Living & Working on the Land

THE BUILDING BLOCKS OF SUCCESS

September 3–4, 2014 | Sheridan Holiday Inn | Sheridan, Wyoming

WHO: Keynote Speakers Ken Meter, Crossroads Resource Center, and Fred Kirschenmann, Leopold Center Distinguished Fellow

WHAT: Living and Working on the Land: The Building Blocks of Success

WHERE: Holiday Inn, Sheridan, Wyoming

WHEN: The conference begins Wednesday, September 3, at 10:45 a.m. with a presentation by Ken Meter followed by concurrent sessions on practical homestead and rural enterprise management topics, ending at 5 p.m. Dinner and entertainment begin at 6 p.m. On Thursday, September 4, Fred Kirschenmann will begin with a keynote at 7:45 a.m. More concurrent sessions will follow until noon. Three tour/workshop options are available beginning after lunch.

WHY: Connect your farm, ranch, or rural acreage with sustainable and profitable practices

COST: Early registration by August 15 is $50 for agricultural producers. Agency and others are $100. After August 15: producers, $65, agency/other, $130. A limited number of scholarships are available for agricultural producers covering registration and lodging (until the room block is filled).

REGISTRATION: Kacy Atkinson (307) 777-6319 or kacy.atkinson@wyo.gov

INFORMATION: Cole Ehmke at (307) 766-3782 or cehmke@uwyo.edu

REGISTER NOW!

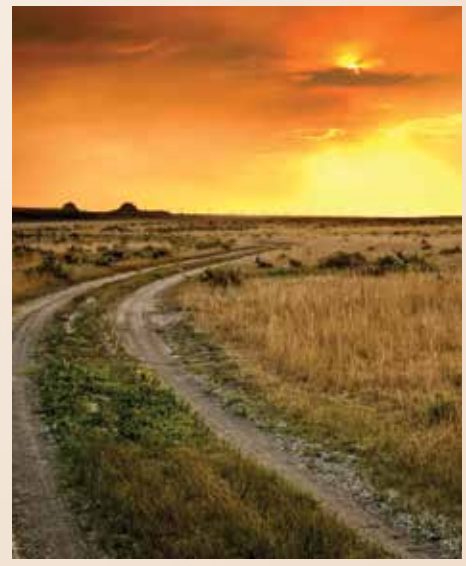
Sessions will include

- Backyard poultry
- Horse health
- Beekeeping
- Women on the ranch
- Growing small fruits
- Making local food systems work
- Small-scale dairies
- Alternative energy
- Ag of the future
- Horse boarding
- And more

Celebrating Rural Life with the Living and Working on the Land Conference

By Cole Ehmke

A superb networking and learning event for our region's agriculture community begins on September 3. Bring your coffee cup and gather in Sheridan for food, workshops, tours, and the best insight from preeminent rural thinkers. The Living and Working on the Land conference extends a warm welcome to all land managers who want to make the most of their property and innovative food production.



Keynote Speakers Meter and Kirschenmann

This year will feature two stellar speakers. Ken Meter is one of the foremost food system's analysts in the country. His work with communities on local food systems integrates market analysis, business development, systems thinking, and social concerns. Fred Kirschenmann is a Distinguished Fellow at the Leopold Center for Sustainable Agriculture in Ames, Iowa, and a longtime national and international leader in sustainable agriculture. He also manages his family's 2,600-acre certified organic farm in North Dakota.

About the Conference

The Living and Working on the Land conference is intended for all acreage managers interested in accomplishing more with their property as well as those interested in the future of rural areas. The conference begins on Wednesday, September 3, in Sheridan, Wyoming, with a keynote by Ken Meter and runs through the afternoon of September 4. It will feature local food, speakers with hands-on knowledge, youth activities, and tours. Professional and hobby farmers, small-acreage owners, backyard gardeners, and local food enthusiasts will all find something to fit their skill level and areas of interest.

Featured Activities

Ken Meter will speak on Wednesday on the potential for local food systems to drive community development (see his article in this publication). He'll then pr ovide a concurrent session for more depth. Fred Kirschenmann will bring his perspective on developing an adaptive food system given the imperatives of today (see his article). On Wednesday evening, there will be an opportunity for conversation and food, and after the keynotes and concurrent sessions on Thursday there are tours (to an apiary, a community-supported agriculture operation, and a fiber mill) and a food preservation workshop to choose from.

This publication's articles are either by the presenters at the conference or in the vein of the topics that many rural residents are exploring. So please read and enjoy!

Register Now

The Living and Working on the Land conference is an excellent opportunity for people interested in exploring new ventures on their land, direct-marketing, stewardship, and networking with others of similar interests. One past participant said, "This conference convinced me of the value of conferences!"

Registration is open now for the September 3 & 4 conference, which will be held at the Holiday Inn in Sheridan, Wyoming. Early registration ends August 15. Scholarships are available. For additional information, visit www.blocksofsuccess.org or contact Cole Ehmke, (307) 766-3782 or cehmke@uwyo.edu.

University of Wyoming Extension · RMA · Wyoming Business Council Ag Business Division · Audubon Rockies · USDA

The Future of Agriculture:
BUILDING SYSTEMS THAT WORK

By Fred Kirschenmann
Distinguished Fellow
Leopold Center for Sustainable Agriculture
Ames, Iowa

Sustainability is about maintaining something—about keeping something going—indefinitely into the future. History does not give humans very high marks for our ability to predict, let alone control, the future. Our best bet for achieving sustainability probably is rooted in our efforts to anticipate changes and prepare for them in advance. How we are positioning ourselves, especially with respect to food and agricultural sustainability, provides us with ample material for interesting debates.

Paul Krugman made a provocative observation in a column published July 1, 2012, in the *New York Times* (Krugman, 2012). He said that in 1910, Norman Angell argued quite persuasively in a popular book, *The Great Illusion*, that wars were obsolete since the cost of military conquest no longer could be justified given that trade and industry (not the subjugation of people) had become key to national wealth. Simply counting the number of wars we have waged since 1910 shows us how that turned out! More importantly, we seem to have turned wars into a type of disaster capitalism in which we justify military spending as a means of "stimulating the economy."

As we anticipate changes in our future food and agriculture systems, we may confront similar delusions. For example, we know that most of our natural resources are in a state of decline. Fossil energy, which powers every aspect of our food system (from seed to chemicals, fertilizer, mechanization, processing, and transportation) is being depleted. The same is true for minerals, especially rock phosphate and potash, which are inputs for our current industrial food system, and iron ore and copper metals, which are essential for mechanization. We also are using more than 70 percent of the planet's freshwater resources for agricultural irrigation. Some predict that the Ogallala Aquifer will be depleted in another 20 years (Hylton, 2012). (The Ogallala is one of the world's most important aquifers. It stretches from South Dakota to Texas, providing water to the Great Plains.) Add the projected reduction in yields due to increased frequency of severe weather events as a result of climate change, and the prospects for "maintaining" productivity of our current industrial food system are dim (Lobell et al., 2011).

> The good news is that already numerous "beacons" point to a revamped food and agriculture system, and a new generation of young farmers and ranchers is eager to participate.

How should we proceed?

One option is to persist with our demonstrated capacity to use destructive capitalism to achieve short-term economic gains. Michael Klare (2012) imagines a chilling scenario in his new book, *The Race for What's Left*. He paints a plausible picture of a future in which we will increasingly engage in violent geopolitical scuffles to lay claim to the world's last resources. Given that many nations already are positioning themselves to engage in such conflicts, it is not hard to imagine going down this foreboding path.

Klare proposes that we can adapt to the new world only "through a complete transformation of industrial society" and that it is critical to begin with food and agriculture. While we all probably can manage without a lot of industrial technology, we cannot survive without food and water.

Such a transition appears reasonable, bringing us back to Angell's proposition in 1910. Using his logic, we could argue that given the imminent depletion of our natural resources, the industrial economy will become obsolete. Hence, a complete transformation of industrial society will occur naturally.

So what would be the next steps?

First, those involved in food and agriculture must engage in conversations. Given our future world, can simply intensifying what has worked in the past sustain us? If not, what are the alternatives?

Second, let's reacquaint ourselves with wisdom embedded in the writings of Sir Albert Howard, Aldo Leopold, and Liberty Hyde Bailey, as well as some non-western cultures (Rymer, 2012). These three luminaries saw the wrongheadedness in industrializing agriculture, and they proposed alternatives. We might marry that wisdom with the emerging science of ecology and evolutionary biology to create a transformed agriculture for the future.

Third, we only can accomplish this task through global cooperation and sharing, not through a race for what's left.

Fourth, we need to become more explicit about what the market economy does in our current industrial society and what it creatively could do. We might look to inventive economists like Michael Porter and Mark Kramer who have proposed a new business model based on what they have called "Creating Shared Value" (Porter and Kramer, 2011). Economies based on partnership and cooperation likely will serve us better during this transition than economies based solely on competition and domination.

The good news is that already numerous "beacons" point to a revamped food and agriculture system, and a new generation of young farmers and ranchers is eager to participate. This new food system celebrates the intersection of biological, cultural, and economic diversity, potentially increasing the resilience of natural, social, and economic systems. It is based mostly on self-renewing and self-regulating, adaptive systems designed to mimic nature, rather than systems that rely on energy-intensive external inputs that dominate nature. The "beacons," featured in numerous United Nations' studies published in the last decade, include innovations in perennialization, permaculture, agroforestry, and diversified crop/livestock systems.

It is important to remember that transformations never take place overnight. Change happens in a series of successions in which we sort out what works in each landscape. Almost certainly, restoring the biological health of our soils and the biological and genetic diversity of our plants and animals will be foundational to such a transformation.

We all certainly can benefit from a new ethical culture in our communities based on what Aldo Leopold called an "ecological conscience."

If you want to read more about this topic, see my article, "Anticipating the future," at http://www.leopold.iastate.edu./news/leopold-letter/2012/fall/kirschenmann-anticipating-future#sthash.WPbWIiEY.dpuf.

For more information, see the Leopold Center for Sustainable Agriculture website at www.leopold.iastate.edu/, or contact Fred Kirschenmann at leopold1@iastate.edu or (515) 294-5588.

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Local Food Systems: Enhancing Opportunity

By Ken Meter
President
Crossroads Resource Center
Minneapolis, Minnesota

Local foods may be the best path for promoting community economic development.

Jobs and tax base are often given as the primary reasons to adopt community development proposals. Yet, these traditional goals have been frustrated in recent years as the economy floundered. Many economic developers find themselves uncertain what to do.

After the high-tech bubble burst in 2001, fewer high-wage jobs were created. This pushed more communities to compete with each other for lower-wage firms. Often, they got little in return for the incentives and subsidies they extended. Even after collecting public payments, many firms moved their operations elsewhere—often to foreign countries—in search of even cheaper labor.

This leaves the communities themselves depleted, and this, in turn, frustrates taxpayers. Certainly, few lasting benefits result. Many communities hoped housing developments would offer an alternative. Yet, the cost of services for new housing often exceeds the new tax base generated.

Meanwhile, a vibrant local foods movement has erupted across the U.S., in literally every state. In community after community, people have formed informal networks to learn new food and farming skills, and to create new systems—for example, raising produce more intensively, extending the growing season using a greenhouse, and even farming in major cities. One economic development professional I know called these citizen efforts trivial: "small potatoes" was the word he used. Yet, one year later, that developer had lost his job because he had not been able to find any development deals to make. Meanwhile, the food movement kept on growing.

Perhaps the main reason to shift to local foods is economic. Residents of Sheridan County, Wyoming, for example, purchase about $85 million of food each year—yet well over $75 million of this is sourced outside the county. How long can Sheridan afford this loss?

Our current diet also creates immense expense, because eating badly, combined with inadequate exercise, is a leading cause of death. The State of Wyoming spends about $360 million each year paying for the medical costs of overweight conditions, obesity, and diabetes. These are related to our diet. If Sheridan County and other counties in the West and Midwest could produce more fresh and healthy food for themselves, and if residents ate healthy and exercised well, some of this money could be kept to work at home.

The local food movement involves everyone in the community, because we all eat, on average, three times a day. And we cannot afford to exclude anyone. So, the networks local foods' leaders are building now are literally creating the foundation for a stronger economy to come—one that will build more wealth in our communities, and one that will be more inclusive. This work is also building the economic multipliers of the future. Only if people are connected to each other will money cycle through their towns and cities.

I invite you to join me on this incredible journey! It may not always be easy or straightforward, but it is the most impactful work I can think of doing for building a better future across the West and Midwest.

For more information, see the Crossroads Resource Center website at www.crcworks.org/, or contact Ken Meter at (612)869-8664.

Fruit production in Wyoming

By Jeff Edwards
State Small Acre/Horticulture Specialist
University of Wyoming Extension

As a University of Wyoming Extension educator with a little practical knowledge concerning fruit production, I am sometimes asked the following: Why is it that I can grow great raspberry canes, but they never seem to produce much fruit?

My mother always told me never answer a question with a question, but before I can offer a solution to this query, I need to know a little more about your berry patch. The possible answer comes down to an investigation, and here is a list of things that I would ask back:

How old is the raspberry stand? As a patch matures it can become less productive, and we usually compensate with fertilizer. See next question.

When was the last time you completed a soil analysis? If you have never had a soil analysis completed, how will you know how to properly fertilize? (Your local fertilizer cooperative can assist with this). Wyoming soils typically contain an excess of calcium, which, in turn, increases the soil pH. Soils with high pH (basic) will limit the amount of iron and other essential micronutrients that are available to the plants. So if you apply the wrong fertilizer for a series of years, the whole system may get out of whack. Lots of nitrogen, for example, makes the plants grow really great, healthy looking canes, but doesn't promote fruit growth. As far as micronutrients go, flowering/fruiting plants need boron—**but** only applied in the right amount as high levels of boron (or other micronutrients) can become toxic. A soil analysis should tell you what nutrients to apply in addition to the proper amounts.

What was the soil like when you planted? This is my favorite question...the answer usually is something like, "Well, I had this old corral, and it looked like a great location." True, for pumpkins and winter squash—but not berries (usually of any type). This is because animal manure contains too much nitrogen for good berry production.

What was the last method of fertilizer you used? Second favorite question...and the answer usually involves horse manure, literally...and lots of it. If you have applied animal manure to your berry patch, scrape it away from the plants. If you haven't applied animal manure, that's a good thing. Remember, a little manure goes a really long way when it comes to berry production. See the discussion about nitrogen in question number 2.

Are the plants Floricane or Primocane varieties? Time for Berry Botany 101. Raspberries have two fruiting types. Floricanes produce on second-year wood usually in July. Primocanes produce on first-year wood usually in September. In some locations of Wyoming, primocane varieties are not compatible with our growing season.

Bottom line: if you are having trouble producing raspberries—and most of the above could pertain to any "berry"—get your soil analyzed and go from there.

For more information, contact Jeff Edwards at (307)837-2000 or jedward4@uwyo.edu.

WYOMING FIRST!

Wyoming Business Council promoting Wyoming-made products

By Terri Barr
Wyoming Products Program Manager
Wyoming Business Council

Diverse selections of unique products "Made in Wyoming" are promoted by the Wyoming Business Council (WBC). The WBC assists Wyoming-based companies and individuals in promoting their products, which must be made in or substantially enhanced in the state. The Wyoming First Program's membership consists primarily of entrepreneurs, hobbyists, and home-based businesses. There is a large variety of products, including food stuffs, jewelry, fashion, home décor, furniture, soaps and lotions, books and music, tack, hunting and fishing items, art and photography, to name a few.

This is a two-year membership program, currently with a membership fee of $35 for the two years. Participating members are provided an individual member web page on the Wyoming First website, have the opportunity to be in the Wyoming Products Catalog, receive exclusive opportunities to sell and market their products, and are notified of additional venues such as arts and crafts fairs, and trade shows. Members are also authorized to use the program's stickers and hang tags with the tag line "Made in Wyoming" on their products.

Every year the WBC sponsors a retail store, the General Mercantile in the Old Frontier Town during Cheyenne Frontier Days, which is exclusive to members. It also sponsors the Wyoming Mercantile at the Wyoming State Fair. WBC staff members greet customers at both locations and sell products for selected companies. The Frontier Days mercantile lasts 10 days while the Wyoming State Fair mercantile is eight days. The length of these events would make it very difficult for many Wyoming First entrepreneurs to be on hand the entire time, so having WBC staff members promoting their goods is an added bonus for membership. Annual sales for both events over the last few years have averaged over $20,000.

> The Wyoming Business Council's Wyoming First program assists Wyoming-based companies promote their products that are made in or substantially enhanced in the state.

Wyoming First membership is nearly 300 members strong. Since January 2013, more than 90 entrepreneurs and companies have become members, which is very encouraging.

The next issue of the *Wyoming Products Catalog* is currently being redesigned, and it is expected to be available the end of 2014 or beginning of 2015. Anyone can request a copy by contacting Terri Barr. Although the website has the most current information, there are still copies of the 2012 Wyoming Products Catalog available.

WBC staff members are also available to discuss other marketing opportunities for Wyoming-made products. Over the years, we have assisted numerous small companies increase their markets locally, regionally, nationally, and even internationally.

For more information on becoming a member of the Wyoming First Program, go to www.wyomingfirst.org, or contact Terri Barr at (307) 777-2807 or terri.barr@wyo.gov.

So you think you want to make cheese?

By Sandra Frost
Extension Educator, Retired
University of Wyoming Extension

Your eyes light on a creamy wedge of cheese. Your nose catches the earthy, pungent scent when you slice into it. Then, the cheese melts in your mouth with a burst of flavor. This could be your cheese!

There are opportunities in Wyoming for both homemade and commercial cheese production. Home cheese production is already popular across the state. University of Wyoming Extension has offered three cheese workshops in the past that demonstrated how to make cheese and discussed how to move toward commercial production.

As of spring 2014, there were no commercially produced cheeses in Wyoming. There is a company in Cody that imports cheese from another state, smokes it, and then repackages it for sale. A farm family in the Powell area is exploring the possibility of opening a facility that would bottle milk and make dairy products, including cheese, for local distribution. There are many individuals around the state who make their own cheese and give it away. And there is at least one herd-share dairy that also makes cheese for herd owners. Consumers purchase a cow or part of a cow, a "share" of the herd. Ownership legally allows them to have raw milk or raw milk cheese from that cow.

Probably the largest single factor inhibiting the development of commercial cheese production in Wyoming is the cost of facilities that include a Class A dairy, where milk is harvested from cows, plus a processing plant, where dairy products are made, including cheese.

Those who are considering starting a cheese-making business should contact a Wyoming Department of Agriculture consumer protection specialist to learn about dairy regulations and requirements. Regulations cover facility design, construction, and inspection. The label on a cheese product is also regulated.

If you're not ready to launch a commercial cheese business, you can still make cheese and other dairy products in your home kitchen for yourself and your family's enjoyment. The value in homemade dairy products is in freshness, flavor, and knowing the source of raw materials. There are simple, fresh cheese, yogurt, and sour cream recipes and instructions in up-to-date books such as *The Cheesemaker's Manual* by Margaret Peters-Morris (4th Edition) or *Mastering Artisan Cheesemaking: The Ultimate Guide for Home-Scale and Market Producers* by Gianaclis Caldwell. Semi-hard and hard cheeses, such as Gouda or cheddar, which require controlled environment storage conditions, are among the topics covered.

Making cheese is a carefully controlled chemistry project. It starts with the chemistry of milk—from sheep, goat, or cattle. The fat and protein balance in milk is important. So, too, is the quality of the milk, which can affect flavor and consistency. Quality is the balance of somatic cell counts, microorganisms, and other factors.

Stringent sanitation is vital to cheese making. There are special dairy cleaning products and techniques, organic and conventional, to protect you, your product, and your consumer from microorganisms that flourish in a dairy environment.

Different cheese flavors and textures are the result of the action of different bacteria and enzymes on milk. Recipes will specify which to use. Do not substitute! A couple of sources for starters are GetCulture Inc., www.getculture.com, or Danisco, www.danisco.com.

Basic equipment is needed for all cheese recipes: dairy thermometer, probe-type pH meter, stainless steel bowls and utensils, uniform heat source, timer, graduated measuring cups and spoons, stainless steel colander, cheese muslin, molds for soft cheeses, a cheese press, and a brine bath.

Wyoming is a frontier state when it comes to cheese making. Try it!

For more information, contact Hudson Hill at (307) 885-3132 or hrhill@uwyo.edu.

The MARKETING MIX

By Cindy Garretson-Weibel
Agribusiness Division Director
Wyoming Business Council

An area of growing interest that we see from Wyoming agricultural producers is adding value to existing products. This can include turning wheat into pancake mix; berries into jelly and even a steer into individual cuts of meat.

Marketing can be one of the most exciting aspects of creating a new value-added agricultural enterprise or for that matter, expanding your marketing options by selling directly to the consumer. It can also be one of the most challenging aspects for agricultural producers who are adept at production, but may not have much marketing background.

Over the years, marketing professionals have come to use the "marketing mix" to assist businesses identify a new market for an existing product or service or help identify a new product or service altogether. The marketing mix consists of four main components: The product (or service), place, price, and promotion. Each of these concepts is discussed further.

Product/Service: The product or service that you offer should identify the wants or needs of your potential and existing customers. An example of such a product in the meat industry is the use of marketing claims to add value. Examples of some of these marketing claims that help identify and add value to your product may include: organic, natural, grass-fed, non-hormone treated, and so on.

Place: Where can buyers find your product or service? Are you selling your agricultural product direct to the consumer at a farmers' market, through the internet, or through a community supported agriculture enterprise? Intermediary distribution channels include retailers, wholesalers and distributors, and brokers.

Price: A challenging area for many agricultural producers is to identify a pricing strategy that allows you to be competitive in the marketplace, yet still make a profit. It is important to identify the value of the product or service to your buyers. Will you offer any volume discounts? What is your payment policy? When calculating a pricing strategy, it is important to consider more than just your production costs. Consider labor, fuel, processing, packaging, and marketing costs, as well.

Promotion: How will you get across your marketing message to your target market? Will you reach your audience by advertising in the newspaper, on television, on the radio, or on a website? In addition to advertising, promotion includes attending trade shows and events, taste-testing, and word of mouth. An increasing number of agricultural producers are utilizing social media as an inexpensive, yet important, tool in promoting their products and services.

In addition to the four Ps, it is extremely important to conduct market research to help you better understand your potential opportunities for a new or expanded idea. It is better to invest time flushing out an idea before investing money. Market research will help you identify your customers and evaluate the realistic need or desire for your product or service.

The Wyoming Business Council and its partners have many resources available to assist you in developing your marketing plan and conducting market research.

For more information, go to wyomingbusiness.org , or contact Cindy Garretson-Weibel at (307) 777-6589 or cindy.weibel@wyo.gov.

There's a buzz about beekeeping

By Justina Russell
Extension Educator
University of Wyoming Extension

When seeing a bee drifting in the breeze, do you instinctively run for cover, or do you watch in amazement as the tiny creature floats from place to place, going about its daily rituals? If the latter, beekeeping may be a suitable hobby to consider. Whether on a farm, ranch, or small-acreage property, keeping a few honeybee colonies in the backyard can provide numerous benefits and countless hours of enjoyment.

Benefits of Raising Honey Bees:

Honey bees pollinate and increase production of fruit trees, vegetable gardens, crops, and wild plants. Honey bees are believed to pollinate, in part or in whole, more than 100 agricultural crops within the United States, accounting for approximately one-third of the foods we consume daily. Outside of pollination, bees provide a wealth of other resources. Honey is the most obvious, but products derived from beeswax such as cosmetics, candles, inks, polishes, and paints are also prominent in today's consumer markets.

Getting Started

Purchasing an all-inclusive beekeeping kit is one of the easiest ways to get started. Kits retail from $100 to $300 and contain everything needed to start the first colony of bees, except the bees themselves. Packages containing 3 to 5 pounds of bees and a mated queen are ordered and shipped separately from hive kits in early spring. These expenses make raising your own honey more of a hobby than a money-saving endeavor.

Regulations

Anyone wishing to own bees in Wyoming must be aware of pertinent Wyoming Department of Agriculture (WDA) statutes. In general, beekeepers must register hives with the WDA before April 1 of each year; failure to do so can result in hefty fines. Hobbyist beekeepers can keep up to five hives before having to pay a licensing fee of $25. Accurate legal descriptions of hive locations must be provided so the WDA can determine if newly established hives could interfere with proper feeding and honey flow at existing apiary sites or if they have the potential to transfer bee diseases and parasites. Specific WDA regulations are covered in detail at http://legisweb.state.wy.us/statutes/statutes.aspx?file=titles/Title11/T11CH7.htm. In addition, bee enthusiasts should check their local city ordinances, as not all Wyoming towns allow the keeping of bees within city limits. As a courtesy, potential beekeepers may also want to discuss their plans for raising bees with their neighbors.

Location

A good rule of thumb for a site is anywhere a camping tent might be placed: level, close to water, out of the wind, etc. If people would find the site suitable to inhabit, then bees probably will be happy to camp there, too. Bees are most active in full sunlight so place hives where they will receive adequate exposure to the sun to maximize nectar and pollen collection, which should result in an abundant honey crop. Bees also need a steady supply of fresh water. A hive of bees will use a quart a day or more in hot weather.

Hive Maintenance

Once installed, the beekeeper will employ techniques to ensure development of a strong colony with ample honey production. Carbohydrate and protein supplementation, swarm management, disease and pest mitigation, and winter hive management are essential to achieving maximum colony numbers in time for major nectar flows.

Beekeeping can be challenging in any environment, but even more so in Wyoming's cold, high desert plains. Hobbyists should be prepared for the potential die back of approximately 30–50% of a colony in the winter. However, with diligent observation and proper care early in the spring, many hives will come back and produce an abundant crop in the fall.

Becoming a successful beekeeper can be rewarding. Backyard bees provide a natural, nutritious product and can be enjoyable to watch and care for. With a little practice, the hobbyist beekeeper will soon be apt at wrangling his or her bees into producing one of nature's sweetest treats.

For more information, contact Justina Russell at (307)332-2135 or jtoth1@uwyo.edu.

MY NEW LIFE—ON THE RANGE

Voices from Women on the Range

By Lindsay Taylor
Co-manager of Wyoming ranch

I used to be on time. Everywhere. Every time. If I had an 8 a.m. meeting, I was there at 7:45, with coffee mug filled, notepad in hand, and any information I needed reviewed and ready for discussion. Now—on a good day—I will show up at 7:59, with no coffee, no makeup, manure on my boots, and barbed wire tears in my clothes. The only preparation I will have done will be whatever I managed to remember about the said meeting on my flying drive into town.

This drastic change is due to one thing, or rather 600 things. I am now the primary labor and co-manager of a 350 mother cow/250 stocker calf ranching operation near Gillette, Wyoming. That means I have 600 bovine and all the associated water lines, fences, and animal health issues dictating my schedule. Date night with my husband, plans with friends, or church on Sunday morning? Sure, unless the water system is down, a heifer is calving, the bulls are out, or...

On our ranching operation, we calve 350 commercial Angus cows each year. This usually includes approximately 50 to 75 first-calf heifers, which need a little more attention than the older cows. Of those 350 calves, we typically sell 100 steer calves in November and keep the remaining steer calves to be sold as yearlings the following year. All of the heifer calves are kept until yearlings, artificially inseminated, and then exposed to a "clean-up bull." These calves are either kept to replace any cows that may not breed back or may be too old to keep in production, or they are sold to other ranchers as replacements.

The common image of the 1890s cattle ranch—where cowboys rode the range and only came in contact with their animals if there was a problem or for branding and shipping—is not often what a modern ranch operation looks like today. We have carefully documented and executed vaccination protocols for each class of livestock. Just like people are vaccinated as babies, again for entering the school system, possibly again for travel, work, or other reasons. We have a similar program in place to insure the health of our animals both on our ranch and after they leave. As we all know, it is much easier for disease to spread nowadays due, in part, to an increase in population and the mobility of people. The same is true of livestock diseases.

I also spend much more of my time maintaining our fence and water infrastructure. These two things allow me to control where, when, and for how long cattle are grazing in each part of the ranch. That is how we maintain a balance between what the cattle need nutritionally and what the plant communities need to sustain production year after year. Making sure the land is healthy and can sustain grass growth in any weather pattern is essential to our continued operation so it is a priority for us. It also has the added benefit of helping provide improved habitat for wildlife—like deer, antelope, and sage grouse.

I love my job and take it very seriously. It is a constantly changing puzzle that requires constant attention to weather conditions, pasture conditions, animal health, livestock markets, and global consumer trends. Ranching means making sure that the animals and land under your stewardship are always the top priority. Even if it means being late for everything, always.

Energy and agriculture: A PYRAMID FOR ACTION

By Milton Geiger
Extension Energy Coordinator
University of Wyoming Extension

Westerners "Living and Working the Land" depend upon reliable, affordable energy to both support a modern rural lifestyle and to enhance production from agricultural lands. Relatively low-cost of energy and remote communities, in part, lead to high personal energy use for the average Wyoming resident. Wyoming homes are the 8th most energy intensive in the country. When all industry is considered—Wyoming uses a lot of energy to produce energy for others—Wyomingites use more energy per capita than any other state in the country! Changing how energy is used, and even produced, can be an important component to increasing the profitability and sustainability of rural enterprises.

The cost of energy as an input to agriculture, such as electricity for irrigation pumps or fuel for tractors, vehicles, and other equipment, receives plenty of coffee shop grumblings. However, recent technological advances empower ag producers to proactively reduce these costs, and even to produce their own energy to augment purchased energy. With many other tasks competing for attention on the farm or ranch, the energy action pyramid (Figure 1) helps to simplify the process for reducing energy usage.

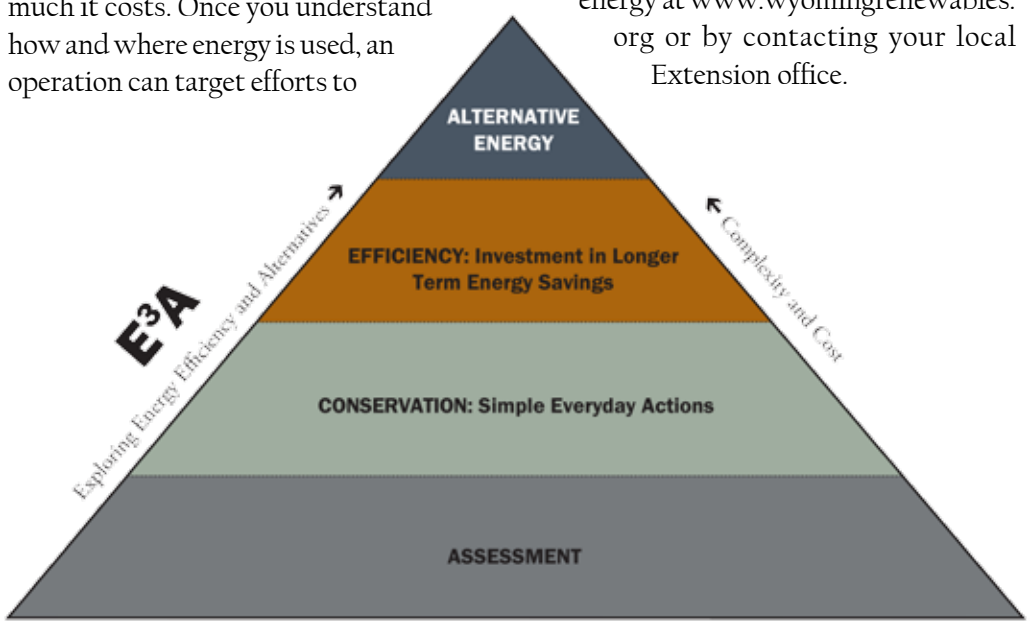
Whether an agricultural operation seeks to reduce energy costs and risks or lessen the environmental impact of energy consumption, the first step is to understand how energy is used in the home and on the farm. Few cattlewomen (or men) would run an operation where they did not know the quantity and cost of hay fed to livestock, but many do not know where they use energy or even how much it costs. Once you understand how and where energy is used, an operation can target efforts to the most impactful areas. A self-directed or professional energy audit or assessment is an important first step.

The next step is conservation. Like implementing better rotational grazing in existing pastures to maximize range productivity, conservation is simply changing behaviors to trim energy consumption. A common example would be better irrigation scheduling or simply lowering the farmstead thermostat a few degrees in the winter. These activities are often no or low cost.

A focus on conservation often leads to a desire for energy efficiency improvements, which is akin to more precise fertilizer application to a field. You put the fertilizer—or energy—exactly where it is needed. Energy efficiency allows an ag operation to get the same amount of benefit (output) from a smaller energy input. Energy efficient lighting, such as LEDs in feedlots and barns, is a common example.

After cost-effective conservation and efficiency measures are implemented, the next opportunity is to explore producing your own energy, generally from renewable energy sources. Like deciding to grow more of your own hay, as opposed to purchasing feed, installing a renewable energy system can add cost and complexity to your operation. The most common sources of renewable energy in Wyoming are biomass, geothermal, hydropower, solar (photovoltaics and thermal), and wind. These resources have the potential to reduce purchased energy, such as propane for heating or electricity for water pumping.

By working through these basic steps, you can improve the profitability and sustainability of your agricultural operation. You can learn more about assessments, conservation, efficiency, and renewable energy at www.wyomingrenewables.org or by contacting your local Extension office.



For more information, contact Milton Geiger at mgeiger1@uwyo.edu or (307) 766-3002.

References Cited

U.S. Energy Information Administration, 2012, Energy consumption per capita by end-use sector: Ranked by state, 2012: at http://www.eia.gov/state/ (accessed July 2014).

DRAMA IN THE BARN

By Hannah Swanbom
Extension Educator
University of Wyoming Extension

Does drama occur in your barn? Does it seem difficult to enjoy your horse because of barn drama? Or, are you looking to operate your own boarding facility? If you answered yes to any of these, then you're in luck because there are ways to help prevent drama in the barn.

According to local trainers who own their own facilities and provide a boarding service to residents in their communities, drama can happen at any barn, it's just a matter of handling the situation correctly.

Nikki Faylor of Casper comments: "When I started taking on boarders, my first year was a learning experience. I had to experience a year of trial and error with my boarders before I realized I needed to be upfront and honest with them about the drama occurring in my barn."

Faylor encourages individuals who own and operate a boarding facility to separate themselves from boarders by maintaining a business relationship with them instead of a friendship.

Erin Schroeder of Schroeder Stables says that when boarding a friend's horse, it is a good idea to treat the friend like your other boarders to prevent "friend benefits."

"Treating everyone the same and providing every horse with the same amount of service will help to prevent favorites and drama in your facility," Schroeder explains.

Most drama within facilities is typically found in those barns where boarders are competing amongst each other on a frequent basis. For instance, having a barn full of dressage or English riders who compete and train in the same arena can create a competitive atmosphere in the barn. It's typically easier for facilities having a diversified mix of riders to create a more laid back and drama-free atmosphere. And, fewer issues typically arise when boarders are not competing against each other.

Other things to consider include the potential for drama to occur if you offer self-care boarding. With busy schedules, it can get to be time intensive for boarders to complete their horse chores on a daily basis. Because of the potential for this, both Faylor and Schroeder recommend not offering self-care facilities as well as asking boarders to feed and do chores if the facility owner/manager is unable to do these things.

"I've seen boarders who have been asked to chore for a weekend, and they end up taking care of some horses (primarily theirs) wonderfully and leaving the rest to fend for themselves," Schroeder says.

It is best to always maintain business as usual even if this means hiring a third party to come in and feed while you're gone.

Horses will be horses, and occasionally that means an injury will occur. It is recommended by professionals in the equine field to establish a policy(s) regarding injuries caused by boarded horses. Policies should identify who is responsible for paying such things as veterinary or hospitable bills if an injury results to a horse or person.

Open and honest communication between the facility manager and boarders works well to help eliminate drama and also lessens the chance of rumors spreading through the barn. Additionally, confronting individuals about an issue or concern before it magnifies is also a good technique to minimize drama.

The final tip of advice Faylor and Schroeder provide to individuals looking to get into the boarding business is, if at all possible, to let boarders solve their own conflicts with one another. Both agree it is important to stay neutral and not take sides when boarders are in conflict with one another. Drama can't always be avoided; however, knowing how to handle drama when it occurs can help prevent future incidents.

For more information, contact Hannah Swanbom at (307)235-9400 or hswanbom@natronacounty-wy.gov.

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Ken Meter

Ken Meter of the Crossroads Resource Center is one of the most experienced food system analysts in the U.S., integrating market analysis, business development, systems thinking, and social concerns.

As president of Crossroads Resource Center in Minneapolis, Meter has 41 years of experience in inner-city and rural community capacity building. His "Finding Food in Farm Country" studies have promoted local food networks in 83 regions in 30 states and one Canadian province.

Meter taught economics at the University of Minnesota and at the Harvard Kennedy School.

Frederick Kirschenmann

A longtime national and international leader in sustainable agriculture, Fred Kirschenmann shares an appointment as Distinguished Fellow for the Leopold Center in Ames, Iowa, and as President of Stone Barns Center for Food and Agriculture in Pocantico Hills, New York. He also continues to manage his family's 2,600-acre certified organic farm in south-central North Dakota.

He is a professor in the Iowa State University Department of Philosophy and Religious Studies and holds a doctorate in philosophy from the University of Chicago. In April 2010, the University Press of Kentucky published a book of Kirschenmann's essays, *Cultivating an Ecological Conscience: Essays from a Farmer Philosopher*, which traces the evolution of his ecological and farming philosophy over the past 30 years.

He was one of the first 10 recipients of the James F. Beard Foundation Leadership awards in 2011 and received the 2012 Sustainable Agriculture Achievement Award from Practical Farmers of Iowa.

Wednesday, September 3

10 a.m.	Registration
10:45 a.m.	Welcome
11 a.m.	Keynote 1, Local Food Systems: Enhancing Opportunities
12:15 p.m.	Lunch
1:15 p.m.	Break out session I
	Beginning Beekeeping: A Year in the Life of a Hive
	Health & Safety Requirements for Direct Sales
	Women on the Ranch: Lessons from My New Life on the Range
2:30 p.m.	Break out session II
	Starting a Horse Boarding Enterprise
	Growing Berries and Other Small Fruit in the West – Why not?
	Strategies for Strong Connections in a Local Food Economy
3:30 p.m.	Break
4:00 p.m.	Break out session III
	Backyard Chickens
	Wyoming First/Wyoming Grown
	Keeping a Horse Healthy
6:00 p.m.	Evening dinner and reception

Thursday, September 4

7:00 a.m.	Breakfast
8:00 a.m.	Keynote II: The Future of Agriculture: Building Ag Systems that Work, Fred Kirschenmann, Leopold Center for Sustainable Agriculture
9:15 a.m.	Break out Session 4
	The Small-scale Dairy
	Taking Your Project to the Next Level
	Getting Started in Ag - Programs that Help
10:15 a.m.	Break
10:45 a.m.	Break out Session 5
	Energy and Agriculture: A Pyramid for Action
	Strategies for Transforming Ag to Meet the Future
12:00 p.m.	Wrap-up and Box Lunch
12:30 p.m.	Tours
	Tour to Buffalo - wool mill
	Food Preservation Workshop
	Tours to beehive and CSA enterprises