doubled. There is no longer a need for darkness, night or rest. Just keep those stores and factories open 24 hours a day, leaving the timetable of the Earth all but forgotten.

Vickie Jackson, The Seasons of Earth and Humanity

NOVEMBER 1999

ON THE BRIGHT SIDE, I know that my vision of the 21st century is realistic — because some farsighted individuals are already living in that new society, which they created themselves! ... These are the people who produce all of their own food, without becoming primitive peasants. They are innovators who develop and use technology in the ways the Industrial Age Establishment wouldn't consider. They are thinkers,

and they use their imaginations. They are not only dreamers, but doers. It's too bad there aren't more of them. If Countryside has its way, there will be.

*Jd Belanger, Designing
Utopia Takes Imagination*

MAY/JUNE 2000

I DETERMINED THAT New Year's Eve, regardless of the year, is something like turning 13 (or maybe 16, 18 or 21). I remember the year I turned 13. I went to bed the night before my birthday, excited and unable to sleep. I just knew that somehow, in the morning, I'd be transformed from a flat-chested, freckle-faced, red-headed little runt, to a gorgeous, bodacious living Barbie doll with beautiful locks of golden hair. I awoke the next morning rather disappointed. I felt the same, I looked the same, I was the same.

Douglas and Elena Gast, No Magical Transformation, Just An Appreciation

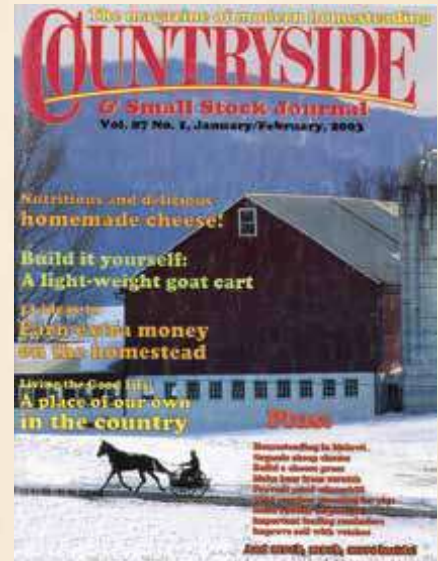


SEPTEMBER/ OCTOBER, 2001

ALMOST EVERY YEAR, my garden produces enough of the herbs and vegetables that I plant to last us the whole year—fresh in summer, and dried, pickled or frozen the remaining months of the year. Yet, this is not all my garden's attributes.

Even though it produces much of our family's vegetable needs, it is also to me a springboard of pleasure and enshrines the history of my family.

*Habeeb Salloum, My Garden:
A Springboard Of Food, Pleasure
And History*



NOVEMBER/ DECEMBER, 2003

LIVING FRUGALLY with secondhand items has the power to make dreams come true and can even set you free. You're not going to find that at the local mall. Rejoice and take pride in your decision to buy secondhand and to make due with what is on hand.

*Patricia Seddon, Buying
Secondhand: It's not Shameful, It's
Economical!*

NOVEMBER/ DECEMBER, 2005

BEING AN ENTREPRENEUR is exciting and rewarding, especially when it is a product to be proud of that adds to the quality of our life and our environment, not depletes the quality and causes harm.

*Pat Banttari, Organic Fertilizer
Business Is Booming*



NOVEMBER/DECEMBER, 2006

READING HUMOROUS STORIES is a good reliever of rural depression. (No, I'm not talking about the gravel pit!) Rural depression is a mental illness that can sneak up on people after years, or sometimes only months of tedious labor and isolation sometimes present in rural areas. Getting up early and working late can take a toll on folks, especially when chores have to be done even when you have the flu. So we need to look at the funny side of our simpler lifestyle to keep on going. If you stop and think about all the opportunities

living in the country has for being funny, you will soon be chuckling.

Walter Belsha, The Sunny Side Of Rural Life

MAY/JUNE, 2007

WE'RE ON THE GRID NOW, but consume lightly. We heat with wood; we compost like crazy. We recycle and reuse as much as we can. Little goes to waste around here. It just makes sense environmentally and financially. We aren't strictly organic, but darn close; we use minimal chemicals and artificial stuff. Life is good here on our homestead.

Sue Grisaitis, Learning As They Go: Dogs, Kids, & Building Bridges

JANUARY/FEBRUARY, 2008

WE HAVE DESIGNATED Thursday evenings (and Friday mornings, I guess) as our "Night Without Lights." Though it has become so much more than that. On Thursday evening, all lights are to be out before Randy gets home. We have no TV, the radio is to be off, as well as the stereo. No gas is to be used. No electric lights or appliances are to be used. Even the car lies idle. If we have to go somewhere, we walk or take the bicycles. Even the telephone gets taken off of the wall. So don't try to call us on Thursday evening, not on the phone anyway. But if you want to drop in with a story or song to share, the door is "open." Watch your step, though, because the porch light won't be on.

Margie McKenney, Country Neighbors: Don't Call Us On Thursdays, The Porch Light's Off And The Telephone Won't Work





NOVEMBER/DECEMBER, 2010

DON'T LET YOUR LIFE GO BY without living simple; life is way too short and a person needs to live in the real world of simplicity. It's hard to go back to the busy, crazy life once you've had the chance to live it. Things do happen for a reason and maybe

we will have the chance to be free again and enjoy the simple life. It may be hard work, but it's happy work and the rewards are great.

R.L. Malinowski, Apartment Life Just Isn't In Their Blood

SEPTEMBER/OCTOBER 2013

TODAY WE SEE THE FOLLY of these policies, for only 1-in-5 waterways are now clean enough to support edible fish. Our storms affect two-thirds of the nation, good people die from fire, flood and wind. It was not like this 50-odd years ago when I started planting my forest. No one may allege that anything is "normal," only extreme. But man has the capacity to learn, to correct errors. If we choose, we can replant the forests...Who knows, we might even save humans from extinction.

Ken Bynum, Give Thanks for the Trees

NOVEMBER/DECEMBER 2013

UGH, I SAID THE B-WORD. Batteries are truly awful to work with and the technology hasn't changed much since 1915.

Dan Fink, Bring Renewables to Your Homestead





EVER SO SLOWLY, Beth and Roland began to understand why they had not been able to escape the dark labyrinth they were living in. They were chained there by government programs. The only way out was to break the chains and make a run for it. They knew this was it. The last chance for them and the family they loved. This was more than a leap of faith. This was blind hope.

Jerri Cook, The Family That Homesteading Saved

JANUARY/FEBRUARY 2014

A LOT OF PEOPLE THINK our life is very quaint and simple. Some of the people I know from high school tell me that I'm living their dream—having kids and farming. The dream and the reality are probably very different.

Schuyler Gail, Making a Small Farm Work

I PACED AROUND, distracting Misery while Rachel snatched each of the babies and put them in the back of the truck. Once again, they shrieked and squealed, urging their mother to come up into the back of the truck with Rachel, but we managed to secure all of the piglets before Misery turned us into chop suey.

Kevin G. Summers, Misery Loves Company



MARCH/APRIL 2015

GRIEF IS A PRIVILEGE—a privilege of having loved so much. A lot of grief came to me all at once and I hope I bore it gracefully. Now my heart is healing with the help of family, nicer weather, and a new dog.

Nancy Roberts, The Circle of Life



JANUARY/FEBRUARY 2016

LIKE SO MANY BOYS DO, I turned into a man and met a girl. Laura Harper was everything I ever dreamed in a person. She was smart, kind, honest, funny and absolutely beautiful. When I wasn't pursuing trout on the Neshannock, I was after her. Slowly and unexpectedly, a shift began. The kid who attended classes around fishing in high school and scheduled college courses around angling had suddenly surfaced for air.

Marshall Nych, Casting Our Lot in Life

From all of us at Countryside Publications,

we want to say thank you for a century of success.





Mind Your Own Beeswax

Candles Are One Way To Use that Extra Beeswax

BY TOM
THEOBALD

TRADITIONALLY WINTER WAS a quiet time for beekeepers. It was a time to visit friends, for northern beekeepers maybe a time to head for warmer climes to attend one or more of the national beekeeping conventions. For some beekeepers the cold days of winter were reserved for candle making with the year's yield of beeswax.

Here in Colorado the tradition until recently was to hold the State Beekeepers' winter meeting the first week in December somewhere in the Denver area. There were some practical reasons for this I think. In the early days we didn't flit around the state pretty much at will the way we do now, roads were more challenging, particularly in winter and in the mountains. A December meeting allowed beekeepers from far parts of the state to attend before the really bad winter weather descended on us, and the Denver location gave beekeeping families the

Beeswax (top, right) is a byproduct of honey production, and can be used to make candles (top, left). A mold (lower, right) helps keep the wick centered and gives the candle shape.

Millions Available To Stop Honey Bee Population Decline

USDA TO INVEST \$4 MILLION FOR HONEY BEE FOOD SOURCES ON PRIVATE LANDS

Farmers and landowners in northern plains states who are providing food sources for honey bees are eligible for \$4 million in assistance from the U.S. Department of Agriculture, the agency announced.

In an effort to stop honey bee population decline, the targeted conservation effort by USDA's Natural Resources Conservation Service aims to improve the health of this critical pollinator in a region where more than two-thirds of the nation's honey bee population spends the summer months, pollinating crops and building strength to survive winter.

"The future of our food supply depends on honey bees," NRCS Chief Jason Weller said. "This effort partners with farmers, ranchers and forest landowners to ensure honey bees have safe and diverse food sources during a time when they need it most."

Honey bees pollinate an estimated \$15 billion worth of crops annually, including more than 130 fruits and vegetables. One out of every three bites of food in the United States depends on honey bees and other pollinators. But honey bee populations have suffered significant declines in recent years.

NRCS is working with landowners in Michigan, Minnesota, Montana, North Dakota, South Dakota and Wisconsin



to make bee-friendly conservation improvements to their land, such as planting cover crops, wildflowers or native grasses and improving management of grazing lands. From June to September this six-state region is home to more than 70 percent of the commercially managed honey bees in the country. These are critical months when bee colonies need abundant and diverse forage to store enough food for winter.

During the first two years of this targeted campaign, NRCS and landowners have boosted available food for honey bees on around 35,000 acres in Michigan, Minnesota, North Dakota, South Dakota and Wisconsin. NRCS expanded the effort into Montana this year because of the state's prominent role in honey production.

Planting plants good for bees, like wildflowers, native grasses and cover crops like buckwheat, mustard, clover and sunflowers, provide high value food. Cover crops also increase soil nutrients, break pest cycles and increase organic matter in the soil. NRCS also works with landowners to ensure pasturelands and rangelands include a good variety of legumes, forbs and shrubs that also provide pollen and nectar.

These conservation improvements not only benefit the bees and help stop honey bee population decline, they also strengthen agricultural operations, support other beneficial insects and wildlife, and improve other natural resources. Appropriate cover crops and better rangeland

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and pasture management reduce erosion, increase soil health, inhibit the expansion of invasive species and provide food and habitat for insects and wildlife.

The 2014 Farm Bill's Environmental Quality Incentives Program provides funding for this work. Applications are accepted on a continuous basis. Landowners interested in participating should contact their local USDA service center to learn more.

Landowners not in this region are also eligible for assistance to make conservation improvements to their land that benefit honey bees and many other pollinators, such as monarch butterflies and native bees. More than three-dozen conservation practices offered by NRCS can provide benefits to pollinators.

Learn more about the work to help honey bees and other pollinators. For more on technical assistance and financial resources available through NRCS conservation programs, visit www.nrcs.usda.gov/GetStarted.



opportunity to do some Christmas shopping in the big city.

Things have changed dramatically in the beekeeping world during the past 20 or 30 years. For commercial beekeepers at least, winter is as hectic as summer and there's no break in the pace, no tranquil winter respite. Those months that might once have been spent building new wooden ware, repairing old equipment, visiting friends or taking a nap are now—round 'em up, sort 'em out and get 'em on the semis to California. Some do this in the late fall, moving their bees to holding yards in California, while others wait until the last minute. Northern beekeepers frequently dig hives out of the snow, and then take them directly into the California almond orchards. However they do it though, most beekeepers of any size are focused on the money pollination contracts in the almonds bring and they do it. They do it, it keeps them afloat, but the traditional solace of winter has been shattered.

Beeswax is a by-product of honey production, the light new

Most beekeeping operations of any size seldom have the time to do much with their beeswax other than to give it a preliminary refinement before shipping it off to a wholesaler.

“cappings wax” that is cut from the comb to reopen the cells so the honey can be spun out. For a larger beekeeping operation that might be several hundred pounds of wax. Most larger operators ship their beeswax off to wholesalers where it finds a multitude of uses—cosmetics and salves, waterproofing, lubricants, foundation—the sheets of beeswax beekeepers use to start uniform new frames of honeycomb—and candles. The yield of beeswax is small, however, about a pound to a pound and a half for every 100 pounds of honey.

Beeswax is flammable, and that characteristic most certainly attracted the interest of our ancestors, at first maybe nothing more than a hollow stone or horn filled with beeswax with a bit of moss for a wick served to hold back the terrors of the night. I've come to wonder whether the reassuring glow of a beeswax candle might be deeply embedded in our genetic memory. I've had many people volunteer without any prompting from me that they find the glow of a beeswax candle somehow soothing yet they can't quite explain why. ☺

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How I Break A Broody Chicken

Make Sure A Broody Chicken Gets Water, Food and Rest

STORY &
PHOTOS BY
ROBERT
KORCZ

BREAKING A BROODY CHICKEN CAN BE a daunting task and I am told sometimes an impossible one. I do not profess to be an expert but I can tell you how I did it with a troublesome chicken.

I live on a small three-acre plot just north of the town of Warrensburg in New York's Adirondack Mountains. This is only the second year I am raising chickens and I have five chickens this year; so my experience level is obviously low.



Robert Korcz's flock in New York.

My chickens do not free range because of the chicken-eating critters that abound in the Adirondack Mountains. I keep them in a homemade A-frame coop of my own design. It works really well, providing enough space for them to stretch their legs on the ground floor, getting their food and water there and an upper story that is closed at night provides nest boxes and roosts. It is actually a modification of other A-frame coops that's best traits I combined into one design.

One of my chickens had a prolapsed uterus, it looked horrible, and other chickens were pecking at it until it bled. I had no idea what this was and had to bring it back to the farmer I got it from. He solved the problem with the push of a finger and exchanged the chicken because this condition can repeat itself in some chickens.

Other than that all the chickens seemed fine and were laying well; three to five eggs a day. After about a month I noticed one of the older birds was spending more time in one of the nesting boxes. This progressed to the point she was not coming down to eat or drink.

I couldn't get her off the nesting box; she would squawk and peck at my hand if I tried to get eggs out. I had to lift her off the nest with a stick to gather eggs and I had to be aggressive in poking her off. I thought she was sick or ready to die. Then I read about broody chickens and how sometimes they die of this condition. I can see how this happens if the chicken won't eat or drink.

I didn't know what to do. Some farmer friends told me to put feed and water near her in small cups, but that wouldn't do. How I was going to gather eggs? A book's advice was to continually move her off the nest or cull the bird. Continuously moving her didn't work and I didn't want to cull the bird.

I found the solution by accident; I broke her of being broody without trying.

Once a week I clean the upper floor of the coop removing all old cut straw, hay and chicken poop and replacing with fresh bedding. It must be done during the day when all the birds are downstairs and I can shut the guillotine door that secures the upstairs. Then I can lift the access door to the upstairs

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Removing hens from the nest entirely can break them from being broody, although expect a fight.



I didn't know what to do. Some farmer friends told me to put feed and water near her in small cups, but that wouldn't do. How I was going to gather eggs?

and do the housecleaning. With a broody chicken that would not come down off the nest this would be difficult. I decided to clean the coop anyway. The broody bird was upset, but I proceeded to do my work and moved her away with a stick. Before I could put in the new cut hay, the broody chicken flew to the ground outside the coop.

Nothing I could do would entice her back into the coop.

I had someplace to go so I let her free range for the day. I raised the guillotine door to let the other chickens have access to the upstairs of the coop and went about my business elsewhere. That night, she was sleeping just in front of the coop. My chickens are not used to being handled, but I figured I could scoop her up and put her back in the coop. Wrong! At the touch of my hands she was off like a shot into the dark. I would never catch her at night so I figured I would deal with it tomorrow or she would cull herself.

The next day she hung around the coop but was unapproachable. So the following night when all the other chickens were upstairs asleep, I opened the access door for feed and water and left it open all night hoping she would come in by herself. Instead she roosted on top of the coop.

I repeated this and on the third night she roosted on the ledge of the feed and water access door. I shoved her in and shut the door. She was in the coop again.

Would I have to contend with continued crazy broody behavior? When I went to gather eggs the next morning, she was on a nest but she stepped off without a peep when she saw me. She now comes down to feed and drink and spends minimal time on the nest.

She was broken of her broody behavior by a few nights away from the coop. I don't know if this will work for other chickens but it worked for mine, it also saved the chicken from the axe, so I thought I would pass it on to other chicken people.

So don't let your broody chickens die. Just evict them from the coop for two or three days. ☺

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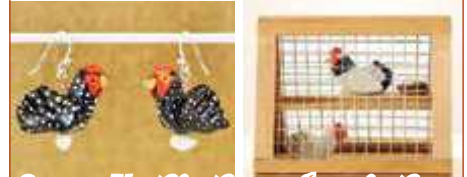
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Raising Elk

These Large Animals Have Multiple Purposes, Even as Pets

BY KENNY
COOGAN
FLORIDA

TRAVIS LOWE'S FAMILY HAS BEEN a member of the North American Elk Breeders Association since 1991. Today, the association has 350 members, who benefit from the non-profit organization, which promotes and protects the elk farming and ranching industry. The primary goal of the association is to educate its members and the general public through conferences, journals and newsletters on all aspects of the elk industry including proper management and breeding practices.

Lowe, the executive director for the past two years, says that elk provide something for everyone. "Some people grow them for meat, some as breed stock and others raise them as pets."



PHOTOS COURTESY WOLF CREEK ELK RANCH, STURGEON LAKE, MINNESOTA, BY KLINT AND LORA WYLIE, AND CLIFF CARLEY.

Lowe oversees the association's membership services, communications, policy, financials, and coordinates with the board of directors. "We promote the elk industry, and like products throughout the U.S. and Canada," he adds.

His family farm in Garnett, Kansas, is currently raising 30 elk on 55 out of his 100-acre property. He tells me over a phone interview that three elk can be raised on one acre.

"Elk are one of the most versatile alternative agriculture livestock animals out there," Lowe says. "The meat industry is large but

there are other markets." Breeding stock is a large part of the industry and, like the horse community, there is a purebred registry.

Bulls grow velvet, yearly, with the antlers falling off around February or March. Velvet, a renewable resource, is used for many products including dog chew toys. "Pet owners are going nuts over elk antlers for dog chew bones—it's a natural bone and cost effective when you consider chew hours," Lowe explains. Antler products can be found online, at farmers markets, gas stations or on elk farms.

Upcoming Conferences:

North American
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March 18-20, 2016
Edmonton, Alberta
www.naelk.org



Centuries ago elk were native well across the U.S., northern Mexican and Canada. This allows elk to be raised throughout those regions today.

Cliff Carley says his elk in Atlanta, Indiana, do not need extra protection in the winter living on his wooded property.

"I wanted to do something with my five acres that was a little different than normal so we started raising elk," Carley says. He adds if you have a "small amount of land and want to

do something productive with it," elk are a good choice.

Elk are predominately grazers, eating grasses and legumes. Carley says they can forage but gives his alfalfa, corn, oats and supplements. Elk consume more in the summer and males and females do require different diets slightly, so separating them is a good idea.

When asked if the cows can live together Carley told me, "They live together just like women."

Sue Keith, co-owner of Creek's Edge Elk Farm with her daughter

Stacy Handy, has 13 elk on 30 acres. They choose to raise elk to complement their dairy business. "Since we both like animals and have a gift for working with them, the elk seemed to be a good fit."

Keith says that elk require very little care. "We feed once a day and in the winter we give them round bales of either second cutting hay or baleage. In the summer, they graze all the time. We feed oats and commercial elk feed once a day. And of course, they always have fresh water."

"Some people grow them for meat, some as breed stock and others raise them as pets." – Travis Lowe, elk breeder

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While the elk do have varying personalities Keith does not consider them pets. "There's no going in and petting them," she adds. "They are curious and suspicious at the same time. The cows are pretty aggressive and protective of their babies. The babies will play and frolic like goats and chase each other around the pasture." She says that they never go in on foot, only on a tractor to stay safe.

In their experience customers can't get close enough to the elk to make them part of a petting or feeding station on the farm. "They will strike out with their front feet when feeling threatened."

I would imagine some individuals could be trained to approach the fence and take feed, but Keith says her herd is very suspicious of strangers, which is especially true when they harvest one or two for meat. "The whole herd is cautious for at least a week." And I wouldn't blame them.

Keith would recommend elk to those with large animal experience. "Elk react and think differently than dairy or beef cows. If not handled correctly they can easily hurt you or themselves," she says. Those with patience and a calm demeanor would be a great fit for raising a herd of these alternative agriculture animals. ©

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Hatching America's Best Baby Chicks

Milk Replacer vs. Ewe's Milk

Cornell University Researchers Compare the Options



IT'S TIME TO LOOK AHEAD to this spring's lambing season. Should you feed milk replacer or ewe's milk to the 2016 lamb crop? New research from Cornell University provides insight to this query.

The study, conducted by Ann DiPastina in conjunction with Dr. Debbie Cherney, looked to answer two questions: Does the composition of ewe's milk change through lactation? And, are the growth rates different between lambs on milk replacer compared to those on ewe's milk.

For the study, twin lambs were separated into two groups: lambs fed milk replacer and lambs left with the ewes to be raised naturally. Artificially reared lambs were housed in a little more than 9-square-foot pens in pairs and offered free-choice access to Land O'Lakes Ultra Fresh Optimum lamb milk replacer. Naturally reared lambs were housed with their dams in 12-square-foot pens with access to a slightly smaller creep area.

Read on to discover the team's findings:

Researchers at Cornell University recently compared lambs fed milk replacer to lambs raised by ewes.

QUESTION 1: DOES THE COMPOSITION OF EWE'S MILK CHANGE THROUGH LACTATION?

The first phase of the research focused on the ewes and their milk production. The objective was to measure potential changes in milk composition.

With this concept in mind, the Cornell team collected 35 milliliter (about 1.7 cups) milk samples from each ewe six times per day at lactation days 18, 19, 20, 38, 39 and 40. Samples were analyzed for percent fat, protein and lactose by time of day and stage of lactation.

"There was a significant difference in average protein and lactose percent between the two periods; Period 2 was higher in protein and lower in lactose than Period 1 milk," said DiPastina, adding that averages over time were equal to milk replacer components.

Differences were also noticed based on the time of day the milk was collected.

By volume, ewes in early lactation produced the highest milk volume at 4 a.m. and 8 a.m. with a drop between noon and 8 p.m. Production then increased again near midnight. A similar trend was found as lactation progressed but with a second peak occurring earlier in the evening at 8 p.m.

"While these nutrient levels are fixed in milk replacers, composition varies in ewes' milk due to many environmental factors, litter size, nutrition and breed," DiPastina found. "Fat percent has been shown to drop rapidly in the first three weeks of lactation with a gradual increase until 250 days in milk."

QUESTION 2: ARE GROWTH RATES DIFFERENT BETWEEN LAMBS FED MILK REPLACER AND EWE'S MILK?

Realizing the differences in consistency, the researchers next looked into growth rates between lambs fed milk replacer and ewe's milk.

As outlined earlier, lambs were randomly split into two groups: those offered lamb milk replacer and those who remained with the ewe. Lambs were weighed daily at 8 a.m. until 30 days of age; creep feed and milk replacer intake were measured three times daily.

The results were on par with views on consistency, with average growth rates higher for lambs fed milk replacer (0.66 pound/day as compared to 0.62 pound/day for lambs naturally reared). The consistency in nutrition also helped fallouts match their counterparts.

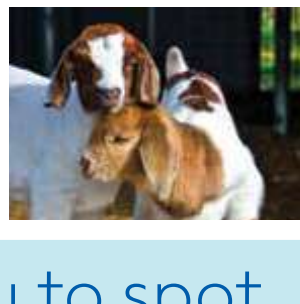
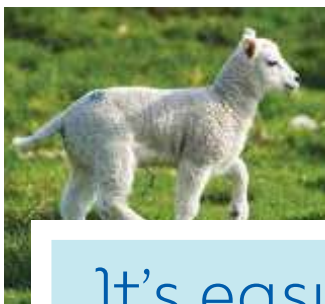
"The artificially-reared lambs

were smaller, on average, than naturally-reared lambs at birth but tended to reach the same final weight at day 30," says DiPastina.

Creep feed consumption between the two groups was nearly uniform; thus, the researchers point to consistency in nutrition as a driver in the increased growth rates.

"A potential reason for the elevated growth rates in artificially-reared lambs could be the consistency of energy intake," says DiPastina. "Results indicated that milk yield varies significantly throughout the day. Lambs' intake levels may have therefore fluctuated throughout the day as well." ©

As outlined earlier, lambs were randomly split into two groups: those offered lamb milk replacer and those who remained with the ewe. Lambs were weighed daily at 8 a.m. until 30 days of age; creep feed and milk replacer intake were measured three times daily.



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Defrosting gas fridges is one of the key maintenance steps you will want to take regularly.

Gas Refrigerator DIY Maintenance

MOST PEOPLE DON'T take care of their refrigerators. It doesn't matter if they are electric or gas, both require maintenance to run efficiently. Gas refrigerators need attention to save fuel, as well as saving food from spoiling.

If you don't have a gas refrigerator, you are probably wondering what these are. There is no electricity required. Gas refrigerators run on LP or NG (liquefied petroleum or natural gas). LP gas is what is used for most gas grills; it comes in a tank and can be purchased at most stores that sell grills. Gas refrigerators are also known by other names, such as bottle gas fridge, LP fridge, propane fridge and absorption refrigeration. The last name is the most proper of them all, because they use the absorption principle to move heat from inside the refrigerator to outside the refrigerator. The most amazing thing is that these refrigerators use the burning of a small gas flame to

accomplish the refrigerating task—a flame to produce the cooling effect!

If you have one of these units, then you are interested in learning more about how to maintain them. Gas refrigerators work exceedingly well, don't operate on electricity, and can be used almost anywhere. Today, they are nearly as light as conventional electric refrigerators and operate for weeks on an RV (recreational vehicle) 20# tank of LP. Taken care of, these units can easily provide a decade worth of economical, trouble-free, quiet operation. They do not have any moving parts!

Gas refrigerators require a lot of air movement. The back and sides of the refrigerator should be open and free to move air around them.

If they have no moving parts, what needs to be maintained? Well, just like any fuel-burning device, the burner is the most critical part of the fridge. It must be kept clean. And just like any refrigerator, the outside coil and the inside fins must be kept clean to move heat from the inside to the outside. Some other things to check have to do with how the unit is installed, so that the unit can move heat, then many problems can be eliminated. Is the unit installed so that it is level? Not just level from side to side, but also from front to back. Gas fridges rely on being level. All of the piping of a gas fridge is engineered to be at the perfect pitch for all of the gases to move by gravity. If the unit is not level, the operation of the refrigerator will suffer.

Gas refrigerators require a lot of air movement. The back and sides of the refrigerator should be open and free to move air around them. The burner is typically on the back and produces heat. This heat needs a place to move away from the refrigerator. It is recommended that there is approximately two inches of clearance on the sides of the refrigerator, 11 inches at the top, and four inches from the back to the wall (check clearances as specified by your fridge manufacturer). This clearance creates a chimney effect to move heat away from the refrigerator. It is very important that air is not being blocked by cabinets or objects set on top of the refrigerator. The top of a gas refrigerator should be void of any objects...the fridge is easier to dust that way, too!

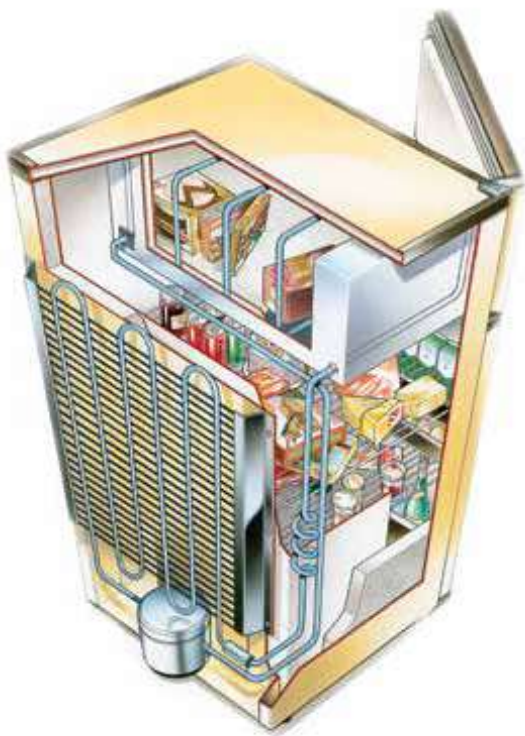
Defrosting is a must! Inside the gas refrigerator are fins. These fins can become blocked with frost build-up. When they become blocked, the gas must be turned

off and the burner extinguished. The refrigerator must be allowed to warm up to melt the frost. There are many ways to hurry the defrosting process. One is by removing all of the food and placing a large cake pan of hot water in the refrigerator section and closing the door. Before long, the frost has warmed enough to slide it off by hand. Another defrost method—that is not recommend—uses a torch or open flame. The problem with an open flame is that plastic parts can be melted and metal parts can be scorched. If there was a hair dryer available, it could be used, but remember the refrigerator is probably being used where there is no electricity. One of the best ways to deal with frost is not to let it build up! Once a week, set the control to minimum over night. In the morning reset the control to the operating position (usually between 2 and 3)...that's it! Overnight the fins are allowed to warm to cabinet temperature and the frost melted. The melted frost drips off the fins and sent via a drain tube to a small pan to evaporate. This method only requires that a person remember to set the control to minimum at night and return it to the operating position in the morning—once a week.

The freezer will frost, but does not affect the gas refrigerator as much as the fins in the refrigerator section. The freezer will need to be defrosted. This should be done once a year, but a few people report that it may be necessary to defrost more

often, based on usage. In this case, the refrigerator and freezer sections will need to have the food moved to a cooler. Remember, refrigerated items should not go into the same cooler as freezer food. They are at different temperatures and should remain separated. For example, if lettuce is placed in a cooler with frozen food, it will be ruined. The same principle can be used at the grocery store; don't let the clerk put the lettuce with the ice cream! Just because both items were cooled doesn't mean that they are at the same temperature.

Once a year, maybe at the same time the freezer is being defrosted, the burner needs to be cleaned and checked for operation. Burners will rarely soot. In those cases where they do, the cause is probably because the burner has become clogged. There are a few things to check and clean in the burner area of the refrigerator: the burner chimney, the burner itself, and the burner orifice. If a flashlight is used at the bottom of the burner chimney, the inside of the chimney can be checked for soot and blockage. The chimney should be clean and clear. To make sure, the baffle must be removed and the chimney inspected. The baffle is a short, twisted, piece of metal that hangs above the burner flame. Its purpose is to make the burning gases spin as they go up the chimney. The baffle is typically hanging on a piece of metal wire and can be removed by pulling the wire and baffle up and out of the chimney. The process of pulling up



Both new and used refrigerators can be kept clean easier, if a coat of car wax is applied. This simple maintenance step can save countless hours of cleaning.

the baffle, usually dislodges soot and cleans the chimney. So, moving the baffle up and down three times, serves the purpose of scraping the chimney clean. After moving it up and down, take it out and look down the chimney, it should be clean to the burner.

After the chimney is clean, move down to the burner. Use a small round brush that is typically supplied by the best refrigerator manufacturers or a hardware store to clean the chimney. It only has to be cleaned to where the baffle hung. Using the same brush, clean the outside of the burner and then the inside, by pushing the brush inside the burner tube and rotating the brush. The rotating action will clean the burner slots. Use the same brush to clean the outside of the burner orifice. To finish, use a can of air to blow out the burner and burner orifice.

When the burner and components are clean, relight the burner and check for a nice, blue flame. The burner should now be clean and ready to burn fuel efficiently for another year. Maintenance on the burner is probably the most involved and complicated procedure. The first time it is done, it takes longer to get

to know how to do it right. After that, it requires a good memory... after all, it's only done once a year so it's easy to forget!

The last maintenance items can be done throughout the year. The most important is checking the door gasket. This can be done each time the door is opened. The gasket should be clean and should be snug to the opening when the door is closed. Be sure to check and clean the gasket at the bottom of the door. Door gasket at the bottom of the door collects bits of food and debris that keeps the door from closing well. To check the door gasket after it is cleaned, take a small strip of paper the size of a dollar bill and close the door on it. With the door closed, pull the paper out. If the paper pulls out easily or falls out, the gasket is not sealing. The paper should pull out with some friction. Gaskets also fail or get old. The gasket might need to be replaced. Before jumping to that conclusion, check the gasket all around the door. If it appears that the door is warped, try gently bending the door so that the gasket seals with the same friction evenly. If you inspect the gasket at the

point where the paper is falling out and find the gasket is damaged, proceed with replacing the gasket. Replacing the gasket usually only requires a screwdriver and a little time. All of the screws (and there are a few) can be seen by gently lifting the gasket.

And finally, the last maintenance is keeping the refrigerator clean. Both new and used refrigerators can be kept clean easier, if a coat of car wax is applied. This simple maintenance step can save countless hours of cleaning. A waxed surface sheds dirt, dust, spills and fingerprints! One wax job will last for years, but a touch up now and then will keep the refrigerator looking like new.

If you are looking for a maintenance DVD, it can be obtained by contacting the manufacturer. The best manufacturers supply this item for free. The DVD can be a handy, visual, reminder of how to conduct the maintenance that gas refrigerators require. The manufacturer knows that it's hard to remember what to do from year to year, especially when a gas refrigerator operates so quietly, efficiently and trouble free year after year. ☺



Hack #3: Coffee Grounds

BY LIL
ROBERTS
MANTECA, CALIF.

SAVE ALL YOUR COFFEE GROUNDS for your garden. The coffee grounds also promote worms, which are a plus for your garden and soil, and the coffee grounds have food value for the plants also. Just work it in the soil. Ask your friends and families who do not plant gardens to save their coffee grounds for you. If you have a Starbucks or restaurant near, ask them to save the coffee grounds for you. You may have to supply a holding container, and pick up daily, but if it is close, it is well worth the time and effort. ☺

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.

How To Make Your Own Work Shirt Apron

BY SALLY
ANDERSON
NIAGARA FALLS,
N.Y.

RECENTLY IT COINCIDED that my husband needed new work shirts and I needed new aprons. I use full aprons because while I am a good cook, I am not a tidy cook. Pondering it a bit I realized that his old work shirts could quite handily—and at no cost—supply my aprons.

STEP 1: Hang an old work shirt on a hanger and place apron over it with the front of the apron on the back of the shirt. Carefully lay shirt and apron flat and smooth on a table and chalk around the neck and sleeve lines. If you aren't working from an old apron you can just approximate it freehand.



STEP 2: Cut along lines. I prefer a double thick apron so I repeated this with a second work shirt. At this point open the back shoulder seams. I also removed the buttons and pockets. (If you are going with a single thickness apron, leave the shoulder seams intact and fold over and sew neck and arm edges, skip to Step 4.)

STEP 3: With right sides facing together sew the two work shirts together across the neck line and the two arm openings, leaving open at the shoulders. Trim seams and flip right side out. Iron flat.

For the shoulder seams, I folded in the back edge, stuck front into back and sewed across. When you're looking at yours, which way it will lay flat better will be obvious and go with that. Then sew the two work shirts together on the right side starting at one lower back edge, up and along the neck line and down the other back. Sew edges of both armholes. Leave open along the bottom as the apron will hang smoother.

STEP 4: Put the apron on and go see where your tummy hits your sink. Mark it and put your pockets along that line for extra absorbency and wear. I measured off the bottom edge to keep the line of pockets straight. Sew along pocket edges. I reused the large button from my old apron rather than the small buttons from the work shirts, as it is easier to grasp and manipulate. Make a button hole on the back top corner and sew button on opposite it. (Save those buttons though. That's a lot of matching buttons for all sorts of uses.)

VOILA! THERE YOU GO. AN INCREDIBLY STURDY FUNCTIONAL APRON FOR KITCHEN OR BARN USE FOR THE COST OF A BIT OF THREAD. ©



The Dancing Goat, Straight to Market

What Started Out as a Dream Turned into a Reality For One Florida Farmer



BY RON
MCKIBBEN
FLORIDA

THE IDEA STARTED IN the trickle down after 9/11, when Pam and Jim Lunn lost their contracts in the transportation industry and had to reevaluate their future plans. With a few dairy goats in the barn for their children's FFA/4-H projects, owner Pam Lunn decided that farming was the place to be and despite no agricultural experience, she wanted to be part of it.

A self-proclaimed yuppie-turned-farmer and refugee from corporate America, Lunn started first selling to family and friends and ventured on the local farmers market circuit. At first, accompanied by her husband, The Dancing Goat Dairy started selling in August of 2007, though very slow the first few years, it grew to be one of the busiest stands at St. Pete Saturday Morning Market in Florida.

At The Dancing Goat, Pam and Jim Lunn raise and sell their goats around St. Petersburg and Tampa Bay, Florida.

PHOTOS BY RON MCKIBBEN



The urban dairy milks from 30 to 35 goats at any one time—and remember, that is twice a day, every day. In an era where businesses are failing, The Dancing Goat has filled a niche market.

Since those early days, Jim has become disabled and no longer is an active participant, but is her greatest supporter! The urban dairy milks from 30 to 35 goats at any one time—and remember, that is twice a day, every day. In an era where businesses are failing, The Dancing Goat has filled a niche market.

Florida laws require that raw milk be sold “for pet consumption only,” so there are a lot of happy puppies these days. Expanding from only goat milk, The Dancing Goat Dairy offers goat milk, yogurt, kefir and a variety of cheeses from plain chèvre and feta to queso fresco, as well as farm-fresh chicken, duck and quail eggs. Each week offerings of Mojito Feta (lime and organic farm grown mint) and Derby Chèvre (bourbon soaked pecans in a cajeta glaze) can be found “for your pets” at the farmers markets. Soap under the trade name Dancing Goat Soaps is also a large part of the farm’s offerings and is made right on the farm from the goat milk.

A couple things make this farm unique. The Dancing Goat is located on a small, less than three-acre farm in urban Tampa Bay with more than 50,000 residents within a five-mile area. Despite the urban environment, it is located in an equestrian community that is zoned agricultural. Little did the Lunns know that this would be the future when they purchased their farm more than 20 years ago to offer their children some open spaces to grow up in.

In a quest to be as sustainable as possible, this location offers access to items that might have hit the landfill and the farm is full of innovative

projects to lessen the impact on the environment. The duck pen is located in the drainage swale, which holds water six months a year and swells to a small pond in the rainy season. The gutters are redirected to water reservoirs, which provide water for chicken pens.

The motto of the farm is “Recycle, Reuse and Repurpose.” The farm grows bananas, papayas, moringa and red hibiscus for special goat treats. Pallets from a nearby light industrial area are always being torn apart and rebuilt for new uses as well as repurposing children’s playsets and playhouses for goat toys. The farm operates under Florida’s Right to Farm Act, a Florida State Statute approved by the Florida legislature in the late 1970s to protect small farmers from local ordinance constraints.

As Youth Dairy Goat Superintendent for The Florida State Fair since the early 2000s, one of Pam’s passions is mentoring the youth. A frequent visitor at the local high schools’ FFA farms, she feels most at home teaching youth about goats and animals. The Dancing Goat Dairy has received the award for Best Raw Goat Milk in Tampa Bay (2008-*Creative Loafing*), Cordon d’or Culinary Academy’s Great Tastes (2012) and Florida Farmer of the Year (2013) awards as well as numerous vendor awards for the farmers market participation. ©

Follow The Dancing Goat on Facebook (facebook.com/dancinggoatdairy) for farm happenings and offerings or visit them at the St. Petersburg Saturday Morning Market or Sweetwater Sunday Market in Tampa.



Family Trees

Owner Ron Kelley Tells about Four Generations of Fruit Growers at Kelley Orchards

BY HEATHER SMITH THOMAS
IDAHO

RON KELLEY AND HIS FAMILY are enjoying their orchard business in southern Idaho, near Weiser.

“My father and grandfather were citrus growers in southern California, growing oranges and grapefruit since the 1930s,” Ron said. “I have a cousin who runs that business. I still have a small interest in it, with my sisters, but am not involved in the operation. I moved here to Idaho in 1986, looking to do something a little different. I found this 35 acre property and orchard for sale, and came to see it with my father. After my parents bought the property, my sister Kathy decided

to join me temporarily. Now, 27 years later, she and her family are fruit-growers right next door. This orchard was already established and even though we had some background in growing fruit, these crops were very different from what we were used to. This orchard was mostly apples, some plums and a few cherries. We have fewer



acres planted now than when we first came, but more varieties of fruit. Now about half our acreage is in apples. The rest is peaches, nectarines, plums and cherries," he says.

Marketing the fruit has changed a lot since the beginning. "When we started, most of our fruit was marketed through a packing house. We would pick it, haul it in, and they would pack and market it for us. Now we market much of it ourselves through a farmers market in Boise, and through a U-pick here at the orchard, and sales at our place."

When fruit is in season, many people come to pick their own.

"We've done the U-pick for eight years. It started very small, but has been steadily growing. Now there's quite a crowd out here in August and September for peaches, and for the apples in October. We are 60 miles north of Boise, but most of our clientele live closer, in Payette and Weiser. Our orchard is located between those two towns."

Many customers enjoy a pleasant drive in the country and come to pick fruit.

"We are getting more people coming from Boise. We are part of a farmers market there called Capital City, in downtown Boise (open on



Saturdays), and people are familiar with our produce. We've been part of that since 2002 and it's a popular spot when our fruit is in season. We get some exposure there, and now some people like to bring their families out to the orchard and pick their own," he says.

In 1993 his sister Kathy began experimenting with drying apples. By 1995 they launched a dried apple product called "AppleCrisp" through small grocery stores in Eugene, Oregon, and Sun Valley, Idaho. "We packaged the dried fruit for a few small chain stores in Eugene and Sun Valley, sold wholesale and shipped in printed packages with our Kelley Orchards label. We discontinued that and

now focus on marketing our own, closer to home—through our own store or the farmers market," he says. Since then, Ron and his wife, Kimi, have developed flavored apple chips as well as other dried fruits and fruit mixes in response to customer requests at farmers markets. With increasing local sales of both dried and fresh fruit, they dropped the AppleCrisp line last year and are now focusing more on local sales. "One of the things that brought us to the farmers market

in Boise is our dried fruit. We've been doing that for 19 years. A lot of our dried fruit goes through the farmers market in the spring when there's no fresh fruit available yet. The dried fruit keeps a long time," says Kelley.

The fruit they dry in the fall is often sold the next spring and all through the year.

"We rotate it every 12 months or so but we've kept some for three years. If it's dried properly, with the right amount of moisture, it keeps a long time without spoiling

or molding. Most commercially dried fruit utilizes sulfur as a preservative, but we don't do any sulfuring on ours, and this is part of our niche in the market. Most dried fruit has some kind of preservative added but we don't use any of that. We just try to dry it to an optimal condition without preservatives. If it's sulfured you can hold more moisture in the fruit, but without sulfur it has to be drier to keep it from molding," he explains.

Dried fruit is handy to take hiking or camping, and is popular just for snacks. "This part of the business has worked out very well for us," says Kelley. This has extended their market year-round and also creates

a way to utilize blemished fruit. It adds value to the lower grades of fruit.

“This is why we started the drying. We always have some blemished apples that are not proper quality to pack and ship. So we keep them and dry them. If the internal quality is good it doesn’t matter what the outside looks like. Now we pack and sort most of our stone fruit (peaches, plums and nectarines) here in boxes, sell the boxes, and the off-grade fruit we dry,” he explains. The vast majority of the apples are marketed through packers and processors. There’s not much value in juice apples, so they prefer to dry the lower grade apples.

“I have one full-time person in the field working with me, and several more seasonal workers who help with other aspects of the business. We have three people who work in the drying operation through fall and winter, and some of them also work in the store here at the orchard during most of the year,” he says.

“My wife Kimi works with me in the farmer’s market, but is mainly busy raising our kids right now. Our kids are Aaron, age 3, Joshua, age 6 and Shayla, who is 8 years old. They love to eat fruit! I give my wife Kimi all the credit for moving us into the U-pick business. It was her initiative, to get that started. I didn’t think it would work for us here, because we are not very close to large population centers. But if there’s something people want, they will drive out to get it. I learned that, and it’s been a good part of our business now, for the past seven years,” he says.

There were only a few small, new plantings of Hale and Elberta peaches in this orchard when they started. “Those are widely known as good canning peaches that ripen in the fall. When we saw how popular those tree-ripened peaches were, we decided to plant some



earlier and later varieties to extend our peach season, which now goes from late July through mid-September. Each variety lasts about 10 to 14 days, so this helps spread out our marketing. We planted more varieties, to have enough peaches to sell for a longer time,” he says.

They also added nectarines. “The bulk of our sales at that time are peaches, but most people like to pick up a few nectarines, too, and a few plums. Peaches are the most fun to grow. We grow most of the peach trees in a V or Y shape, about five feet apart down the row. The trees are pruned to have just two limbs, preferably with one pointed to the east and one to the west, to gather the most sunshine.” This gives optimum growing and ripening conditions.

“With trees we are simply harvesting sunshine, like any

plant. They get the east sun in the morning and then it progresses over to the west in the afternoon. It shines down the middle of each tree and this helps keep the lower part of the tree fruitful. This makes it easy to figure out how to prune them, and easy to work in them. The trees are built simpler,” says Kelley.

“Growers are using a similar thought in apple trees now. Most orchards prefer small dwarf apple trees. They are easier to pick, and the sun penetrates all the way into the middle without a large shaded area. The traditional older trees were big, spaced 30-feet apart. They are more difficult to work with and it takes them a long time to grow into that whole space and fill it with fruit, so you are waiting a lot of years for harvest. The smaller trees can be planted a lot closer together and you get your first

I give my wife Kimi all the credit for moving us into the U-pick business. It was her initiative, to get that started. I didn't think it would work for us here, because we are not very close to large population centers. But if there's something people want, they will drive out to get it."

— Ron Kelley

harvest quicker. The labor is less for pruning, thinning, picking, and all the other hand operations we have to do. It costs more to plant because it's a lot more trees to get started—and many of them are on a trellis or posts and wire," he explains.

The trees are all watered with mini-sprinklers. These are small, plastic sprinklers situated about every 15 to 20 feet down the row, broadcasting the water through the whole orchard.

"We do a little bit of drip irrigation on some of it, particularly on the young trees. I am trying to grow some trees this way and may switch over entirely to the drip method. Our water is cheap, but the pumping costs are becoming more expensive. The drip system enables us to use less water. It's a very efficient system the way we do it now, with no run-off," he explains.

Their water comes out of the Cascade Reservoir on the Payette River. The snow pack this year is fairly good, which will help.

The young trees must be protected from deer. "All the new plantings that we put in are encircled with electric fence until those trees get big enough to where the deer don't bother them as much. They can destroy a new orchard very quickly," he says.

The life span varies, with different types of trees. "Apples are probably the longest-lived. I have one apple tree left that I decided to save, that was planted in 1946. It's the oldest one on the place. The rest have all been replaced. Many of the earlier trees we've grafted over the past 15 years. We had a lot of red delicious here, and the market for them has gone downhill. People finally discovered that there are a lot of better-tasting apples." Red delicious are beautiful but they don't taste as good as they look.

"Fuji apples are our most popular U-pick apples here. So we grafted a lot of our red delicious over to Fuji, granny smith, gala and different kinds. Fujis are good apples and hold up well without getting mushy or mealy. This has been a very popular apple and there are new ones coming. We watch for those and evaluate them," he says.

"At the farmers market people are always looking for new things. And the 'new' sometimes is old. People are now interested in some of the antique apples like winesap and Arkansas black. We can sell some of these older types of apples at the farmers market because people want to try something they've never tried before," he explains.

"The orchard business is not something that a person can get rich at, the way that we do it, but it's a good way of life and we enjoy providing a lot of good food for people—and they seem to appreciate it." ☺



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Casting Our Lot in Life

BY MARSHALL
NYCH
PENNSYLVANIA

THOUGH NOT GETTING OLD by admission, I have hiked many walks of life and have caught enough fish to be considered a fisherman. Spanning so many of those steps and trout was a covered bridge. Not only was this historic structure the classroom to countless self-taught fly fishing lessons, unbeknownst to me, the bridge was to be the setting to a few of my life's finest moments.

The waters of the Neshannock Creek flow beneath many bridges, trees and sunsets on their journey to the sea. Still, I have to believe each drop remembers this covered bridge the way I do. Similarly, countless carriages and cars have traveled through the overpass. I

like to think the bridge remembers my days as fondly as I do.

From a boy dangling his feet and a worm into a cool farm pond to a teen braving the mighty Allegheny River, fishing seemed as natural and necessary a process as breathing. During my former years, I spent more time on the water than I did on land. Those who knew and loved me fully supported these passions, particularly my older brother, Nate.

Nathan saw more in me than I did myself. On my 18th birthday, Nate presented a gift he had bought with money earned serving our country in the military. I promptly opened the strange cylindrical package to find an Orvis fly rod. Never in my

The Banks Covered Bridge, built in 1889, in Volant, Pennsylvania.

PHOTOS BY NATHAN HOGUE



The ring the author presented to Laura at the covered bridge.

adolescence had I accepted such a challenge. But the fall of my senior year coupled with the ambition of youth, I was up for it. Plus, I just couldn't let my big brother down.

Nate, who had dabbled with flyfishing, had cautioned me to keep expectations as small and realistic as the flies found within my box. He believed only patient perseverance and long hours would instruct me in the ways of fly fishing. This led to an angler anxiety I had never known on our pioneer outing as we broke in my new rod. One October morning, we managed to sneak in a fishing trip to the Neshannock Creek between Nathan's deployments to the Middle East.

At first, both pieces of the fly rod trembled and all eight feet clumsily flopped line atop the water's surface. Embarrassed, I coached myself, "Marshall, whether you're using a bamboo cane pole, a spinning rod or a fly rod...they all serve the same purpose and the same master." Suddenly, I found a rhythm and slowly added grace to each cast. Observing the line as it hit the water, I tried with all my wits to comprehend how the drift affected the fly and what the fish saw.

At the time, matching the hatch was a concept as foreign to me as the Iraq my brother would soon enter. I did what any rookie would. I thread my tippet through what looked good. My choice happened to be a pheasant-tail nymph. I couldn't discern the difference between a size 12 or 14. Neither could the trout. As drift after drift floated alongside two brothers beneath the covered bridge, the line gave an unmistakable pause. I set the hook. Moments later found a taut line leading to a bent rod. Nathan was in pure disbelief I had tricked a trout within minutes of first holding a fly rod. My brother netted it with gumption that would serve our country well.

In fact, I fooled over a dozen my

first trip. I'll never forget those shades of brown and rainbow. Grinning from ear to ear, wading below the rod's slender silhouette on the white covered bridge, I smiled to Nate, "This is the best day of my life!"

Nearly a decade's worth of casts later, I'd live another best day. Like so many boys do, I turned into a man and met a girl. Laura Harper was everything I ever dreamed in a person. She was smart, kind, honest, funny and absolutely beautiful. When I wasn't pursuing trout on the Neshannock, I was after her. Slowly and unexpectedly, a shift began. The kid who

attended classes around fishing in high school and scheduled college courses around angling had suddenly surfaced for air.

However, this fresh air never stopped me from sharing nature with Laura. She too supported my adventurous spirit. In fact, she said it's what drew her to me. As I had hundreds of times, I planned to spend an evening with Laura. This one, a summer afternoon, was a special one. Following a nice lunch, I drove toward my old stomping grounds and pulled off the worn road when we got to the bridge. Holding hands with Laura, admittedly scanning the waters for trout, we walked and talked just long enough to lose track of time.

Laura and I, perched on the bridge's stone foundation, dangled our feet into the summer air. Just below us, where years before I had first pulled a fly box from my vest, I stood above and fished in my pocket for something else. It was at that moment I presented Laura a diamond ring. Much excitement ensued. I actually feared one of us might slip off the ledge.

I looked to my future wife and said, "Laura, you have made me the happiest, luckiest man in the world!"

While it is true I only fish a mere fraction of what I used to, this seems to make me appreciate it much more. Every time I stand at the banks, they begin to flood with memories, stories and a deep joy derived from each trip.

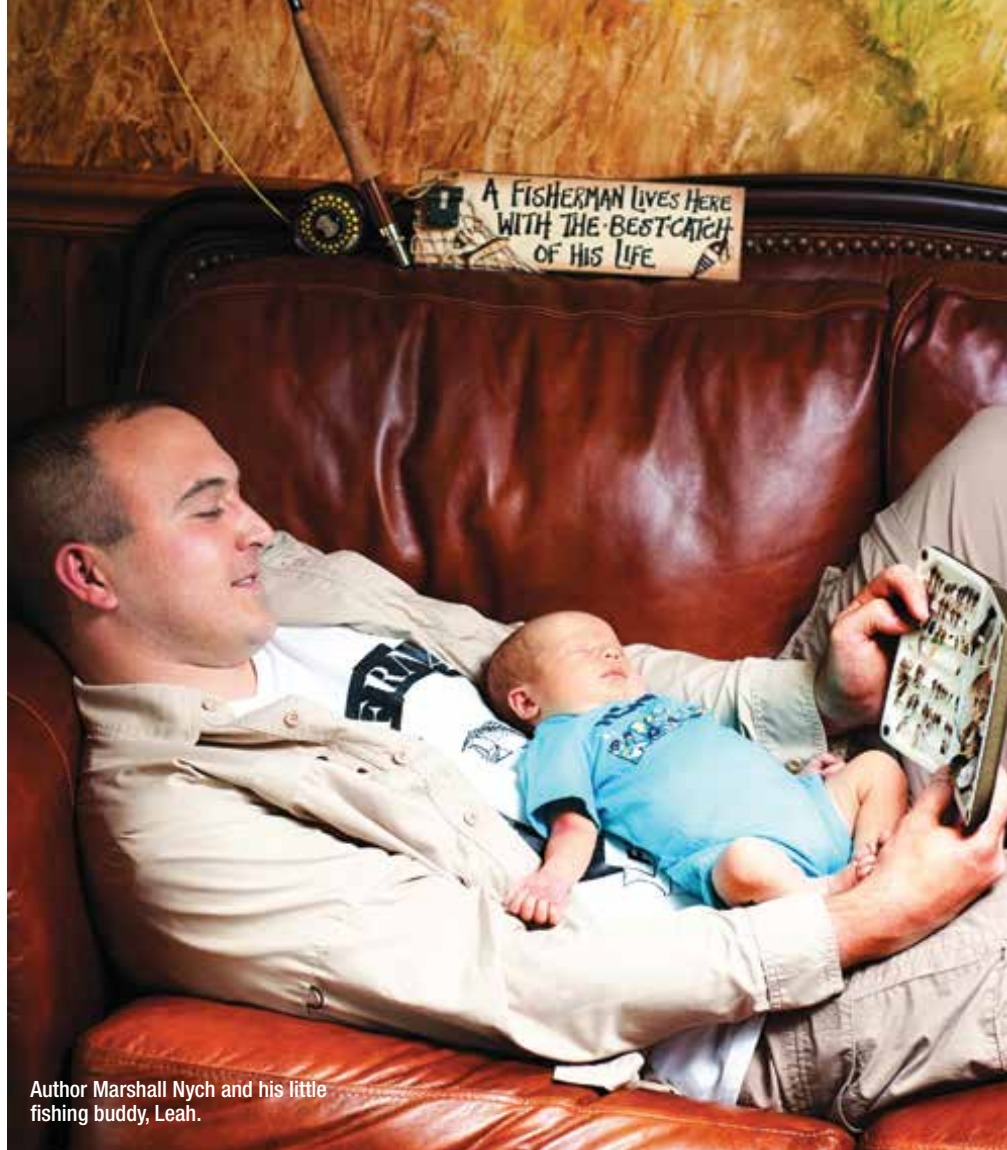
Laura, reading my mind as effortlessly as I read those waters, shared, "I cannot imagine life getting any better than this!"

It had been a couple of years since I had parked at the covered bridge and eagerly fished its waters. I had become a father to the most perfect little girl—Leah Jo. I decided the day she was born, the moment the doctor first set her into my arms, investing time with Leah at home was much more valuable than my personal interests. I felt such a bond would make it more likely to have a life-long fishing buddy when she was ready to dangle her toes in a farm pond.

Around the time she turned 2, Leah and I were spending the day together. We were doing all the things dads do with their daughters... laughing, getting ice cream, and telling stories. Suddenly, as if by fate, I turned down the road I had known so well in my youth.

Smiling into the rear-view mirror, I asked, "Wanna' take a walk with Daddy?"

Flailing her arms and legs in



Author Marshall Nych and his little fishing buddy, Leah.

delight, Leah cheered, "Of course Dadda!"

Walking under the bridge, the April breeze helped part her strawberry blonde hair as I knelt down to kiss her sweet forehead. I took her lovely little hand and made a promise. I vowed to provide shelter and security. I'd do everything in my power to make as many of her life's crossings easier and safer.

My child's hazel eyes, mirroring the green waters of the Neshannock, looked into mine and knew I meant it. "Love you Dadda!" she declared. The unforgettable words echoed along the cut rocks and reverberated through the covered bridge as if it were a megaphone.

I know not what tomorrow holds. Perhaps Leah too will one day perch upon those carved stones, framed by faded, white-washed boards. There, a great guy who used to be a good fisherman will be trying his

best at the catch of his life.

While it is true I only fish a mere fraction of what I used to, this seems to make me appreciate it much more. Every time I stand at the banks, they begin to flood with memories, stories and a deep joy derived from each trip.

The cool autumn waters shadowed by the covered bridge, the very ones that had flowed against my brother and I my senior year, had likely made the journey from western Pennsylvania, down the Ohio, into the Mississippi, and reached the Gulf of Mexico many times over. With my covered bridge, I too have come full circle. I held a rod with a brother, a ring with a woman, and a hand with a daughter. All walks of my life were enriched by sharing them with those I love and hold dearly.

Find a bridge, take a walk and hold on, for your journey is just beginning. 🌊



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Protesters and the Eucalyptus Trees

Some in California Are Protesting a Plan To Remove Australian Native Plants



The eucalyptus tree is fast growing and uses up to 200 liters of water per day.

BY
CHRISTOPHER
NYERGES

EUCALYPTUS HAS BEEN in the news because naked protesters are unhappy with the University of California-Berkeley's plan to remove thousands of these Australian natives.

When I was growing up, we had a neighbor with a few eucalyptus trees in their backyard. I remember that nothing else grew in the back, around and under the eucalyptus tree. We boys liked to climb that tree, but the owners glumly told us that the huge tree was there when they moved to that house, and they could not afford to remove it.

Later, in high school, a schoolmate took me to see his many worm farms that he'd constructed in his large back yard. He showed me the tiny earthworms that grew in the worm farm under the eucalyptus trees. The

worms that were raised on the other side of the yard had large normal-looking earthworms. This friend, Scott, also showed me carrots he grow on each side of his yard. The carrots under the eucalyptus trees had lots of ferny tops, but very tiny carrots. The carrots on the far side of the yard, away from the eucalyptus, were large, normal-looking carrots. "Don't grow things around eucalyptus," Scott told me.

On a property governed by a local non-profit, I was once asked to plant bamboo on the property line.

The property line was also planted in eucalyptus trees. Nothing grew well under those trees in some 40 years. I planted the bamboo, and watered it. It died, whereas other bamboo beyond the influence of the eucalyptus thrived like weeds.

These are just personal observations, though I have heard dozens of stories like this. What is the bottom line about eucalyptus?

BACKGROUND

Eucalyptus is a tree with a mixed reputation. This stately tree is renown for the “forest effect” due to the high transpiration rate of its leaves. According to one report, “In Sydney, a large gum tree (eucalyptus) transpires up to 200 liters (almost 53 gallons) of water a day. A well-maintained garden in Sydney will transpire nearly twice the volume of water as the total rainfall.”

The tree was included in my *Guide to Wild Foods* book since it was so useful in its native Australia by the Aborigines: the leaves for various medicines (mostly upper bronchial issues), the bark for infections and many other uses, and even the little psyllid bugs can be harvested and eaten like a backwoods sugar. And the honey produced from eucalyptus flowers is a dark almost-medicinal honey.

But is it good for the California environment to remove the eucalyptus trees and replace them with natives? In fact, is being non-native the only reason that UC Berkeley wants to remove the trees?

In order to fully grasp the effects of eucalypti on the environment, let’s look at its effect in other parts of the world and the problems experienced there.

CASE STUDIES

Eucalyptus is a fast-growing tree. When you cut them down, they will sprout right back up again. Because of this, there have

been major plantations in various countries throughout the world from Europe to China to Africa in order to supply the wood for lumber, paper products, and firewood. If the eucalyptus trees are planted in non-agricultural areas where nothing else will grow, they survive quite well. A eucalyptus tree in a plantation can be cut as little as every four years.

Around the time that the U.S. was experiencing long gas lines during the 1970s “energy crisis,” many

But is it good for the California environment to remove the eucalyptus trees and replace them with natives? In fact, is being non-native the only reason that UC Berkeley wants to remove the trees?

countries around the world discovered that the eucalyptus tree seemed like a miracle tree. It grew easily anywhere, and could be regularly harvested for fuel wood, building materials and pulp for paper. It was also a financial boom to the public and private businesses in various countries that grew these plantations. Today, eucalyptus is one of the top trees planted in plantations around the world (pine is apparently the top tree). With so many undeniable benefits, what could go wrong?

Over the last 30 to 40 years, countless business, governmental,

and academic studies have been done to weigh the pros and cons of the large-scale planting of the eucalyptus tree. I’ve spent time over the last year reading these studies, and compiling hard data on the eucalyptus tree.

There were very real worries about deforestation and desertification that intensified in the 1980s. Eucalyptus trees, with its obvious economic benefits, were planted in ever-greater numbers. Today we can analyze the ecological effects of over 30 years of eucalyptus plantations.

RIOTING?

For starters, there have actually been riots in protest of new eucalyptus plantings. Really, riots? In Northeast Thailand, most of the native forests had been completely logged by private companies, which affected the water and forced local people to relocate.

The Thai government, along with the World Bank, planted eucalyptus trees both as a cash crop, and so that local villagers would have fuel wood for their daily needs. However, it was noted that some results of the thousands of eucalyptus trees planted included lowering the water table for villages, drying up local wells, and making the farmable land less valuable due to the allelopathic effects of the eucalyptus leaves.

When the Thai government began to grow even more eucalyptus plantations, villagers in the Tung Kula Ronghai section of Thailand, held meetings, marches, rallies, and they also blocked roads, burned eucalyptus nurseries, ripped out eucalyptus seedlings, and chopped down eucalyptus trees and planted fruit trees.

WATER USE

Because the eucalyptus tree is such a great transpirer, it follows that it generally consumes far more water than other native or non-native trees. In fact, one of the stated reasons

that eucalyptus is planted in certain countries is to dry up swamps and wet areas, either for development or because the wet area was believed to be a source of malaria. The deep roots of eucalyptus, and their extensive network of small surface roots, has been noted to extend deep to the water table.

Although a eucalyptus plantation does very well in dry areas where nothing else is growing, in areas as diverse as China, Ethiopia and Vietnam, local villagers of these diverse places have noted that their water wells run dry. In fact, this seems to be one of the main objections to eucalyptus plantations: it dries up the local sources since it generally consumes more water than is received by rain in any given area, which then means there is far less water for agricultural crops and orchards.

In the various studies about eucalyptus, it is always pointed out that the effects of eucalyptus on the water table can be minimized by carefully choosing the locations of the eucalyptus plantations, and by interspersing other forest trees with the eucalyptus. However, in practice, this has not been the case because it is also widely acknowledged that to get the greatest economic advantage from the eucalyptus trees, the eucalyptus are grown tightly in huge acreages, like a crop of corn.

DOMINANT AND TOXIC SPECIES?

In studies done to determine if the leaf drop from eucalyptus is "allelopathic" (exuding soil toxins), various plants grown in a mixture of eucalyptus mulch and soil have exhibited a germination rate as low as three percent, compared to normal rates of germination (typically above 60 percent) with an oak mulch. This means there is typically little or no undergrowth in the eucalyptus groves, and therefore there is a lack of food for grazing animals in the eucalyptus groves.

Formerly, villages would be able to graze their animals in the forest and

let them feed on the undergrowth, and even the leaves of the forest trees. But the eucalyptus leaves themselves are not eaten by grazing animals, which is good if you are growing the trees, but not good if you raise animals.

NUTRIENT USE

Another argument against the eucalyptus plantations is that they cause a great depletion of soil nutrients. In general, eucalyptus take up more nutrients (and water) from the soil than other native or non-native trees because they are fast-growing. And, in theory, if all the leafy matter was left on the ground (as opposed to cleaning it up), those nutrients would degrade and enrich the soil. But unfortunately, eucalyptus mulch takes a very long time to be degraded by bacteria and fungus due to its oils, and so in actual practice, the soils around eucalyptus tend to be very desert-like due to the unavailability of nutrients. (Source: *The Effect of Eucalyptus and Oak Leaf Extract on California Native Plants*, Kam Watson, UC Berkley)

This effect results in the lack of biodiversity and understory that is commonly observed under and around eucalyptus trees, in stark contrast to native forests.

WATER ABSORPTION

One study was also done with soil under the eucalyptus trees, along with a soil sample not influenced by eucalyptus. Soil samples from under eucalyptus trees proved to be less able to absorb water. This meant that though eucalyptus trees have been planted in areas to reduce runoff and flooding, this result is not usually successful because of the effect of the tree's oil on the soil.

These same results have been documented in eucalyptus plantations in China, Kenya, Ethiopia, Vietnam and other sites.

GUIDELINE FOR PLANTING

Kenya Forest Service has published guidelines, basically aimed at

promoting eucalyptus plantations in the country, called, "A Guide to On-Farm Eucalyptus Growing in Kenya," in December 2009.

They advise not growing eucalyptus in wetlands and marshy areas, and riparian areas. They advise no to grow eucalyptus closer than 30 meters from rivers, and ideally 50 meters, so that the trees do not adversely interfere with the water source.

They add that other areas where eucalyptus should not be planted include around lakes, ponds, swamps, estuary and any other body of standing water. They advise that eucalyptus not be planted closer than 50 meters to (about 55 yards) farm lands, and other measures. In other words, even those who are pro-eucalyptus recognize the adverse effects of eucalyptus on the environment, and offer ways to minimize those effects.

The study done of the eucalyptus effect in the Tung Kula Ronghai project in Thailand is somewhat typical of the relationship between local villagers and the various entities who run the eucalyptus "farms" (though, admittedly, every situation is unique). For example, in theory, the eucalyptus plantings are ideally done "where nothing else will grow," though this is simply not always the case. In this project in Thailand, many of the "public lands" were occupied by poor people, who were evicted from the lands so that eucalyptus could be planted.

ECONOMIC AND SOCIAL ISSUES

Remember, World Bank and other funds were provided with the stated intent of providing a cash crop, as well as providing daily fuel for the poorest of the poor. Though the former has materialized, the latter has not. Protests occurred when it became clear that eucalyptus forests did not solve villagers problems, and created new ones. It turned out that firewood from eucalyptus was not "free," and it burned too fast compared to former forest



The sun sets behind a eucalyptus tree in California.

firewood for local San Francisco “villagers.” And they serve no purpose for a third world’s needed cash economy. They, in fact, serve no purpose at all, except their ease of care and growth and their very subjective value of beauty . With so many negatives, and so few positives, why does anyone insist on keeping those trees?

UC Berkeley should proceed with the removal of eucalyptus trees on the lands under their control, and begin the long process of re-introducing natives, and the many benefits that will come therefrom.

CONCLUSIONS

If you have a single eucalyptus in your backyard, you will not likely experience any of the negative effects mentioned here. However, if you have three or more close together, it is likely that you have noted that not much grows under these trees, and other plants struggle. What should you do?

You could remove the tree, use the wood for firewood, and plant something more suitable. Yes, large tree removal is expensive, and some local communities make funds available to help homeowners pay the cost. You could also try drying and selling the eucalyptus leaves to people who do not have them growing nearby. And you could make and sell walking sticks, and other carvings from this hard wood. ☺

woods. There was no benefit from the forest for grazing animals, areas for growing rice disappeared, and the benefits that were supposedly going to assist villagers went to the Thai government and to multi-national wood pulp industries.

By the way, according to Midgley and Pinyopu, “The Role of Eucalyptus in Local Development in the Emerging Economies of China, Vietnam, and Thailand,” there are nearly 10 million acres of eucalyptus under cultivation in the Asia region, which includes Bangladesh, China, India, Indonesia, Laos, Malaysia, Myanmar, Nepal, Pakistan, Phillipines, Sri Lanka, Thailand and Vietnam.

DESERTIFICATION?

Because of the kneejerk reaction to “plant trees” to help offset drought and desertification, some believe that any tree is acceptable to plant. Yet according to Shiva and Bandyopadhyay, “Ecological Audit of Eucalyptus Cultivation” (1987), the “complex multi-dimensional impacts on soil moisture and ground water, on the soil fertility; on other plant life and on soil fauna undermine potential of land for biological productivity. Eucalyptus cultivation therefore creates the threat of desertification.”

Obviously, the disputed eucalyptus trees in the Bay area were not planted to provide

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Backyard Beetles, Good or Bad?

BY GAIL
DAMEROW

GARDENS AND BARNYARDS attract a wide variety of beetles, some beautiful, others downright ugly. It's tempting to kill the scary looking ones and let the pretty ones live another day. But then you have the look-alikes—beetles that are similar in appearance but entirely different in habits. So before you decide whether or not to welcome a particular beetle to your yard, you need to be able to identify it.

While some of the more common beetles are easy to identify, others can be decidedly problematic. That's because of the vast number of beetles roaming North America.



According to the book *Beetles of Eastern North America* by Arthur V. Evans, beetles are the world's largest and most diverse group of animals. Beetles make up one-fifth of all plant and animal species in eastern North America, counting among them 115 families and 1,409 known species. Evans' 560-page book, which is packed with color photos of beetles, describes a mere 10 percent of the species living in the eastern regions of North America.

Still, this book makes a terrific starting place for identifying beetles. Just flipping through the pages looking at all

the colorful insects makes you want to rush outdoors to see how many of them you might spot in your yard.

One of my favorite activities is wandering around the garden with my camera, snapping photos of beetles so I can examine the close-ups to try to identify them. As an alternative to shooting photos, Evans suggests collecting specimens and using a magnifying glass to get a close look. Then compare what you see to the species identification guide in his book.

Until I acquired this book I had been attempting to ID beetles by their basic shapes and color patterns. But, says Evans, "Although colors and patterns are sometimes useful, beetles are classified and more reliably identified on the basis of their anatomical features."

Body shape, then, is a more important first clue than color pattern. Accordingly, Evans includes illustrations of 14 typical beetle shapes from elongated to oval to triangular to ant like. The nature of the beetle's surface is another clue. It might be shiny, dull or wax coated and may be either punctured with small pits or covered with bumps, ridges, whorls or wrinkles.

The head and its appendages are particularly fascinating when you see them up close and personal. The mouth parts vary according to whether they are designed for cutting and tearing flesh, chewing leaves, or straining fluids.

The antennae, which are the beetle's primary organs of smell and touch, come in 11 basic styles that might resemble thread, a string of beads, a saw, a comb, a fan, a feather, a club or a bent elbow.

Weevils can wreck havoc on gardens and backyards.

Each individual beetle lives only weeks or months, and you are just as likely to see larvae as mature beetles. “The larvae of most beetles bear no resemblance whatsoever to the adults,” Evans points out, “and function as though they were entirely different species in terms of food and habit preferences.” Among larvae, five basic body types aid in identification.

If you get so enamored with beetles that you’d like to raise some of your own, Evans offers tips on setting up a beetle aquarium and on rearing larvae gathered from various sources such as in water, under bark or in decaying wood.

So what makes a beetle good or bad? Basically, what it eats. “Equipped with powerful mandibles, beetles are capable of cutting, grinding, or boring their way through all kinds of plant and animal materials, living or dead,” says Evans.

“Most beetles are herbivores and obtain their nutrition by consuming living plant tissues. Scarabs (*Scarabaeidae*), blister beetles (*Meloidae*), leaf beetles (*Chrysomelidae*), and weevils (*Curculionidae*) are among the species that are particularly fond of leafy foliage and will strip leaves of their tissues or completely defoliate plants. Pestiferous beetles in these families hungrily consume turf, garden vegetables, ornamental shrubs and shade trees as well as agricultural or horticultural crops, while their subterranean larvae frequently attack roots.”

Then you have the beetles that rely on fungi for their nutrition and are basically fungus farmers. “Bark beetles (*Curculionidae*),” for example, “infect trees with fungal spores that kill twigs and branches or eventually the entire tree.”

On the other hand, many wood boring beetles feed on already dead or decaying wood, helping break it down into forest mulch. “Their tunneling and feeding activities in twigs, limbs, trunks and roots hasten decay and at-

tract a succession of additional beetles and other insects that prefer increasingly rotten wood.”

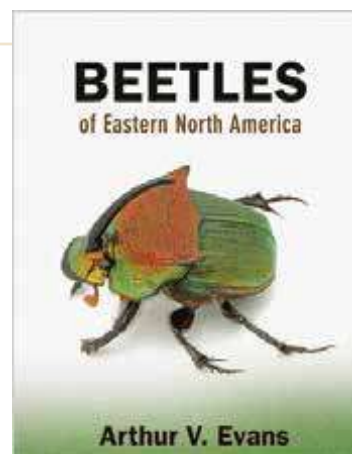
Hunter beetles prey on other types of insects, many of which are the bane of gardeners. “Rove (*Staphylinidae*) and clown beetles (*Histeridae*) hunt for maggots, mites, and other small arthropods living among leaf litter, dung, carrion, under bark, in decaying plant and fungus tissue, and sap flows...Lady beetles (*Coccinellidae*) consume a variety of foodstuff, especially pollen and molds, but are also predators of aphids, mealybugs and other plant pests.”

Dung beetles specialize in burying animal feces, thereby helping fertilize the soil while cleaning up the ground surface. “Dung-feeding beetles (some *Hydrophilidae*, *Geotrupidae*, *Scarabaeidae*) consume plant materials already partially broken down by the digestive tracts of horses, cattle, dogs and other vertebrates. These beetles consume and bury feces as food for their young and are among the most beneficial, yet least appreciated insects.”

On the whole, beetles “are among the most beneficial animals, but it shouldn’t be a surprise that species that have evolved to scavenge animal nests, carrion, dead insects, seeds and decaying plant materials in nature are also adapted to exploit these very same materials improperly stored in our pantries, warehouses and museum collections. Beetles in several families infest and damage stores of grains and other cereal products, dried meats and fruits, legumes, nuts, and spices.”

To help you identify all these various bad and good beetles, the vast majority of Evans’ book—some 440 pages—consists of fabulous photographs of 1,500-plus beetles, accompanied by a brief description of each. They are organized by family and each section includes a list of similar-looking families. Collecting notes give you a hint where to look for each type of beetle.

Although each written descrip-



Beetles of Eastern North America

by Arthur V. Evans
Princeton University Press, 2014
560 pages 8" x 10"
1,500+ photos

tion indicates the beetle’s size, all the photos are scaled alike, unfortunately making all the beetles appear to be the same size. As a visual cue, I would like to have seen a scale bar included with each photo.

Also, unless you are thoroughly familiar with the vast amount of terminology involved in beetle anatomy, understanding the descriptions can be a bit intimidating. The glossary is not much help, as it defines most words in terms of other specialized terminology. And the index does not include the beetles’ common names.

Although this book was clearly written for the coleopterist (scientist who studies beetles), it has much to offer anyone who wants to identify and learn more about the diversity of beetles commonly encountered in gardens, backyards, barnyards, and woodlots. I guarantee that if you do nothing but take in the colorful photographs in this book, you will never look at beetles the same again. 📷

Gail Damerow enjoys trying to identify the many beetles that inhabit her farm in Tennessee’s Upper Cumberland.

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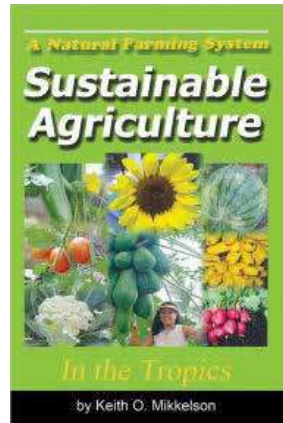
The Book on Tropical Agriculture

BY CRAIG
SODERBERG

WITH 252 PAGES of helpful information, this book is a great resource for agricultural tips. There are 19 chapters that range from topics like modern agriculture vs. natural agriculture to livestock integration and everything in between.

In the introductory chapter, author Keith Mikkelsen mentions two problems worth considering. The cost of commercial fertilizer has increased in price 400 percent in the past 20 years. And therefore food-growing communities are nominalized due to the high cost of production.

In chapter one, modern agriculture versus natural agriculture, Mikkelsen mentions that, throughout the world, food production is becoming less and less reliable, more fragile, and increasingly toxic. He also states that natural farming is the most economical way to solve this impending global



A Natural Farming System For Sustainable Agriculture In the Tropics

By Keith O. Mikkelsen
ISBN 971-93381-0-5

Published by Aloha House, Inc.
To purchase this book or
for more information visit
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food problem. Mikkelsen explains that modern agriculture damages our health and we are unaware of this as “dunk our donuts and dip our chips in ignorance while feasting on a bold new diet for a new age.”

In another chapter about soil, Mikkelsen states that organic farming, nature farming, and natural farming are all very similar in that they all have a commitment to safe, quality food production without chemical inputs. The main premise is that if we feed the soil organic matter, then the microbes will feed the plant. Pest and disease management can be obtained naturally. Building up the soil and managing the organic matter as it is converted into humus is an age-old method.

It goes on from there, each chapter as detailed as the last. The book ends with several appendices filled with how-tos and other helpful hints. ☺

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for Winter and Earliest Spring of 2016

BY W. L. FELKER

I sing the
cycle of my
country's year,
I sing the
tillage, and the
reaping sing.

— VITA SACKVILLE-WEST

THE EPHEMERIS FOR JANUARY AND FEBRUARY

THE SUN'S PROGRESS

January 2: Perihelion: the Earth position closest to the sun.

January 20: The sun enters the sign of Aquarius.

February 3: The sun will have climbed a third of the way to spring equinox.

February 18: Today is Cross-Quarter Day, the day that the sun reaches its halfway point to equinox. It enters the early spring sign of Pisces at the same time.

THE PHASES OF THE SKUNK MATING THE DESERT WILDFLOWER MOON

January 2: Lunar apogee

January 9: The Skunk Mating Moon is new at 8:30 p.m.

January 14: Lunar perigee

January 16: The moon enters its second quarter at 6:26 p.m.

January 23: The moon is full at 8:46 p.m.

January 30: Lunar apogee

January 31: The moon enters its final quarter at 10:28 p.m.

February 8: The Desert Wildflower Moon is new at 9:39 a.m.

February 10: Lunar perigee

February 15: The moon enters its second quarter at 2:46 a.m.

February 22: The moon is full at 1:20 p.m.

February 26: Lunar apogee

March 1: The moon enters its final phase at 6:11 p.m.

THE STARS

In the evening sky, the stars announce the cold of deep winter: the Pleiades have moved almost overhead, leading on the Hyades, Taurus and Aldebaran. Orion towers in the southeast, followed by Sirius and Procyon. Castor and Pollux, the rulers of January, stand above Orion's dogs.

THE SHOOTING STARS

The Quadrantid Meteor Shower is expected to be most visible on the nights of Jan. 3 and Jan. 4.

THE PLANETS

Venus is the bright morning star until the end of April. It begins the year in Ophiucus (with Saturn) and moves to Sagittarius in February.

Mars is visible in Virgo in January, Libra in February.

Jupiter remains in Leo. Rising from the east, it shadows Regulus, the keystone star of Leo, through the night.

A CALENDAR OF HOLIDAYS AND SPECIAL OCCASIONS FOR FARMERS, RANCHERS AND HOMESTEADERS

February 8, 2016: Tet, Vietnamese

New Year and Chinese New Year

February 9, 2016: Mardi Gras

February 27, 2016: Dominican Republic Independence Day

THE ALMANACK DAYBOOK

JANUARY

1: The season of deep winter begins today.

This season has six significant cold waves, and it lasts from Jan. 1-26.

2: If you have rabbits in pens outside, be sure that their bedding and their fur has not been soaked by wet storm winds.

3: Have your turnout sheets, stable blankets or turnout blankets ready for your horses.

4: Early fall treatment of livestock for lice may not be enough to keep your herd free from parasites this winter. Check and treat.

5: Thunder and maybe even a tornado can be expected in the South as this second major January front moves across the nation's pastures.

6: Consider putting your horses'

tails up for the rest of the winter, lessening the possibility of ice accumulation on the hair.

7: Pines have started pollinating. Allergy season begins.

8: Get extra feed ready to help warm your livestock: the middle of January one of the worst storm periods of the year.

9: Today's new moon is the last early date for seeding bedding plants.

10: Avoid giving greens to your outside rabbits when the temperature remains well below freezing.

11: Proper care of hooves when your horses work in snow and ice helps prevent accidents and foot damage.

12: Consider midwinter culling as your flock and herd increase their consumption of precious hay and feed.

13: Breed in early winter for "spring babies" that will be able to take advantage of fresh April pastures.

14: Chinese New Year could increase demand for lambs and kids between now and the end of the month.

15: You may notice an increase in the demand for kids and lambs as the Groundhog Day Thaw moves through your area. The reason could be the approach of Tet and Mardi Gras.

16: As the cold grows deeper, provide a little extra hay for your rabbits, extra grain for your larger livestock.

17: Prepare for Mardi Gras (February 9) sales of beads and other paraphernalia.

18: During the "January Thaw" period, odds rise for blizzards in the North and hard rains in the South.

19: Take advantage of slightly milder weather and a weaker moon to vaccinate the does due to kid in February. Trim their feet, and clip their udders and hindquarters before kidding begins.

20: Regular fecal samples will help you keep track of what is going on inside your animals.

- 21: Frost seeding begins: broadcast clover in the fields and grass seed over bare spots on the lawn.
- 22: Keeping animals in poorly ventilated barns can lead to disease and can encourage parasites.
- 23: Expect sap to be running in the maples throughout the South as the moon becomes full today.
- 24: Now is the time to reevaluate your hay supply for nutrient levels.
- 25: If you treat a feeder piglet well throughout the summer and butcher it before Thanksgiving, you will have plenty of pork to get you through the winter.
- 26: Today is the first day of the season of late winter. Late winter contains five to six cold fronts and lasts from today through Feb. 18.
- 27: Young animals birthed by the full moon and the January Thaw will run a higher-than-average risk of being chilled by the last cold front of the month.
- 28: Weigh your livestock at birth, and at least every 30 days thereafter.
- 29: Cardinals and doves begin their pre-dawn songs, a major shift in the sound of winter.
- 30: Plan ahead for the next two years. Breeding ideas and decisions can often use as much lead time as you can give them.
- 31: January's final weather system is almost always followed by a warm-up, the Groundhog Day Thaw.

FEBRUARY

- 1: Make plans to sell kids and lambs to the Easter Market at the end of March and early April.
- 2: Birthing season begins for ewes and does bred in early autumn.
- 3: Be especially careful of hyperthermia in newborns during February, a month during which sudden extremes of colder and milder weather can catch you unprepared.
- 4: In all but the northernmost states, tap maple trees throughout the month.
- 5: Allergy season is underway as mountain cedar, acacia, smooth alder, bald cypress, American elm, red maple, white poplar and black willow start to pollinate.
- 6: Be sure to have all your birthing supplies on hand: heat lamp, blankets, disbudding boxes, nipple waterers, iodine or other disinfectant to treat the naval cord.
- 7: Check bedding for sheep, goats, alpacas and llamas; six inches of straw can be just right. Bake hot-cross



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- buns to sell at Mardi Gras (Feb. 9).
- 8: The Desert Wildflower Moon is new today. Consider a trip to the Southwest to view the blossoms. But first, as conditions permit, plant oats and barley in the South.
- 9: Before spring growth begins, spray ash, bitter-sweet, fir, elm, flowering fruit trees, hawthorn, juniper, lilac, linden, maple, oak, pine, poplar, spruce, sweet gum, tulip tree, and willow for scales and mites.
- 10: Turkeys are flocking, socializing before April courting.
- 11: Test cattle for anaplasmosis when doves begin to call.
- 12: Force branches from flowering trees as the moon waxes.
- 13: Deer have gathered in herds for winter feeding.
- 14: Spray trees with dormant oil when temperatures rise into the upper 30s or 40s.
- 15: If you are planning to hand-feed your lambs and goats now is the time to get all your paraphernalia ready. Some people use regular pop bottles to feed their kids; put a nipple on the bottles, and you're ready to go. Other owners prefer the shallow pan technique, which can make weaning a little easier.
- 16: Seed cold frames with lettuce, chard, and spinach. Pastures start to grow if snowcover recedes.
- 17: Heat-treat the colostrum or milk before you use it.
- 18: This is winter's Cross-Quarter Day, the first day of early spring. A relatively long season of eight to ten major fronts, early spring lasts from mid-February through the end of March. Across the South, pastures are growing back, and gardeners in southern Florida, California and Texas can start their spring garden after the passage of this front. Spring oats and barley planting often begins in California after the passage of this front.
- 19: Consider marketing late-winter lamb and kid culls for Meatfare Sunday (March 6), the last day for Orthodox Christians to eat meat before Lent.
- 20: Frost seeding of dormant pastures and lawns may be started after the snow has receded. The Feb. 20 cold front marks the end of the snowiest part of the year in most states.
- 21: The ground temperature is moving above 35 degrees, the temperature at which earthworms become active.
- 22: Today is full moon day. Expect the sap to run (even more) as the Feb. 20 front moves east.

- 23: Don't stop feeding your bees even though the weather may be mild and your hives may be starting to show signs of activity.
- 24: When the soil is ready, dig horseradish and comfrey root. Then, pull back some garden mulch to allow the soil to dry out and warm up for your first lettuce and radishes. Even though the cold is likely to return with a vengeance, be ready for that one year in a quarter of a century when early seeds survive and produce April harvest.
- 25: Mares show signs of estrus as maple sap flows and the first snowdrops bloom.
- 26: Prepare your milk-fed lambs and kids born in mid January through February for this Easter market. Sales should begin toward the middle of March and will favor 25-to 45-pound animals.
- 27: The corn planting season often begins in Texas and other Gulf states after the passage of February's final front.
- 28: Remove old rhubarb and asparagus stalks, cleaning out around the beds, digging in well rotted manure.
- 29: Install cross fences to facilitate crop rotation.

LUNAR FEEDING PATTERNS FOR PEOPLE AND BEASTS

Best hunting and fishing should occur with the moon above the earth. The second-best time occurs with the moon below the earth.

DATE: ABOVE; BELOW

JANUARY

- 1 - 8: Mornings; Evenings
- 9 - 16: Afternoons; Midnight to Dawn
- 17 - 23: Evenings; Mornings
- 24 - 31: Midnight to Dawn; Afternoons

FEBRUARY

- 1 - 8: Mornings; Evenings
- 9 - 15: Afternoons; Midnight to Dawn
- 16 - 2: Evenings; Mornings
- 23 - March 1: Midnight to Dawn; Afternoons

WINNER OF THE NOVEMBER-DECEMBER SCKRAMBLER SWEEPSTAKES

Prizes were promised to the 2nd, the 13th, the 29th or the 67th person to return their correct Sckrambler solutions by my deadline. A total of four correct replies were received. And the lucky 2nd person – who also happened to identify the two typos (for an extra \$5 prize!) – was John Volungus of Rexford, New York.

ANSWERS TO THE NOVEMBER-DECEMBER SCKRAMBLER

- | | |
|-----------------------|-----------------------|
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| SAMTSIRHC | CHRISTMAS |
| AKWAZN | KWANZA |
| HHNKKAU | HANUKKAH |
| AAUSHR | ASHURA |
| LA ARIJHI | AL HIJIRA |
| GNIVIGTHNKSA | THANKSGIVING |
| SSLTCIOE | SOLSTICE |
| CHNSEEI WEN AREY | CHINESE NEW YEAR |
| ARNUD RASG | MARDI GRAS |
| TENL | LENT |
| EEATSE | EASTER |
| EVORSSAP | PASSOVER |
| SORH HHHNAAS | |
| | ROSH HASHANAH |
| MADNRAA | RAMADAN |
| ID AL FITR | ID AL FITR |
| IRTARAVAN | NAVARATRI |
| VESTRAH OONM SEFTILAV | |
| | HARVEST MOON FESTIVAL |
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| DINEPNEEDECN YDA | |
| | INDEPENDENCE DAY |

THE JANUARY – FEBRUARY SCKRAMBLER

FARM POND STUFF

If you are the 3rd, 33rd or 53rd person to return your correct Sckrambler solutions by my deadline to Poor Will, P.O. Box 431, Yellow Springs, OH 45387, you will win \$5. If you happen to find a typo, you may simply skip that word without penalty –

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|-----------|-----------|
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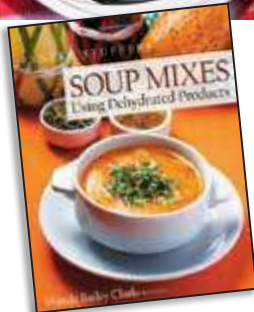
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HaulMaster

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HaulMaster

Customer Rating **★★★★★**

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