



MOTHER EARTH NEWS
ONLINE *Summit*
Practical Skills for Modern Homesteading

**“Biodynamic Farming Secrets
for Homesteaders”**

Brook & Rose Levan

*** FULL TRANSCRIPT ***

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MOTHER EARTH NEWS
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Practical Skills for Modern Homesteading

Hosted By



Marjory Wildcraft

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Brook & Rose Levan **Biodynamic Farming Secrets for Homesteaders**

Great Big Ideas & Takeaways:

- Making your own butter on the homestead!
- Starting your own kefir.
- How to use a small milking machine (demo)
- Milking a cow while a calf is still feeding.
- The magic of a 3-Bin Compost System—explained.
- How a trampoline & kids can make butter.
- Extending the shelf-life of your homemade butter.
- Enjoy a TOUR of their beautiful ranch.
- See first-hand how they're managing their dairy cows.

About The Speakers:

Brook and Rose Levan co-founded the non-profit *Sustainable Settings* in 1997, after returning from a seven-month trip to China and experiencing culture shock upon re-entry in the United States—aiming to create a setting where people could live and learn to create a more sustainable future.

This eventually resulted in the purchase of Thompson Creek Ranch in Pitkin County, Colorado and the establishment of the *Whole Systems Learning Center*, where they work on direct and locally applicable solutions to climate change, food and energy security, and the regeneration of healthy topsoil.

Learners of all ages (from Kindergarten through University) are invited to experience their on-site, hands-on education programs.

You're Invited To Learn More Here:

<http://sustainablesettings.org>



Marjory: Hello and welcome to the Mother Earth News Homesteading Summit!

This is Marjory Wildcraft and I'm your host. In this presentation, we're going to go to a nonprofit called Sustainable Settings, which is just outside of Carbondale, Colorado. The founder of it is Brook Levan. In this video, my friend Stephanie Syson and Jerome Osentowski are going to be walking around with Brook and showing some things about what they're doing at this very interesting sustainable settings development.

Let me tell you a little bit about Brook, who's going to be the main person answering questions and showing you things around. He is the cofounder and executive director. He is a certified permaculture designer and consultant. Get this. He's an alumnus of the Institute for Social Ecology and he graduated in 1978, so he can tell he's been doing this for a while. He has consulted practice and taught sustainable design, green building, renewable energies, sustainable agriculture, wetland creation and art and design for that long. Here's another interesting fact about Brook: he's a Fulbright scholar. He has extensive research and travel in Africa, Asia, North and Central America. He's also held faculty positions at the Pomona College, the University of Connecticut and also at James Madison University.

He has published, lectured, and exhibited internationally. Brook is also a national advisory board member to the Solar Energy International, to the Right Way Foundation and he's a founding board member of the Thompson Divide Coalition. He's also a board member of Grassroots TV. He's just a busy guy. I think you're going to really enjoy this presentation from just some basic what it looks like on a sustainable setting.

Stephanie: Thanks for joining us for Grow Up: Your Guide to Growing Food Naturally. I'm Stephanie Syson.

Jerome: I'm Jerone Osentowski.

Stephanie: Today we're at Sustainable Settings Ranch here in Colorado, with Brook Levan. Thanks for joining us today, Brook, and letting us come to your beautiful ranch.

Brook Levan: It's our pleasure, always.

Stephanie: Great. If our viewers have never heard of Sustainable Settings or have never been here, can you give us an overview of where we are and what you folks do here?

Brook Levan: Sure. We're south of Carbondale, about five miles. We're on 244 acres. It's



an old homestead. It started, it was homesteaded in 1881. Sustainable Settings came about really because we thought we could save the planet, but we found out really we needed to save the people. For us, it's about regenerating health in the system. I'm more a soil-builder and a compost builder and I look at the greater, the whole system. From that point of view, we're interested in the life in the soil all the way up to the health of ourselves and our families and our community.

Jerome: If you brought the community in this, it's a big part of Sustainable Settings You're a non-profit. You have farm-to-table festivals here. It's sort of an anchor for agriculture in the Roaring Fork Valley.

Brook Levan: We see ourselves as a whole system and part of that is community. We work with a local radio station, Katie and Cabe, we work with newspapers. We're trying to move the culture. First we have to demonstrate that it works. In the ground we do that. With the food and all the CSA and the vegetables and the meat and the eggs and all of that, but in the end it's maybe flavor and taste that brings people to us. That's the beginning and then we can introduce concepts of sustainability, green building, permaculture and all these other things that we do and that we integrate here. We're a working ranch and a whole systems learning center. We have busloads of kids come. University courses. We work with CMC. Then we have an intern level, too. Then the WFR program which is the Worldwide Workers on Organic Farms. I forget how it's ...

They'll come in only for two to three weeks. Maybe a month, but then we have our residential internship is a seven to ten month intensive. The interns this year happen to be three people that are repeating. They're going into their second years. They've understood that the depth of what they can learn, they don't need to leave, they need to stick around to get into even a deeper levels of all the integration of all the systems from seeds to plants to animals and how that builds health.

Stephanie: You mentioned the soil being a primary concern and priority for you. What are you guys doing out here to improve your soils or see how they're doing, year after year?

Brook Levan: We're working with permaculture and other things, but also biodynamics. That's a long story, but it is ... It's really one of the original organic movements. If we're here really for our health, the health of our community and it goes all the way back to soil. Soil health. Biodynamics helps us do that with how we treat the land, but also the movement of the cattle on the land and the rotational strategies we do there. We move them almost every day. The compost building and all the nutrient cycle. The whole nutrient cycle, we're conscious of all the way to our bees and encouraging wildlife on the place. Of course the dogs have a job, too. If you



saw the big white dogs, their job is not to ... They don't herd worth a damn, you know, but they really are guardians and they protect the small livestock and things like that that are crucial to the system.

There's no waste in our system and I think that's ... Or we try to, we head towards no waste. An example would be in the dairy when we separate the milk and the cream and then make butter, there's this whey, or there's a leftover. That goes to our pigs. Then we have whey good pork.

Stephanie: You guys mentioned something, one of the main things we came here to see today, you have so much going on here, Brook, at Sustainable Settings, but our focus today is going to be the dairy and the cows. Would it be a good time to trot on over and see what the cows are up to?

Brook Levan: Well, it's about time to milk. They'll be coming in soon.

Stephanie: Great. How long have you guys had animals here at the ranch house?

Brook Levan: Well, we've only been on this land about 13 years. We're here to really heal the place. We wanted to build the soil and improve the nutrient cycle. We needed a major manure in the system. At first we put on some steers and some beef cows, which is pretty typical for around here. Then we got into [inaudible 00:08:28] and they were great and then did some llama, types of different things. We were able to find a meat market for all of those things, but dairy was the end goal and so we brought two cows. Milked by hand. Went to four. Went on to a machine. Zopher, I think you're in your sixth year with us. This has been a major part of our healing of the land. The cows turn the grass into manure and that feeds the soil life. That regenerates the whole place. Let's hear from Zopher a little bit, too, about ...

Zopher: You mentioned health, but some of the things that we do here to increase the health of the cows. We have a mineral program, you might see around the wall there. There's 16 boxes. We use advanced biological concepts twelve stone program. It's an organic mineral program where each box contains a separate mineral. Phosphorus, potassium, calcium, sulfur, iodine, copper. Then the cow will go and self-select what they need based on what's going on. When it starts to get cold, they'll go get sulfur, because they need to build a coat, for example. Or if they're about to go calf, they'll go find some other things different.

Stephanie: That's great that they are self-selecting what it is that they need, instead of you guys just pumping them with what you think they need.

Zopher: Yeah, I think that that happens a lot. We think we know what's best for them when they really have it in their taste buds to figure it out on their



own. Another amazing thing about the mineral program is if there's something deficient in the forage because there's deficiency in the soil, about 70% of what a cow eats comes back out, so they actually balance the nutrients in the soil over time. It's really nature's design. Smart.

- Brook Levan: The mineral program for the cows get them healthy right away.
- Stephanie: It's a mineral program for your soil.
- Brook Levan: That's right. Helps the deficiencies in the soil.
- Zopher: As you can see there, knocking on the door. She's ready to be milked. We can head in and start milking.
- Stephanie: Yeah, can we come in with you to watch?
- Zopher: Sure, yeah. I wouldn't be surprised if Ruby beats her in.
- Stephanie: All right. What is up here behind us?
- Zopher: Right now we're milking 12 cows. We milk once a day. Here's our list of cows. This keeps it in order for us so we know when they dry off. Other details that we need to remember since we have four or five people that milk here. Probably first we're going to milk Ruby. She usually loves to come in first.
- Stephanie: Great. Let's get Ruby in here.
- Zopher: Try to bring her in.
- Stephanie: You're coming in!
- Zopher: Figure she wouldn't mind cameras.
- Stephanie: You're a big girl. This is raw milk?
- Zopher: This is raw milk. What you do in Colorado is you have to either take care of your own cow or you find a farm that can do a herd share program. You just basically sign a contract that makes you a part owner of the herd. Then you're entitled to get raw milk. The way we do it is people come pick it up once a week. We have about a hundred shareholders in the herd. We're growing slowly. Our demand's usually pretty good.
- Stephanie: What makes raw milk ... Why would someone want raw milk versus pasteurized milk that's in the store? Why do you like it?



- Zopher: Raw milk is full of enzymes, bacteria that are good for gut health and everything, as well. The fats are raw. Raw fats are supposed to be very healthy. I won't make any claims.
- Stephanie: Good call.
- Zopher: I'm not a doctor, but most of our customers are in it for the health reasons. Some people just do it because it tastes good.
- Stephanie: I'm a member of your guys' dairy, as well. Your milk is delicious, so thanks for doing all of the work milking the cows and one of the great things about it when you have it in the fridge for a while, I'm sure you know, is the cream will rise to the top and then you can either mix it back in if you want or scoop it up and just eat it the way it is. It's rich and delicious. Do we want to get to milking a little bit and show the folks what that looks like?
- Zopher: Sure. The machine will make a little noise. See how that goes. This bucket will hold eight gallons of milk. Each cow produces about two gallons for us milking only once a day. When you milk cows once a day, they live longer. They're healthier, they're happier, the milk is healthier. They can only put so many nutrients into milk, so when you milk them two or three or four times a day, it's less nutrient dense milk.
- We're a calf on operation, you can hear maybe some of the cows out there bellowing for their calves. At night, we separate the calves and then after milking in the morning, we let the calves out with their moms in pasture all day. If the cow has a calf that isn't weaned yet, then we save some milk for the calf. Usually a quarter, one of the teats for the calf.
- Stephanie: What normally happens in big dairies?
- Zopher: In any industry, I think they pull the calf right away when they're born. I've actually been to dairies that weren't extremely industrial. They were somewhat smaller scale and that's what they were doing. They were even pasteurizing the milk to give to the calf.
- Stephanie: Oh wow. That's interesting.
- Zopher: They don't really get to spend time with the herd or their mother. They don't learn all the herd behaviors. That's one benefit of keeping the cows on for six months or so.
- Stephanie: Are there benefits to the mom for having her calf on?
- Zopher: It also increases udder health. When a calf is constantly cleaning a cow out, then you have much less chance of mastitis, which is an infection of the



udder. That's something that we just rarely see.

Stephanie:

How long do you leave this girl on for? How long is she milked for?

Zopher:

Each cow we milk for about five minutes. It takes about five minutes to milk a cow.

Stephanie:

How much milk are you getting?

Zopher:

We get about two gallons per cow.

Stephanie:

Two gallons per cow.

Zopher:

Per day.

Stephanie:

Great.

Jeff:

Hi, I'm Jeff from CSU Extension, here with another quick gardening tip. Today I'd like to talk about composting. A lot of people really like to have composting piles in their back yard, but I think there are two or three key steps to making a compost pile actually work. The first is most people, especially if you are putting a lot of garden clippings into your compost pile, you're really off-setting the balance between the greens and the browns. The carbon and the nitrogen. The way I like to offset my greens and browns is by using coffee grounds from our local coffee shop. It's a really good way to boost the nitrogen level and it helps break down your heavy carbons, like twigs or grasses and things like that are going into the pile brown. It's important to realize what can and cannot go into your compost pile.

Things to avoid are oils, fats, dairy products, meat. Any sort of thing that comes or is associated with oils or fats. Another thing to avoid would be any type of excrement. Whether it be dog, cat, or human excrement. Then the next step that I think is really important is developing a system where you're rotating the pile but not necessarily always adding to each pile. I have a three bed system here. This is a pile that's from last year, I will not be adding any more product to this pile. It is still composting, but it is now starting to cure. It's starting to be a finished product, but that will take up almost about a full year to finish.

This pile is my add pile. I like to add anything from last fall and then early this spring, as well as those coffee grounds. I will continue to layer those as I have availability to both. Two tools you really need to make your compost pile really work efficiently. The first is a long thermometer. Your thermometer is very, very important because it can tell you when your compost pile is one, actually working, and two, ready to be turned. You can see when I insert the thermometer into this compost pile, the



thermometer instantly jumps up and sits at about 140, in our hot or active range.

I insert the compost thermometer into this pile, you'll see that the temperature quickly drops. It's not very actively composting. We know that it's in its curing phase. Now I know that this compost pile is still hot and ready to turn. I could begin turning it. To turn it, it's very simple, you just shovel ... Falls into the next thing. Our second tool that you need to make composting successful. As you can see, when I start turning the compost pile, everything is mixing on its own. You don't really have to worry about how the things go into the pile. Just generally try to get them, if you can, into maybe a new spot in the pile or making sure also to realize that the moisture level is high. If you're turning the pile and everything is very, very dry, often times I like to turn on the hose and water a little bit in turning the pile.

After you've cycled your pile back and forth and back and forth and you start to see that the temperature isn't really reaching that hot or active level any more, it probably is time for you to start working on a finished product. In order to be able to use your compost, a really good thing to do is to screen it. Screening can be done very simply. Here we just have some hardware cloth. What we'll just do is just take shovel fulls of our finished pile. Throw them onto the hardware cloth. Then we can just start moving it back and forth with the shovel. It will sort itself for us. Any particles that are too big to fit through the screen will be left on top. Those can go right back into the compost pile. For more gardening tips and/or information, please visit your local CSU Extension Office. Or the Colorado State University website.

Stephanie: Now we're here in the clean room with Rose Levan. We are going to see what kinds of wonderful things you can make out of this milk. What are some of the wonderful things you're going to talk about today?

Rose Levan: We're going to make butter from our raw cream and kefir from our raw milk. First we'll start with some butter. How we make is with a Kitchen-aid blender. We put in some our cream that we've already separated from our milk. The milk has been separated, there's no skim milk in here, it's just cream. Then we put it in our blender or in our mixer and, with a paddle attachment, just run it on medium speed. Now it'll take about five minutes, but the traditional way or the small scale way to make it is with a paddle or a churn. We do this with our schoolkids when they come to visit. What we do with that is actually you can see the cream line on this milk. From here down is what we would call low fat milk, but this is the cream. That two inches right there. We'll just skim off this cream and put it into the ... It's pretty thin, but that is cream. There's more to get out in there. Then we have this paddle that we put on. Away it goes. This would take half an hour



to forty-five minutes to turn into butter. We don't do this on our more commercial level, but it is fun to do with kids.

You can also put cream right into a baggie. Put those kids on a trampoline. Let them jump and you'll have butter in a few minutes. Once the mixer's done, it'll start making some different noises. It'll turn to a product that looks like this, which is butter. We also have buttermilk in here. The buttermilk is wonderful to keep. This is real buttermilk. It's not cultured yet. We can culture it by leaving it out sit out on the counter which is what they used to do when you didn't have a commercial setup. You would skim the cream off your milk, put it in a pitcher and just leave that until you had enough cream to make butter. While that milk was setting there, it would ferment or slightly culture so that the butter you were making is cultured butter.

Then the buttermilk would be cultured, so this has to sit out a little bit in order for it to turn or ferment, but with this finished butter, we like to wash it a few times because that lets the shelf life be longer. You'll just wash it with cold water until the water runs clear. Get the water nice and cold. Just add water to this. You press it down. You can see the water's still a little milky. We won't keep this water. This will go to the pigs. Any of our skim milk that is the milk that comes off of the cream goes to our pigs. We don't have a lot of clients that want skim milk products. They want the full fat. This then gets dumped. We wash it again. That water will start getting clear.

I would recommend doing this if you make butter. It just makes it so that the butter can be out on the counter and not have to be refrigerated. It really extends the shelf life. Once we have this drained and we have our butter. Form it into a loaf. That's good to go. You'll see a little more water come out of the butter. That's okay. It'll stop coming out after a while. Now you can see the cream here is starting to turn. We'll keep an eye on that. Then we just refrigerate this until it firms up and then you can cut it into pieces as big as you want. It also freezes really well. You can freeze it for three or four months.

Kefir is a fermented milk product that we make here. Kefir pearls are what we use to turn the milk into kefir. This is raw milk that's had this bacteria added to it. It turns it into kefir, which is very similar looking to yogurt, but kefir isn't heated. Yogurt, you have to heat, in order for the change to take place. Kefir is just raw milk sitting out on the counter with a culture added and you can see, as this siphons through, these lovely little clusters here. Those are our kefir pearls. They are a kind of gelatinous cauliflower-shaped looking thing. The origins of kefir are not really known. Countries in Russia were judged, their wealth was judged by the quality of their kefir years ago. There's a great tale of a princess who got kidnapped and her ransom was



her kefir grains.

A very simple method here. We would wash this jar. We put these kefir grains back in. Add fresh milk to this and a cover. Let this sit out on the counter for two or three days. Then it would be good to go and if we're lucky, it'll turn into kefir. Kefir's a little, it should be slightly effervescent, that's the ferment that happens. When you pour it, you'll see some bubbles that continue to rise. That's a good sign. Kefir is full of probiotics. You use it as is. Just drink some of it like this. It's really great in smoothies. My favorite is kefir with maple syrup in it. If you study any fermenting foods books, cookbooks, Sandor Katz has a great section on kefir and its positive uses.

Stephanie: We're out of time here today, but we wanted to thank Brook and the folks here at Sustainable Settings for letting us have a little peek into their wonderful operation. If you have contact information for the viewers?

Brook Levan: Sure. You can find us on the internet at www.sustainablesettings.org. If you want a local phone number, it's 970-963-6107. Try our new campaign. Build soil or die.

Stephanie: Thanks for joining us on Grow Up and tune in next time.

Marjory: Okay, well that was Brook Levan. If you want to get in touch with him, I highly recommend it. Especially if you're in that area. Might want to go by and take a tour of the place. Visit their website. See what's available. Click on the button to the right and learn more about that. That sounds very interesting, looks like they have classes and all sorts of things available.

This is Marjory Wildcraft and you are the Mother Earth News Online Homesteading Summit. We have a ton of really fabulous presentations. I think you're going to really enjoy many of the others that we have. Why don't you pick another one that you want to see and I will catch you on that one too, okay?



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