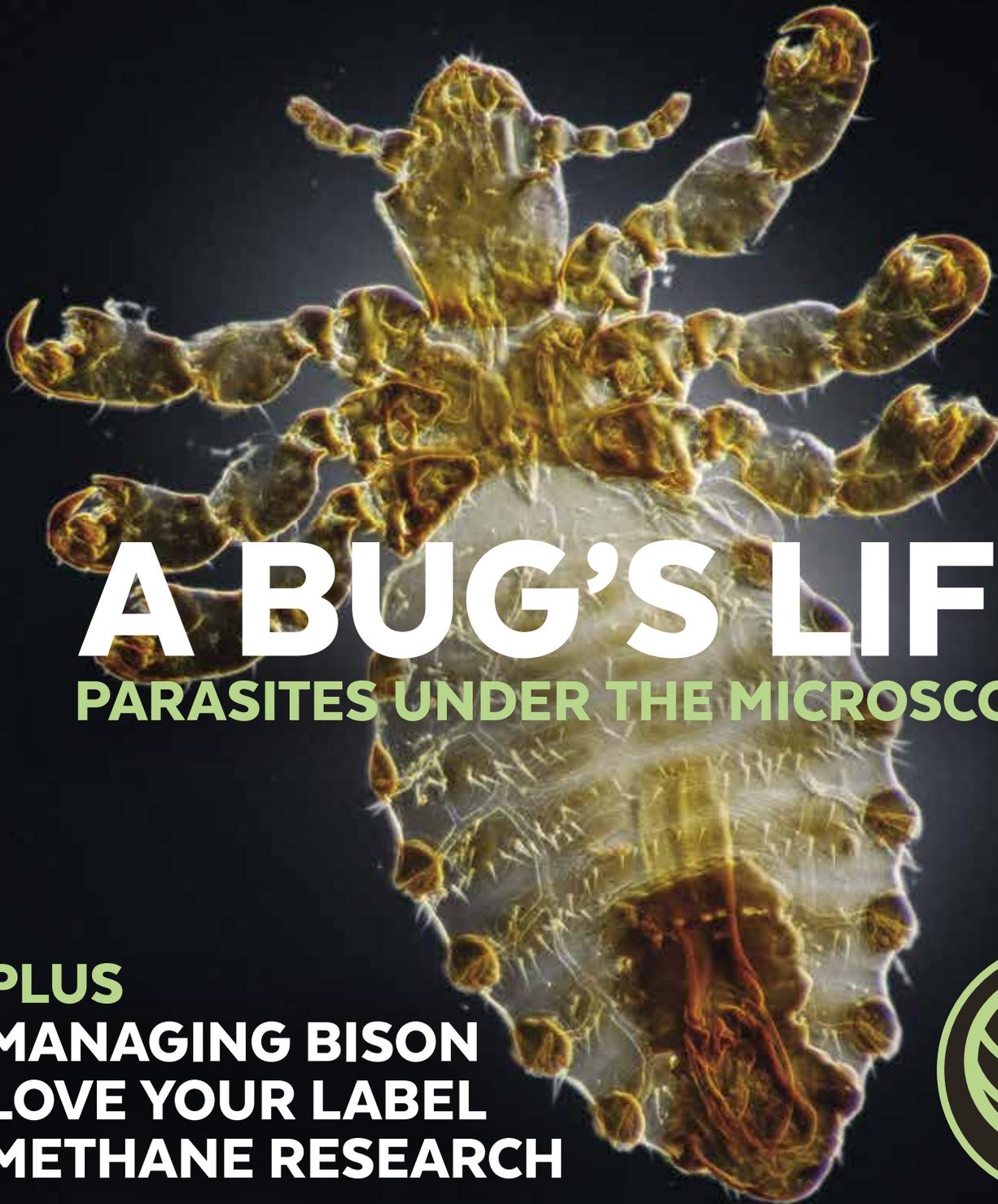


SUSTAINABLE FARMING

INCORPORATING AWA NEWSLETTER

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A BUG'S LIFE

PARASITES UNDER THE MICROSCOPE

PLUS
MANAGING BISON
LOVE YOUR LABEL
METHANE RESEARCH



FAKE MEAT PIE



In response to growing public awareness of the climate emergency, plant-based diets and lab-grown proteins have rapidly emerged as the self-proclaimed answer to all our prayers, offering healthy, animal- and climate-friendly 'food solutions.'

But this is no coincidence. As highlighted in the last issue, powerful vested interests that lie behind initiatives such as the Eat Forum are driving the global narrative about the need for sustainable 'alternatives' to animal protein. They call for a global dietary shift from meat, dairy and eggs to highly processed plant-based alternatives and hi-tech lab-grown meats. The aim? Profit maximization and the further industrialization of global food production. According to Nielsen, a leading retail data company, plant-based food sales topped \$3.3 billion in 2018, while Barclays analysts claim the market for alternative meat may reach \$140 billion by 2030. No wonder all the usual suspects want a piece of the fake meat pie.

But while multinational food corporations and global investors are eager to jump on the fake meat bandwagon, they might be in for a bumpy ride. Take the new Impossible Burger. Marketed as a safe and environmentally friendly alternative to meat, the website states "the soy protein used in the Impossible Burger will come from genetically modified soybeans," while genetically modified

yeast is used to produce heme, "the 'magic molecule' that makes meat taste like meat." Not what most conscientious consumers would consider natural or environmentally friendly! And that's before we discuss the potential health and environmental questions surrounding lab-grown meat production.

Whenever I can, I make a point of discussing these lab-based food solutions with shoppers and people I meet. Most are pretty skeptical about lab-grown meat, often commenting that something "just doesn't feel right." Although many want to see an end to industrial food animal production, they'd choose certified grassfed meat or pasture-raised eggs over these hi-tech 'fake food' alternatives every time.

Despite the media hype and stock market predictions, food investors and philanthropists who seek a sustainable food future would do well not to dismiss these public sentiments as a 'luddite reaction to technology' or a 'rejection of necessary progress,' but instead recognize the latent public concern about the over-industrialization and control of food production. Lest we forget the revulsion and outrage over the "pink slime" fiasco, the big question is: will the Brave New World of highly processed genetically modified 'food solutions' and lab-grown meat ultimately prove too hard for many to swallow?

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MYTHANE



New research reveals industrial methane emissions are 100 times higher than reported

Methane emissions from the industrial sector have been vastly underestimated, according to new research from Cornell University and the Environmental Defense Fund.

Published in *Elementa*, researchers equipped a Google Street View car with a high-precision methane sensor and discovered that total annual methane emissions from ammonia fertilizer plants were 28 gigagrams—over 100 times higher than the fertilizer industry's self-reported estimate of 0.2 gigagrams per year. In addition, the measured emissions alone far exceed the EPA's estimate for all industrial processes in the U.S. of 8 gigagrams of methane per year.

"We took one small industry that most people have never heard of and found that its methane emissions were three times higher than the EPA assumed was emitted by all industrial production in the United States," said Professor John Albertson of Cornell University. "It shows that there's a huge gap between a priori estimates and real-world measurements."

Many campaigners have repeatedly accused the cattle industry of being the main culprit for increased global methane emissions and a leading cause of climate change, without differentiating

between production systems, while promoting plant-based diets and white meat as the most sustainable dietary options. Yet this study reveals that fertilizer production and use is the root cause—and the data behind such dietary advice is wrong.

"While there is no question that agriculture is still a major contributor to global GHG emissions, and many of its climate change-contributing factors must come to an immediate end, the need for clarity over greenhouse gas emissions of different livestock systems is more important than ever," argues Andrew Gunther, AGW's Executive Director.

"When it comes to livestock production, we have long argued that well-managed grazing animals will not only contribute towards feeding the world sustainably, but can help mitigate climate change through carbon sequestration."

"All of the environmental footprint studies will need recalculating. Once pasture-based ruminant systems—raised on grass without synthetic fertilizer—are accurately assessed, I predict we will find that intensively produced chicken and pork and some plant products are top line polluters. Sustainable diets are hugely complicated, but we have to get it right," Gunther adds.

Originally published on Medium.com

IN THE NEWS...

CHOLESTEROL QUERY

New research suggests the effects of red and white meat on cholesterol are identical.

A recent study by scientists at Children's Hospital Oakland Research Institute examined the effects of red meat, white meat and plant-based proteins on the levels of different types of cholesterol. They found that both red and white meat diets produced the same elevated levels of LDL (or 'bad') cholesterol, while the plant-based proteins showed significantly lower levels than the meats.

ANTIBIOTIC SURVEY

New USDA survey data reveals that almost 89% of beef feedlots and 95.5% of large pig operations administered antibiotics in feed, water or injection during 2016.

In January 2017, new regulations were introduced preventing use of medically important antibiotics for growth promotion and requiring veterinary oversight for the use of medically important antibiotics. The USDA states the new survey results will provide a baseline for how livestock producers use antimicrobials going forward.

DEAD ZONE RECORD

Scientists are predicting a near record-breaking Gulf of Mexico "dead zone" this year of 7,830 square miles—or the size of Massachusetts—following historic flooding in the Midwest.

A dead (or hypoxic) zone is an area in water where oxygen concentration is so low that animal life suffocates and dies. The National Oceanic and Atmospheric Administration is warning that extreme flooding in the Midwest has resulted in severe nutrient pollution, as fertilizer run-off is washed into the Mississippi River watershed.

FLYING OFF THE SHELF

Designed to catch the eye of shoppers—and draw attention to certified retail products on crowded shelves—AGW's new shelf talkers are printed on hard-wearing, wipeable aqueous coated premium cardstock. Sold in packs of five, the 4¼" wide x 2¾" high shelf talkers have an easy-peel self-adhesive patch to allow temporary attachment to most surfaces.

The shelf talkers are available from AGW's online merchandise store at \$5 plus shipping. Visit agreenerworld.org/shop-agw





IN THE NEWS...

SHAKING UP THE MARKET



ICONIC Protein is the world's first beverage company to offer a complete line of Certified Animal Welfare Approved by AGW drinks and protein powders.

Available in a variety of nature-inspired flavors, ICONIC powders and drinks are sold through leading U.S. retail stores, including Whole Foods, Target, Safeway/Albertsons, Vons, CVS, Sprouts, H.E.B, Central Market, Wegmans, Jewel Osco and the Vitamin Shoppe, among others.

"I've always insisted on protein sources with the highest animal welfare standards, the lowest environmental impact and rigorous testing to ensure the cleanest, most nutrient-dense

bioavailable option," says Billy Bosch, ICONIC Protein CEO and Founder. "Having the Certified Animal Welfare Approved by AGW logo to back up our product is deeply important to me and our team."

"Sourcing ingredients from AGW Europe-certified dairy farmers demonstrates ICONIC's commitment to quality ingredients that have a concrete, positive effect on rural communities, animals and the planet we share," says Emily Moose, AGW's Director of Communications and Outreach. "We are thrilled to be partners in building sustainable supply chains."

Visit drinkiconic.com

CONTAMINATED MILK

Conventional milk is frequently contaminated with antibiotic residues—some exceeding federal limits—according to new research.

Published in *Public Health Nutrition*, researchers at Emory University compared 35 conventional milk samples to 34 organic milk samples (collected in 2015) and found antibiotic residues in 60% of conventional samples and none in organic. In one conventional sample, amoxicillin levels exceeded federal limits; while 37% and 26% tested positive for sulfamethazine and sulfathiazole—both banned in lactating dairy cows.

GREEN DIRT FARM



CHEESE WINNERS

Certified Animal Welfare Approved by AGW yogurt and cheesemakers took home top awards at the 2019 U.S. Championship Cheese Contest in Madison, WI.

Certified Grassfed by AGW Pure Éire Dairy, WA, won Best of Class for their 'Organic, 100% Grass-Fed Lemon Whole Milk Yogurt' in the Yogurt, Flavored-Cow's Milk category at the 20th biennial competition. Certified Animal Welfare Approved by AGW Green Dirt Farm, MO, took home two awards: Best of Class for their 'Fresh Plain' in the Soft Sheep's Milk Cheeses category and third place for 'Dirt Lover' in the Surface (Mold) Ripened Sheep's Milk Cheeses category.

The U.S. Championship Cheese Contest is the nation's largest technical cheese, butter and yogurt competition. Winners were selected by a team of skilled technical judges from a record-setting 2,555 entries from 35 states.

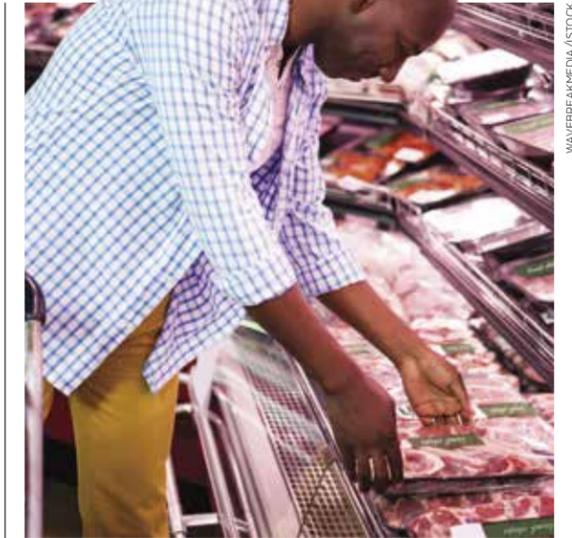
"We're honored to showcase our Certified Grassfed by AGW dairy products on a national stage," says Jill Smith, Co-owner of Pure Éire Dairy. "We were up against large, national brands, which was rather intimidating, but we have always been confident about how we raise our cattle and the quality of grassfed milk they produce."

SUSTAINABLE FELLOWSHIP

The Castanea Fellowship has selected Emily Moose, AGW's Director of Communications and Outreach, as one of their 2019 fellowship cohort.

The Castanea Fellowship program was recently established by leading NGOs to invest in individuals who will help in the creation of a more equitable, sustainable and healthy food system. The 12 Fellows were selected from over 400 applications, and will spend two years exploring connections to transform food into a source of health, equity and well-being.

Visit castanea-fellowship.org



WAVEBANKMEDIA/ISTOCK

CHANGING HABITS

New research shows that consumers are increasingly aligning their shopping with their values and choosing sustainably labeled products.

Researchers at the NYU Stern Center for Sustainable Business examined consumers' stated—and actual—purchasing habits for everyday consumer packaged goods and found that 50% of sales growth between 2013 and 2018 came from sustainably marketed products.

Products with a sustainability claim on-pack accounted for 16.6% of the market in 2018, up from 14.3% in 2013. Most important, products marketed as sustainable grew 5.6 times faster than those that were not. Sustainability-marketed products grew faster than their conventional counterparts in more than 90% of categories.

AGW FARMS ON THE BIG SCREEN

Givers and Takers, a short film featuring AGW-certified farm Pompey's Rest in Ware Shoals, SC, was shown as part of the Wild and Scenic Film Festival in Greenville, SC, earlier this spring.

Sponsored by Fujifilm and Upstate Forever, a nonprofit group that works to balance growth with the protection of natural resources, the Wild and Scenic Film Festival brought together a variety of engaging films related to conservation and the environment.

The film shows how Pompey's Rest, under the management of Don Jackson and his son, Patrick, successfully transitioned from conventional to high-welfare, rotational grazing practices.

Directed by Peter Byck, a filmmaker who teaches at Arizona State University, the film is one of a series highlighting rotational grazing and other techniques that regenerate the soil. Another film by Byck, *A Fence and an Owner*, featured Nancy Ranney of AGW-certified Ranney Ranch, NM.

NEW AGW WEBINAR SERVICE

AGW can now offer free online webinar presentations to schools, colleges, community groups, businesses and farming organizations.

"AGW already leads numerous talks and workshops across the country," says Katie Amos, AGW's Lead Farmer and Market Outreach Coordinator. "By offering our talks and meetings via a webinar format, we can connect with even more classrooms, workplaces, community groups and farming organizations across North America."





Like what you read?

Do you value our work to support market transparency and pasture-based farming?

Here's how to help us help you—and others

AGW is an independent and nonprofit organization. Because we are not dependent on certification fees, we can remain completely impartial in our auditing, resulting in unrivaled integrity and trust. But we DO rely on supporter donations. Please consider supporting us with a one-time or regular donation and membership, or promoting the AGW membership program with your friends, family and customers. Join now for as little as \$3/month!

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Opinion

A CHANGE OF HEART

Government dietary guidelines on saturated fat are disputed, says Lawrence E. Widman

For the last six decades or more, government dietary advice in the U.S. and across much of the world has been to eat a diet rich in vegetable protein and fats, avoiding beef and other sources of animal proteins and fats.

Yet recent studies suggest this advice may be wrong and may have led to the explosion of obesity and obesity-related disorders since the late 1970s after vigorous public health efforts to convince people to abandon meat and substitute plant sources of protein.

Up until World War II, heart disease was considered an inevitable consequence of aging. After the war and into the 1950s, however, the death rate from coronary atherosclerosis (blockages in the arteries to the heart) became so high that it resulted in a public health crisis. As a result, numerous scientific studies were established to identify the causes and risk factors.

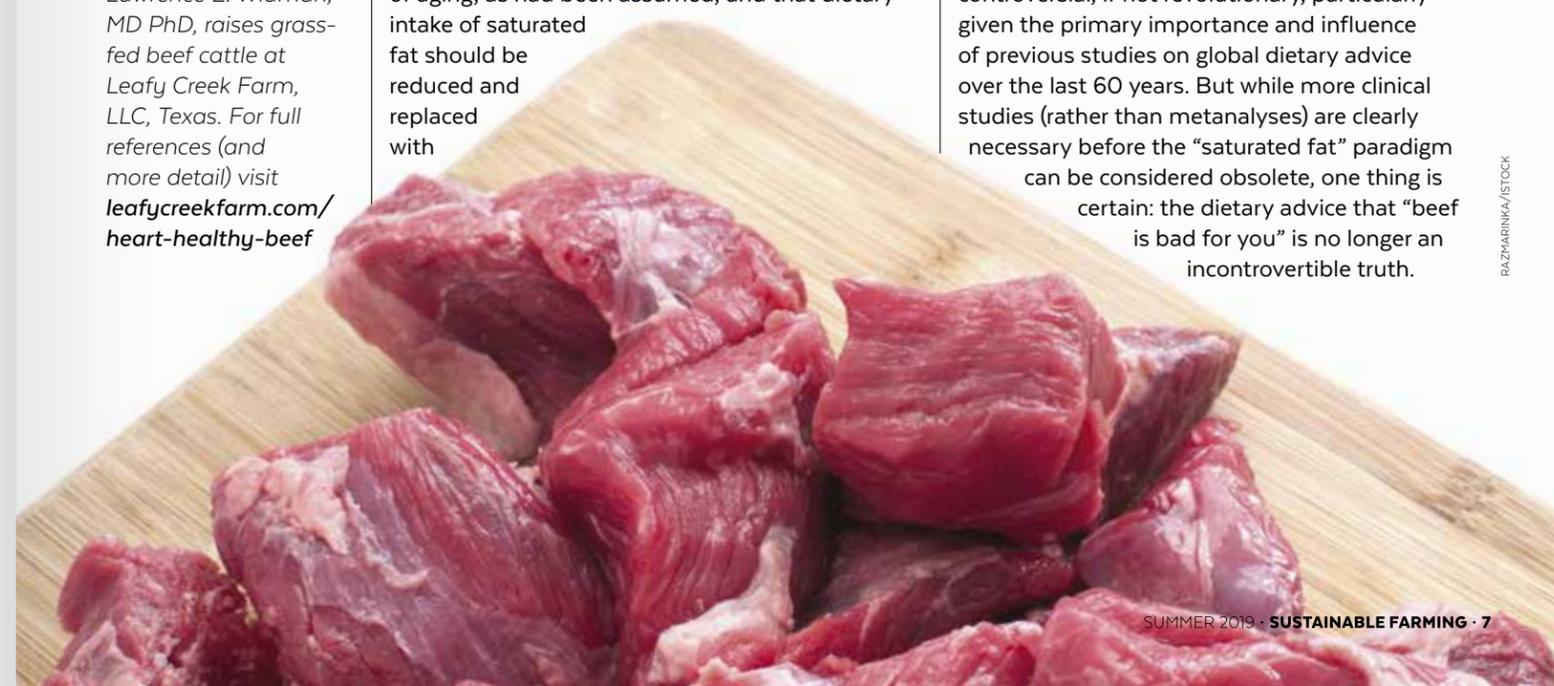
Although the theory and practice of dietary control of cholesterol at that time was poorly understood, a number of influential scientists soon believed they had established that eating animal protein was associated with more heart attacks than eating plant protein. One particular study at the time played a central role. The Seven Countries diet study is the origin of the so-called "Mediterranean diet" that came to be associated with lower risk of coronary atherosclerosis. In brief, the principal inference from the Seven Countries study was that heart disease was preventable with lifestyle—and not an inevitable consequence of aging, as had been assumed; and that dietary intake of saturated fat should be reduced and replaced with

mainly plants and seafood. Another important study shows how little was understood back then. The Framingham study, which started in 1948 and still continues, identified the major risk factors for development of coronary atherosclerosis: diabetes mellitus, hypertension, high cholesterol, cigarette smoking, male sex, advancing age and family history of premature heart disease. Despite protests from other scientists at the time, this concept became accepted as truth and went on to form the basis of official dietary recommendations that have persisted for decades.

However, a number of recent studies on dietary fat intake and health consequences raise serious questions about the hypothesis that animal-derived saturated fatty acids increase the risk of coronary artery disease. For example, several studies have shown that the inclusion of lean beef in diets had similar positive outcomes in total cholesterol, LDL and HDL cholesterol and triglycerides as consuming poultry or fish. An important and comprehensive study, published in the *American Journal of Clinical Nutrition* in 2018, showed that total cholesterol and LDL (the 'bad' cholesterol) actually improved when the amount of unprocessed beef or pork was more than doubled compared to the standard plant-, fish- and poultry-based Mediterranean Pattern diet.

The developing argument that saturated fat and, in particular, ruminant animal fat, may not be associated with coronary artery disease is controversial, if not revolutionary, particularly given the primary importance and influence of previous studies on global dietary advice over the last 60 years. But while more clinical studies (rather than meta-analyses) are clearly necessary before the "saturated fat" paradigm can be considered obsolete, one thing is certain: the dietary advice that "beef is bad for you" is no longer an incontrovertible truth.

Lawrence E. Widman, MD PhD, raises grass-fed beef cattle at Leafy Creek Farm, LLC, Texas. For full references (and more detail) visit leafycreekfarm.com/heart-healthy-beef






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NATURE'S EFFICIENCY

Bison herds can be managed in accordance with natural family order, a truly unique approach that can be applied to all herding animals, says Bob Jackson



Bob and Sue Jackson at Tall Grass Bison, Iowa

Abraham Lincoln once famously said that “Every blade of grass is a study, and to produce two, where there once was but one, is both a profit and a pleasure.”

And so it is at Tall Grass Bison. We manage our bison in socially structured extended family groups, which are so important to bison health and wellbeing. Our farm is a study in progress: we never stress the herd by breaking up families, or ship them to a sale barn or packing plant. We never treat the animals with hormones or antibiotics or feed grain. We believe this approach—the harmony of nature’s animals and land—is not seen anywhere outside of Yellowstone National Park.

Natural order

Starting with three bison calves in 1976, we now maintain four to five extended families on converted crop ground and native oak savanna prairie. By managing herds for social order, we can obtain the unparalleled efficiency of nature and highest ethical animal care standards, all while maintaining a high level of ecological sustainability. And we believe it is possible to apply the principles of extended families and social order management to any domesticated grazing herd or flock animal.

Our beginnings at Tall Grass Bison started with growing up on a diversified Iowa farm, fortified with fish and wildlife biology degrees from Iowa State and Cornell University. College drilled into us that nature is most efficient. Yet modern agricultural practices said this wasn’t so. Where was the compatibility?

It took a career as a seasonal back country ranger in Yellowstone, for my part, to find solutions. For 30 years, I patrolled 1,200 square miles on horse, sometimes staying in for five months a year. While searching for poachers, this gave me the best possible opportunity to study wild bison and elk. It didn’t take long to see that these herds had a complex social infrastructure (families) only recognized before with elephants.

Observing nature

Combining these observations with an interest in indigenous people, I soon realized that the organization of hunter-gatherer communities and herd animals and flocks were the same; and how to manage and harvest herding animals became a lot easier to understand.

At Tall Grass Bison, we see our animals as owning the corporation, not us. It is the extended family that produces the product in the form of spin-off “satellite families,” which we then harvest as an entire unit. Our job is to make sure we don’t screw up and make the core families dysfunctional. As a result, our bison do not have the chronic stress and anxiety associated with intensively managed herd animals.

So what do social order herds look like? Nature’s buffalo or cattle herds would consist of matriarchal core families of 60–70 animals (25–35 on arid lands) with great-great grandmothers down to dependent offspring. Spin-off satellite herds start with 20–25 animals. Bull groups consist of teenage (3–5 year old) animals, active breeder age (6–8 year old) of up to 15–20 animals and, finally, mentor grand-fathers in smaller groups of 3–5 in number. So nature’s herds consist of maybe two-thirds matriarchal and one third males—like ours.

Around 300 animals seems to be the magical number for interactive recognition and association. It is the same for elephants, primates and elk. Beyond this number, the herd will split into territories, each protecting their turf from other herds. Although recognition and support continues between distantly related groups, the relationship becomes more about common cause, trust and familiarity rather than emotional attachment.

The advantages?

In modern husbandry a dry cow is considered a burden to the rancher’s bottom line and is slaughtered after pregnancy checking. In social structured herds, however, a dry cow becomes the babysitter for other calves so the mother can forage better. She gathers up all the stragglers when the main herd goes to pastures across the road. There is no panic when mothers see their calves are not with the herd. They can watch over older dependents while the babysitter (who may be the grandma) does a quick survey to see who is missing, walks back, and returns later with the missing youngsters.

As for the males, we used to park our John Deere 3020 in front of the field gates when it was moving time to keep the crunch of the herd from breaking through. After 10–12 years, the older bulls have assumed herd discipline. Now, one or two walk to the front, turn sideways, and the rest of the herd stays back. Even after the gates are opened there is no movement until those bulls turn parallel to the lane. Then everyone rushes past them to get to new grass on the other side of the road. These non-breeding bulls and old cows are therefore worth a lot in terms of overall herd performance.

Grazing

Susan and I are part of Utah State University’s Behavioral Education for Human, Animal, Vegetation & Ecosystem Management (BEHAVE) initiative. Members discuss such topics as “eating the best and leaving the rest,” riparian overgrazing problems and fencing needs for rotational grazing. But with social order herds the solutions usually happen naturally.

Because grazing families stay close together, we end up with multiple families practicing



Prairie birds like the brown-headed cowbird hang from the wool and clear pest insects and larvae

management intensive grazing (MIG) without fences at different locations in the same pasture. With families there are two types of grazing: en masse movement and static.

With en masse grazing, yearlings and two-year-old dependents lead the herd, staying just in front of their older relatives. They eat the most succulent forage (eliminating conventional creep feeding) and keep the entire herd moving forward for more uniform grazing across the landscape. Add in nature's usual male component within the herd and you now have a group that utilizes coarse vegetation, resulting in new growth for females and dependents without the cost of brushing pastures.

During times of static grazing the young learn what to eat from their elders. With most native forbs (and weeds) that means not eating from the top down, but rather selecting out high nutrition parts of the plant at appropriate times of the year. Without this training, herbivores are relegated to a nutrient-deficient "grassivore" existence.

Herd development

It takes 12-15 years to establish a basic, functional social order herd in cattle or buffalo (less time with pigs, goats and sheep). This may seem like a long time but it is no different than the time required for a purebred beef producer to establish his or her own line or distinctive herd identity.

In social order herds, the cows of each functional family pick the males to mate with. Thus, grandma, mother and daughter can have offspring from the same male without inbreeding. The younger, unrelated bull who always follows this older male mentor around will breed with the younger females after the old guy is exhausted from mating with the older cows. With separate family identity, herds with multiple families can therefore offer a closed, disease-free option for

producers. Finally, only in extended families does one have a situation where every animal in this family can pass on genes without necessarily having offspring. I suspect farmers and ranchers reading this article can figure this one out better than most of the animal scientists presented with this concept!

The final product

We field slaughter all members of a family, leaving other families structurally intact. This means harvesting every animal in a matriarchal family—from calves to 25-year-old bulls and cows—and can include up to 150 individuals per harvest. The male components are also harvested as entire bull groups. And there are always individuals to harvest who are shunned by their families. If this seems counterproductive, think about having three towns: is it better to disrupt the infrastructure of all three or to eliminate one and leave the other two to absorb the resources of the third?

In the last year we sold \$160,000 worth of half quarters, quarters and hanging halves to private customers across the U.S. We match the meat from every age of animal with the ages and activity levels of our customers, on the basis that softer muscle of very young and elderly animals is easier to digest for preschoolers and seniors. Active-aged humans need the superior nutrition offered by the meat of mature animals (remember that an animal cannot concentrate nutrients until growth stops). Finally, it is a myth to assume that the meat from mature animals is tougher. Without the chronic stress associated with dysfunctional, weaned animals, muscles don't get tight and acids don't build up.

Animal welfare

It is impossible to raise herd animals in families without acknowledging that we are their brother's keepers. One learns, therefore, to be sensitive not only to each individual, but also to the whole family. This includes putting hay out in the winter in different locations for each family. And you soon learn that you cannot shoot or field slaughter individual animals in a herd and still expect to get fresh, clean tasting, tender meat from the rest!

There are many other topics that we don't have space here to cover, such as the importance of families in predator defense, the cascade effect on other species, and the fact that, in terms of ecological sustainability, nothing in modern management even comes close. I look forward to sharing our experiences in the future.

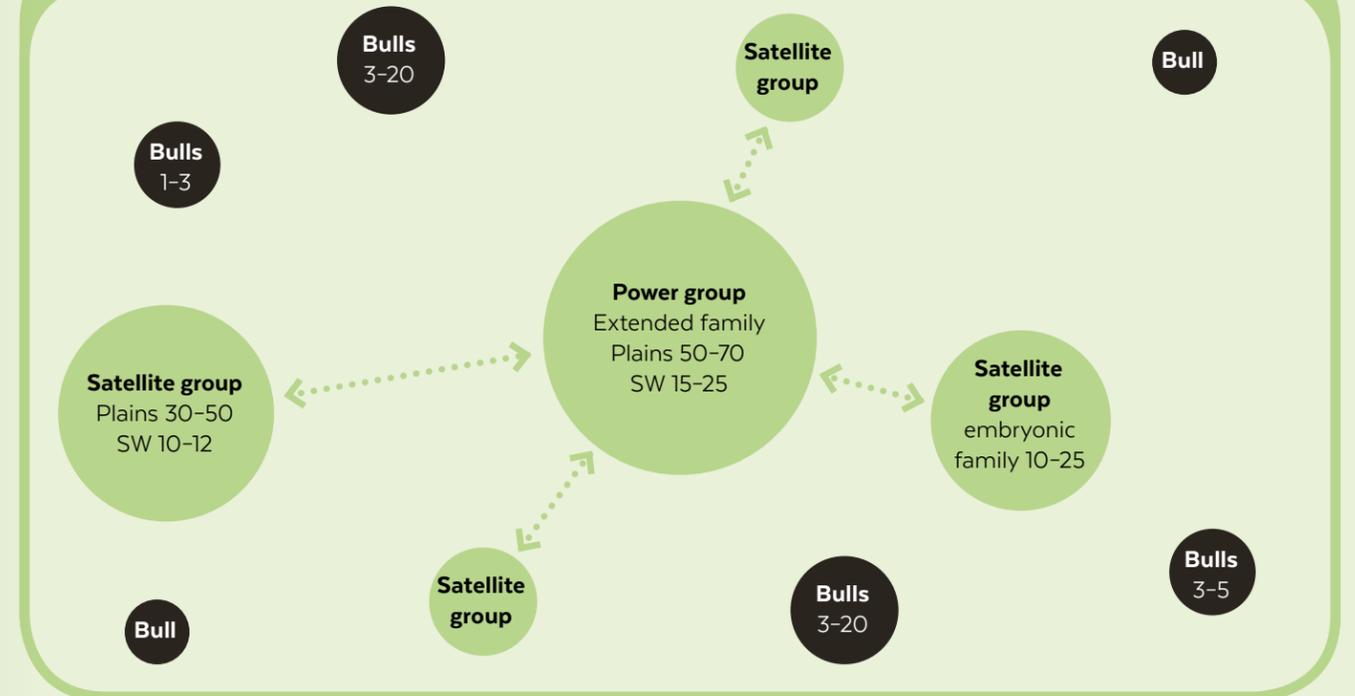
Bob, Susan and Scott Jackson of Tall Grass Bison manage more than 400 grassfed bison on 1,000 acres near Promise City, Iowa. Visit tallgrassbison.com



Diatomaceous earth dust baths eliminate the need for insecticides



Example of an extended bison family in a single territory 300 animals maximum



SW = Southwest groups in harsher environments/more interaction with other groups

The importance of family

Gregarious herds and flocks, such as bison, elk and geese, are actually made up of multiple core and extended family units.

In bison, the most visible and pertinent family grouping applicable to private producers is the extended family – or grazing grouping. It consists of related lead cows and as many of their adult female offspring (and their juvenile offspring) as they can control, teach and care for. The more fertile the ground, the stronger and larger this family can be. In the 50,000 or so miles I have ridden horseback in the mountains of Yellowstone, the largest family unit seen was around 60 bison. When the herd gets bigger than 60 or so, satellite herds spin off. They are still dependent but keep varying distances apart from the core group. Once numbers of all related groups get to 300 (bull groups included) or so territories are formed and competition between herds from different territories commences.

I say pertinent family grouping because most basic life needs depend on this unit. Without this grouping, bison could not exist as a species in the wild. It is responsible for dispersal grazing, dissipation of inappropriate behavior, social order and even prevention of inbreeding. With bulls breeding from 6-8 years of age, and all breeding age individuals (three years of age and older) of matriarchal groups being related, one gets line breeding without inbreeding. It is the



perfect combination for the survival of the best characteristics and the reason all ungulates got to where they are today. Human manipulation of animal breeding doesn't come close and is not sustainable. Everything, everything depends on this basic structure.

If we can only understand how bison choose to live, and maintain respect for them, then there will be no abuse. It will be good for the bison and good for the industry as well.





A PESKY PROBLEM

Fly rubs, traps and vacuums have all been found to help reduce fly populations, combined with good management practices

Jennifer L. Burton looks at the perennial problem of parasites

Through consistent observation, you always noticed which herd members were more susceptible to internal and external parasites. Fecal sampling helped you identify a few silent carriers: heavily infested animals spreading parasites on your pastures even though they showed no visible signs of disease. Over time you selected only disease-free, low-burden stock for breeding. Today, your animals graze diverse pastures replete with a variety of bioactive forages. Dung beetles thrive, dispersing manure piles and destroying many eggs, while predatory insects devour any fly larvae that manage to hatch. Of course, parasites are still present on your farm, but you understand their particular life cycles, move animals before they can re-infect themselves, and rest pastures or graze non-susceptible species such that the majority of parasites die before they ever find a victim.

If the above describes your farming operation, congratulations! The chances are you have little need for this article ... But if seasonal ponds recently emerged in your well-drained grassland ... if that doe with perpetually high fecal egg counts happens to be your best milker ... if recent fires, floods or lease modifications caused you to group more animals in a smaller area ... then you might benefit from additional strategies to manage parasites.

Applied Terrain Theory: Pasture

Exposure to parasites occurs for a variety of reasons. Most internal parasites arrive on your farm via infected livestock or wildlife, so maintaining a

closed herd or screening new arrivals can help keep your pastures clean.

Snails and slugs act as intermediate hosts for some parasites; wet conditions favor these mollusks, but vegetation or gravel can act as a barrier to help exclude them. Environment also plays a role in risks related to external parasites. For example, woodland grazing increases exposure to ticks. If local wildlife are known to carry a specific worm, deterrents such as guardian animals or double fencelines can reduce their contact with your herd.

Dung beetles, earthworms, parasitic wasps and poultry are some of the most effective and economical tools to inhibit parasites on range areas. Dung beetles break up manure piles, damaging or desiccating eggs. Along with earthworms, they move manure into the soil and prevent many hatched larvae from returning to the surface. One interesting study assessed the impact of dung beetles when calves followed infested adults. Without any other intervention, calves in pastures with reduced dung beetle populations had nine times as many roundworms as those in pastures with more dung beetles. That's a huge difference! If you're among the large percentage of U.S. farmers who have recently considered building an ark, note that heavy rainfall can temporarily override dung beetle benefits.

Applied Terrain Theory: Livestock

Research shows that 25% of the flock carries

ESSENTIAL ADVICE

Treat individual animals as needed to ensure welfare and maintain economic viability.

Manage pastures to maximize natural controls for the specific parasites present.

Tailor fecal sampling to inform management decisions: pooled fecals reflect worm loads on pasture, while individual tests identify silent carriers.

Record regular observations, including FAMACHA for small ruminants, to identify signs of infestation.

Choose disease-free animals with low parasite burdens as breeders.

Obtain treatments from reputable sources. Try to work with someone who has used a particular product successfully.

Ask your vet to screen for interactions and residue risks, establish dosage, monitor for toxic effects, and determine triggers for switching treatments.

75% of the worms. With moderate exposure, many animals develop adequate immunity as they mature. Those that do not could be underexposed, or deficient in immune function.

Varied sources of trace nutrients, such as biodiverse pastures and cafeteria-style minerals, can help animals fulfill individual needs. Excellent nutrition, low-stress environment and handling—and a good night's sleep—all contribute to optimal immune function.

Excessive licking or rubbing, rough haircoat, poor appetite and weight loss can signal external parasites. Fly rubs, traps and vacuums have all been found to curtail fly populations when combined with other good management practices. An untreated back scratcher—a stiff brush attached to a pole—can significantly reduce lice.

Signs of internal parasites include poor haircoat, diarrhea, pale mucous membranes, reduced feed intake, weight loss, weakness and bottle jaw or pot belly. In many studies, bioactive plants, such as sericea lespedeza, birdsfoot trefoil, chicory and other tannic forages, were found to reduce fecal egg counts and clinical disease associated with gastrointestinal parasites in a variety of livestock species.

Treatments

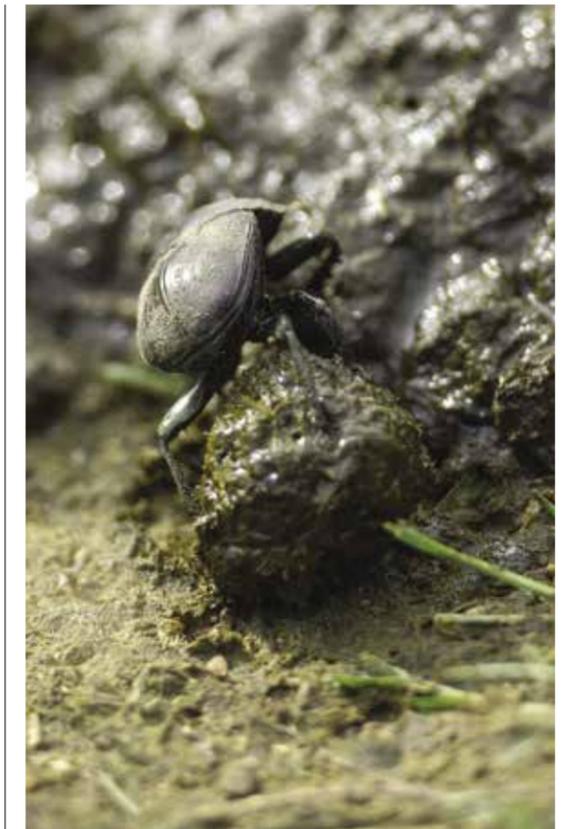
The table (overleaf) describes several non-pharmaceutical substances commonly used to treat external and internal parasites. While some may be used alone, many are combined in spray-on, pour-on or oral formulations.

If parasites threaten animal welfare or farm viability, prompt, effective treatment is essential—and required under AGW's standards. Treatment may include pharmaceutical parasiticides. Ivermectin has become the best-selling anti-parasitic; however, studies show that it is also toxic to dung beetle larvae and other beneficial organisms. Milbemycin is sometimes recommended as a less toxic alternative, although research also demonstrates negative effects on dung beetles and parasitic wasps.

The bigger picture

Effective management of parasites is essential for animal wellbeing and productivity. Ecological parasite management focuses on stewarding a functional agroecosystem where robust immune protection is facilitated by moderate exposure. Sustainable adaptation is slow process, but every step toward more ecological parasite management is a step toward a more resilient, more economical and less labor-intensive farm.

Jennifer L. Burton DVM is a veterinarian and educator with a special interest in the intersection of food animal medicine and public health



Dung beetles break up manure piles, helping to damage or desiccate roundworm eggs



Parasitic wasps lay their eggs inside pest fly larvae in the manure

Parasite treatments

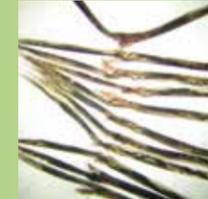
Note: always discuss any proposed changes in treatments with your veterinarian, particularly about possible toxicity and residues

Substance	Notes	Toxicity
Apple cider vinegar (ACV)	Antioxidant, rich in vitamins and minerals: supports immune function. No evidence for direct anti-parasitic action. When researchers added ACV to the diet of farmed shrimp, immune-related gene activity increased.	None
Black walnut	Can cause oxidative stress in some intestinal worms. Little evidence to support effectiveness against parasites.	Moderate. Possible mutagen: avoid use in pregnant or lactating animals.
Cedar oil	May facilitate effectiveness of topical insect repellents.	Low
Citronella oil	Effective topical insect repellent. Significant residual effect up to 15 days in one study.	Low
Clove oil	Somewhat effective as a fly repellent. Better when combined with other effective oils.	Low
Copper oxide wire particles (small ruminants only)	Particles settle in abomasal (stomach) folds, releasing copper ions lethal to worms. Good control of barber pole and other stomach worms. Poor efficacy against intestinal worms.	Moderate. Do not use in sheep at risk for copper toxicity.
Diatomaceous earth (DE)	Applied externally or in structures, lethally dehydrates many insects including lice and soft-bodied mites. Evidence lacking for efficacy of internal use.	Low. Avoid inhalation and avoid use near eyes.
Eucalyptus	External fly and mosquito repellent, effective up to 6 hours or more in one pastured cattle study. Some formulations may kill stable flies, horn flies. May help control ticks. Many formulations briefly effective, but only processed oil of lemon eucalyptus contains significant quantities of the longer-lasting "PMD".	Low when used externally.
Garlic extract	Oral administration has been shown to inhibit protozoan parasites and some roundworms of poultry, pigs and donkeys. Internal use may contribute to fly control. Garlic tincture may be added to topical mineral oil to control mange mites.	Moderate: can cause hemolysis if overdosed.
Geranium (Pelargonium) oil	When applied externally to pastured cattle, low-concentration geraniol in oil deterred horn flies for at least 3 hours, while higher concentrations lasted up to 4 days.	Low
Goldenseal	Frequently used in treatment of common GI parasites. However, research has focused on use in protozoal disease. Studies have shown that goldenseal kills amoebae, and can be used successfully to treat giardia infections.	Low. Overharvest has caused sharp decline of wild populations. Use cultivated plants, or consider barberry or Oregon grape instead.

NAME THAT BUG



Red poultry mite
A vector of several major pathogenic diseases in poultry



Barber's Pole Worm
This nematode can devastate flocks without warning



Nematodirus battus
The most common internal parasite affecting sheep



Chorioptes bovis
Symptoms include rubbing, scratching and hide damage



Parasitic eggs
Lab tests can help identify the specific worm species

Substance	Notes	Toxicity
Lemongrass	May contribute to effectiveness in a repellent mixture. Shown to kill some roundworms and suppress some protozoan parasites.	Low
Mineral oil	Used topically to kill mites by interfering with their respiration.	None
Neem (Azadirachta indica)	Deterrent and repellent to a number of insect pests. Fatally disrupts molting process in some. May hinder insect reproduction or kill some larvae. Effects vary widely for different insect species. Limited environmental persistence. Limited research suggests oral dosing of neem could treat flukes as well as some roundworms. When fed to cattle, neem extract prevented horn fly development in manure. Stable fly control was less impressive, but some control was nonetheless achieved.	Low
Oregano oil	Used in many species to treat a variety of bacterial and parasitic diseases, including coccidia, some intestinal parasites. Good evidence for antimicrobial activity and growth promotion in pigs, poultry and ruminants, but sparse evidence for action against internal parasites.	Low
Pennyroyal oil	Essential oil is generally considered unsafe for any use, as ingestion of small doses can be fatal.	High
Peppermint (Mentha piperita)	Often used in repellent mixtures and orally for internal parasites. Limited research suggests significant action against a variety of external parasites.	Low
Pumpkin seed	Effectiveness demonstrated against a variety of roundworms (nematodes) including in calves, pigs and chicks. In some studies, pumpkin seeds were as effective as fenbendazole in killing Ascaridia galli (a type of roundworm) in experimentally infested chicks. Other research showed that pumpkin seeds damaged some flukes and a variety of other roundworm species including barber pole worms.	Low
Tea tree oil	An effective topical antiseptic, tea tree oil has been shown to kill or repel a number of different insect pests. Effects depend on concentration, and may last longer than some of the other repellents listed here.	Low
Tobacco extract	A potent neurotoxin, but less effective than other insecticides listed here.	Moderate
Wormwood (Artemisia absinthium)	An effective neurotoxic anthelmintic with a narrow safety margin.	High. Avoid use in pregnant animals. Observe dosing instructions and monitor for signs of toxicity.

A high-impact label that sets your products apart is more important than ever, says Katie Amos



A good product label is essential for any successful marketing strategy. Yet many farmers who sell directly to the public make the mistake of assuming a unique, stylized label is somehow irrelevant—or that it's all too expensive, time consuming and bureaucratic.

Yet every farmer who sells directly to the public is still very much part of a bigger and ever-changing labeling landscape. Remember: shoppers who visit farmers' markets or farm stores will inevitably also visit the bigger grocery stores or see mainstream advertising. As public interest in sustainable products grows, other food businesses—both large and small—will seek to launch 'sustainable' products to capitalize on this new and rapidly expanding market.

Don't rest on your laurels: make sure your packaging is doing the best job it can to attract, inform and retain potential customers. AGW is here to help you achieve these goals.

Learn the rules

In order to market effectively it is important to understand the labeling process. For starters, designing a new label for your products will likely involve multiple parties: your processor, designer, printer, and the appropriate state or federal/government agency that oversees food labeling.

Before you start, it is essential to understand and familiarize yourself with what claims you can—and cannot—make about your products.

For instance, USDA will not approve the use of "hormone free" on any label because all animals have hormones. You can, however, say your animals are raised with "no hormones administered," although pork or poultry products require an additional statement explaining that it is illegal to administer hormones to these species.

By law, all meat sold to the public must be labeled with the following information:

- ▶ The contents of the package (name of the product, such as "lamb chops," "ground beef" or "pork sausage").
- ▶ Other ingredients, if any, such as spices in sausage. These must be listed in descending quantity order—for example, "ground pork, salt, red pepper, sage and black pepper."
- ▶ Safe handling instructions, including, if appropriate, "Keep refrigerated or frozen."
- ▶ Inspection mark with processing plant number.
- ▶ The net weight of the package.
- ▶ The name and address of the processing plant or, if the name and address are other than the processing plant (such as the name and address of a farm), it must be qualified by a statement identifying the person or firm associated with the product (e.g., "Packed for _____" or "Distributed by _____").



FREE LABELING SERVICE

Did you know we offer a free labeling service to all farmers and ranchers in AGW's programs? Our trained Labeling Coordinators can not only help you design a high-quality food label for your AGW-certified meat, dairy and egg products, but take you through the official approval process required for all food labels. This service, which would cost many hundreds—if not thousands—of dollars is available free of charge, and is just one of the many benefits of certifying with AGW.

For more information, visit our food labeling page at agreenerworld.org/farmer-services/labeling-support

To start the labeling design process, simply contact AGW at 800-373-8806 or info@agreenerworld.org and we'll connect you with your regional Labeling Coordinator.

Farmers and ranchers in Canada will find labeling requirements at inspection.gc.ca

Don't sell yourself short

If you raise hens outdoors on pasture in small flocks and you feed a custom-blended feed with no animal byproducts, please don't just label your carton "cage free eggs"!

While this claim may evoke images of hens running around outside, most "cage free" eggs come from de-beaked hens raised indoors in industrial units—the complete opposite of your pasture-based system. Remember, too, that your potential customers probably see cartons of "cage free" eggs at their nearest grocer at a much lower price. So from their perspective, why should they pay more for your "cage free" eggs?

Similarly, when it comes to meat, the widely used "natural" claim only means the product was minimally processed and contains no artificial ingredients. Legally, it explains absolutely nothing about how animals are raised. So feedlot beef can just as easily be labeled "natural" as high-welfare, grassfed beef.

If your farming practices are well above the baseline claims, please make sure you get credit. Make the most of the label claims and terms that truly define your farming system. Highlighting that your products are certified by a credible third-party certification like AGW is a great place to start.

Market yourself

As well as your high-welfare, sustainable AGW certification, what else makes your farm special? Start by looking at other labels in your sector and think about what could set yours apart.

Do you raise a particular breed known for its flavor attributes? Do you feed grain grown on your own farm? Has your farm been in the family for multiple generations? Have you earned any awards, certifications or distinctions? These could all spark interest in potential customers.

Remember: some claims need evidence before they can be used. For instance, the USDA will want to see documentation supporting any breed claim. Similarly, you will need to provide proof of current AGW certification before you can use the logos.

Get in touch

A professional food label is an important investment in your business, helping you to stand out from the crowd. With our help, producing a professionally designed and legally approved food label needn't be costly or time-consuming. So what are you waiting for?!

Katie Amos is Lead Farmer and Market Outreach Coordinator with A Greener World



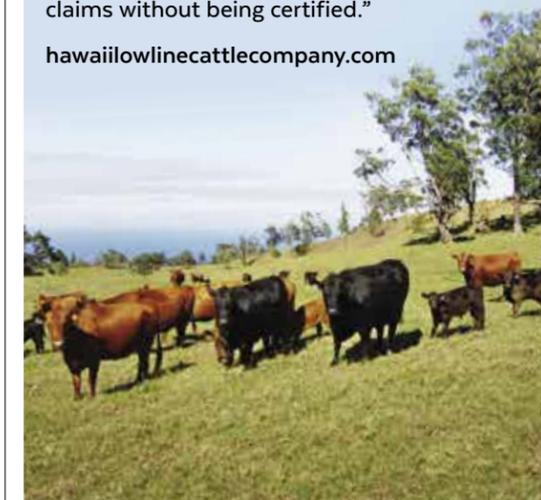
HAWAII LOWLINE CATTLE CO. GRASSFED BEEF

AGW helped Hawaii Lowline Cattle Co. design a farm-specific supplemental label for their beef cuts and ground beef and attain USDA approval.

The supplemental label is compatible with the slaughter plant's standard label, which includes all legally required information, such as the product name, net weight and sell-by date. The slaughter plant can keep rolls of the custom labels on hand for when they pack Hawaii Lowline Cattle Co.'s beef products. Note the appealing logo, text and prominent certification logos. Adding colors usually means extra cost, but the per-label cost of a colorful label is minimal compared to the marketing benefits. Hawaii Lowline Cattle Co. is putting their most important and marketable attributes front and center: Certified Animal Welfare Approved by AGW and Certified Grassfed by AGW.

"The AGW staff were so helpful in creating a customized label for our products. The design process went smoothly and their assistance through all the steps to submit the label for approval was very appreciated," says Rick Sakata of Hawaii Lowline Cattle Co. "Our new label is helping us stand out on the store shelves where other brands make grassfed claims without being certified."

hawaiilowlinecattlecompany.com



GREEN DIETS

What is a sustainable feeding strategy for cattle?

Like any aspect of sustainable management or production, a sustainable feeding strategy for ruminants such as cattle comprises a number of core principles.

First, a sustainable diet must meet the animals' nutritional requirements at all stages of their development. It should ensure optimum animal health and high-quality production, rather than solely maximizing production or growth rate.

Second, a sustainable feeding regime should use feeds to formulate diets that meet the proper physiological functioning of the animal at any given stage of its life. For example, the diet of young animals should be based on natural milk, preferably maternal milk, ideally with all calves receiving natural milk for at least three months. For older animals, diets should contain a high proportion of forage from dry matter and at least 70% of the daily dry matter should consist of roughage, fresh or dried fodder, or silage. While feeding purchased concentrates to cattle can increase productivity, research shows that the sustainability of the system is markedly reduced and health risks are increased. All animals should have free access to fresh, clean water at all times.

A sustainable diet should also meet the animals' behavioral needs by not only offering natural feeds, but using animal-friendly feeding techniques and providing appropriate feeding environments. This should include continuous access to grazing and sufficient and accessible indoor feeding space when animals are housed.

Finally, all feeds should come from a sustainable source; in other words, feed production methods

aim to minimize greenhouse gas emissions, do not pollute the environment and contribute positively to the conservation of biodiversity. Ruminants have the ability to convert forages and other feeds that cannot be eaten directly by humans into meat and milk that humans can eat. Any sustainable livestock system must aim to maximize the use of forages and minimize the use of human edible feedstuffs, such as grains and soy. Ideally, forage should come from home-grown sources integrated into the rest of the farm cropping system.

Mineral deficiencies

In most well-managed grazing situations, a largely forage-based diet should be sufficient to meet the nutritional requirements of most ruminants. Sustainably managed, home-produced feeds usually involve practices, such as more sympathetic management of the soil, better biological activity, more balanced crop rotations, less production pressure on livestock enterprises, more diverse swards (with traditional species of grasses and deep-rooting herbs and forbs), and a reduction or prohibition of artificial fertilizer use, which may all help reduce the risk of micro-nutrient deficiencies seen in more intensive production systems.

Nevertheless, it is likely that inherent regional and local soil and forage mineral deficiencies may be enhanced on farms that are attempting to raise animals entirely on home-grown feeds. Working with your vet or qualified advisor, you should take soil, forage or blood tests to identify any likely mineral deficiencies and outline your strategies for dealing with them in your Farm Health Plan.

FEEDIPEDIA

Feedipedia is an open access information system on animal feed resources that provides information on nature, occurrence, chemical composition, nutritional value and safe use of nearly 1,400 worldwide livestock feeds. Visit feedipedia.org

Article adapted from *Farm Health Online*. For more information about practical, science-based advice on high-welfare livestock management, visit farmhealthonline.com

MIKE SUAREZ



Certification news

HERE FOR YOU

Take advantage of our marketing support, says Emily Moose

In the last issue, Tim Holmes did a great job of summarizing the technical support available to all AGW farmers and ranchers. As Director of Communications and Outreach, I'd like to take this opportunity to highlight the other program services available to you, as well as the activities we undertake to raise consumer awareness about the benefits of your AGW-certified products.

The AGW program offers something unique: a world-renowned certification and full suite of marketing support services that would otherwise cost hundreds—if not thousands—of dollars a year.

A regional outreach team

Our Farmer and Market Outreach Coordinators (FMOCs) are dedicated to supporting certified farmers and ranchers, with staff working across the U.S. and Canada to help develop the market and raise public awareness. You can contact your regional FMOC at any time to ask for help.

Media support

Our FMOCs contact every farm or ranch that joins the AGW program to introduce themselves. One of the first things we'll do with you is write a farm profile and press release to target local and news outlets and raise awareness about your business.

Market development

We work hard to develop and maintain relationships with retailers, restaurants and farmers' markets in your regions to help expand the market for AGW products. If you're thinking of approaching a local restaurant or store, get in touch to find out how we can support you—either directly or indirectly. We'll also add your business (and individual products) to our popular online searchable directory and website, visited by thousands of people every month.

Labeling design

Farmers and ranchers in the AGW program can take advantage of our free labeling support service. Our labeling team will help you design a high-quality, professional product label that

sets your products apart, and guide you through any applicable approval process. (For details, see pages 16-17.)

Marketing materials

Standing out from the crowd is more important than ever. That's why we offer low-cost branded egg cartons and other exciting merchandise to attract customers. From shelf-talkers and stickers, baseball caps and aprons, to metal farm gate signs and farmers' market vinyl banners, AGW's marketing materials will help your products do the talking.

Marketing advice

Setting up a website or Facebook page? Our team is happy to share resources to help you make the most of social media. We can also offer information on creating a successful online presence, as well more traditional marketing methods. Our *Taking Pictures of Your Farm* brochure will show you how to take beautiful marketing photos of your animals and landscape.

Events and conferences

Throughout the year we attend trade shows and conferences to spread the word about the benefits of AGW-certified products—and encourage certification. But we can also attend local/regional events and workshops to help promote your business. Get in touch to discuss opportunities to collaborate.

Stay in touch!

Received an award? Launching a new product? Hosting a farm event? Let us know and we can help multiply the impact by sharing your news with thousands of our followers through our e-newsletter and magazine or on social media. We can't help promote you if we don't know about it.

Please take advantage of all that we offer. If you'd like to know more, just reach out to your regional FMOC. You'll find their details on page 20. We are here to help.

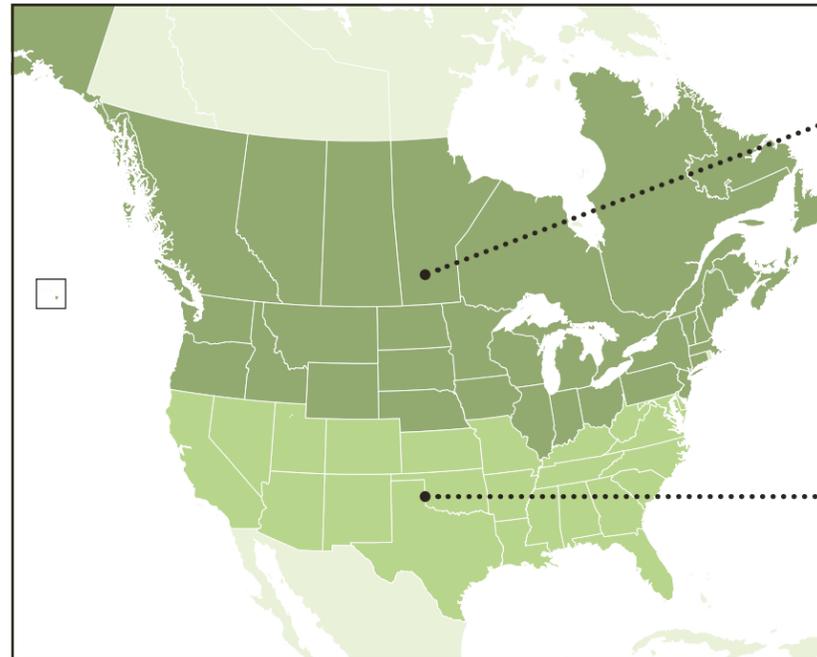
Emily Moose is Director of Communications and Outreach with A Greener World

A GREENER WORLD

From advice on applying, label design and technical support, we're here to help ...

Your regional point of contact

From Alaska to Wyoming, Alberta to Saskatchewan, our outreach team offers a one-stop shop for farmers, ranchers and food businesses!



Katie Amos
717-412-1701
Katie@agreenerworld.org



Callie Casteel
931-548-0664
Callie@agreenerworld.org

ARE YOU MISSING OUT ON NEW BUSINESS?

Thousands of people visit AGW's Online Directory to find high-welfare, sustainably produced food every year. Make sure your entry is up to date so they can find your products!

Our Online Directory is the most popular area of our website, helping shoppers across North America find local suppliers of Certified Animal Welfare Approved by AGW, Certified Grassfed by AGW and Certified Non-GMO by AGW meat, eggs, dairy and fiber products.

If you have new products or new outlets, update your listings today by contacting your regional coordinator (see above) or call **800-373-8806**.



Promoting A Greener World

AGW is proud to offer low-cost branded promotional materials to help raise awareness of your certification and better communicate the wider benefits of your farming practices. Every purchase also supports our work to educate and inform consumers—and helps keep your certifications affordable.

For more promotional materials—and to place an order (with shipping)—visit agreenerworld.org/shop-agw

For shipping to Canada, call 202-446-2138



NEW SHELF TALKER \$5

- Sold in packs of five
- Printed on premium silk stock with wipeable coating
- 4¼" x 2¾"
- EZ-peel adhesive for shelf mounting
- Made in the USA

Certified Animal Welfare Approved by AGW producers only



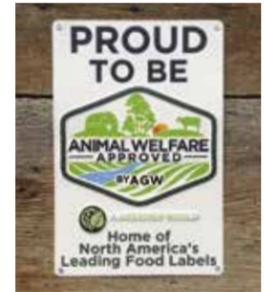
JUTE TOTE BAG \$12

- Made from environmentally responsible jute
- 14½" x 14¾" x 5½"
- Available in green ink only



BASEBALL CAP \$20

- Low-style cotton twill with Velcro strap
- Khaki crown/strap and navy visor/button
- Made in the USA by Workers United



METAL SIGN \$12

- Ideal for the farm gate or barn wall
- Full-color 10" x 15" aluminum
- Corner holes for easy mounting

Certified Animal Welfare Approved by AGW producers only



CERTIFIED ANIMAL WELFARE APPROVED BY AGW STICKER LABELS \$5.70

- 1" x 1" high-quality stickers
- Long-life adhesive
- 1,000 stickers per roll

Certified Animal Welfare Approved by AGW producers only



CERTIFIED GRASSFED BY AGW STICKER LABELS \$4.60

- 1" x 1" high-quality stickers
- Long-life adhesive
- 1,000 stickers per roll

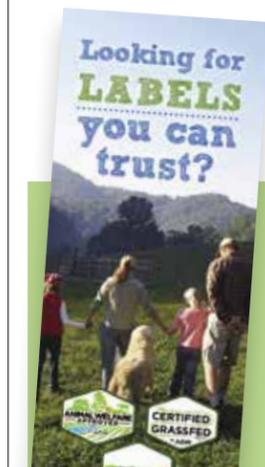
Certified Grassfed by AGW producers only



CERTIFIÉ BIEN-ÊTRE ANIMAL BY AGW STICKER LABELS \$4.60

- French version
- 1" x 1" high-quality stickers
- Long-life adhesive
- 1,000 stickers per roll

Certified Animal Welfare Approved by AGW producers only



CONSUMER BROCHURES \$5

- Explains the benefits of certification
- Ideal for farmers' markets, farm stores and other events
- 50 brochures per pack

Certified Animal Welfare Approved by AGW producers only



VINYL BANNER \$15

- Ideal for farmers' markets/displays
- 18" x 24" with corner grommets
- Full color imprint
- Hard-wearing 18 oz vinyl

Certified Animal Welfare Approved by AGW producers only

Meet the farmer



SYLVAN FARM (K2)

Joey and Erin McQuade grow organic crops and raise Certified Animal Welfare Approved by AGW pigs and Certified Grassfed by AGW beef cattle at Sylvan Farm near Saluda, South Carolina, selling directly to local restaurants and grocery stores.

How did you get into farming?

My wife, Erin, and I had dreams of moving back to South Carolina to be closer to our families and the vibrant local food traditions there. After much searching, we fell in love with a 100-acre farm with a 100-year-old farm house, surrounded by enormous oak trees. We looked at other farms, but just kept coming back to it. After many years of hard work and the support of family and friends, we had the beginning stages of a farm. It's been growing ever since.

Describe a typical day

Wake up at 5 a.m., make the family breakfast and get the kids ready for school. 6 a.m. check email orders before getting the crew started (harvesting, weeding, feeding). Lunch at 11 a.m. Start packing orders at 12 p.m. and load the delivery van around 2 p.m. Clean the packing building, then a final check on the animals. The crew go home around 5 p.m. and we can relax with the kids. We're asleep by 9 p.m.

Sustainable farming principles: why do they matter?

Sustainability is at the core of every management decision we make. If we were to disrupt or deplete our resources then the farm is no longer sustainable—and we are no longer in business.

Who are your customers?

We raise cattle to 1,000 lbs and pigs to 250 lbs,

selling meat and fresh produce to restaurants and grocery stores where the customers care about where and how the food they eat was raised.

What's the benefit of being certified by AGW?

With our AGW certifications, people really know how our animals are treated and that we're raising our animals according to the highest environmental and welfare standards from birth through slaughter.

What is the biggest threat to the sustainable farming movement?

Allowing larger corporate farms to water down labeling and standards or use deceptive labeling practices to exploit consumers. This makes it doubly challenging for smaller farms who work hard to employ the standards and principles to compete.

What do you find most frustrating about what you do?

Knowing that many people are happy to pay extra for premium fuel to maintain their expensive cars, yet they are unwilling to spend a few more dollars on healthier, more sustainable food for themselves and their families.

What is your greatest achievement?

We were awarded Farm of the Year in our area by the USDA NRCS for our conservation practices. It made me realize that larger farmers no longer see us as 'outsiders,' but as a legitimate farm.

What keeps you awake at night?

Mother Nature. She has a huge impact on profitability. For the farm to be sustainable we must work with her, but occasionally our plans differ somewhat! I often lay awake at night trying to figure out how to adapt ...

AT A GLANCE

Farm: Sylvan Farm

Certification date:

August 2017

Size: 116 acres
(84 acres pasture)

Soil type: Silty loam

Altitude: 479 feet

Annual rainfall:
47 inches

Enterprises:
30 Black Angus beef cattle (Certified Animal Welfare Approved by AGW, Certified Grassfed by AGW) and 50 Gloucester Old Spots pigs (Certified Animal Welfare Approved by AGW)

sylvanfarm.org



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*Available to AWA Farms that mention this ad

Including all poultry, pig, goat, sheep, and mini pig feeds

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REGIONAL GRAINS FROM FAMILY FARMS



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email advertise@agreenerworld.org
call 800-373-8806



LOOKING FOR A STANDOUT LABEL?

Our labeling team can help you create a high-impact design that complies with all relevant food labeling guidelines.

Available FREE OF CHARGE* to farmers, ranchers and food businesses through A Greener World.

*For food producers and businesses in the AGW certification family.

For full details visit agreenerworld.org/farmer-services/labeling-support or call 800-373-8806



A GREENER WORLD

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“Our AGW certification gives customers an idea of what we’re doing on the farm without them having to come out. Since we got certified, we’ve had a 20 percent increase in sales. People love it!”

TIMOTHY HAWS, Autumn’s Harvest Farm, New York

COVER: CATTLE LOUBE, SCENICS & SCIENCE / ALAMY STOCK PHOTO

YOUR FARM OUR LABEL

PRACTICAL, DOWN-TO-EARTH, RESPECTED

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MIKE SAUREZ

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