

## Living Energy Farm

### July - August 2017 Newsletter

#### Upcoming Workshops

**Please RSVP [livingenergyfarm@gmail.com](mailto:livingenergyfarm@gmail.com) if you plan to attend.** All workshops begin at 1PM and are held at 1022 Bibb Store Rd, Louisa VA, 23093 (at LEF) unless otherwise indicated.

#### Solar Batch Collector Completion

Solar batch water heaters are super-easy to build, and quite effective. Often they can be built with junk collected for free. Even if you have to buy some parts, they are not expensive. We started building one in a previous workshop. The hard part is done. We will complete assembly **Sat, September 23, 1 - 4 PM at LEF**. Come see how it's done.

#### Dry Seed Saving

Most seeds can be saved just from letting them dry out on the plant, but there are some tricks you have to know to get the best quality seed. Learn how to save from corn, okra, beans, flowers, and other similar crops.

**Sat, September 30, 1 - 4 PM, at LEF.**

#### Open House Celebration!

We are pleased to announce that we have finished with all the permits for the buildings and related systems at Living Energy Farm. The Louisa County building officials were very cooperative in helping us figure out how to marry our sustainable vision with existing codes. Finishing the permits has taken a while because we have diverted a lot of time and energy into working on the various renewable energy and agricultural pieces of our project. But now, it's time to celebrate and show it off, so come join us.

**Sat and Sun, October 21 and 22, for a two - day open house celebration.**

There will be tours, lots of good fun, good food, and music. We will run hayrides from the front of the property all afternoon both days. We will send out more information when we finalize a schedule closer to the date. We could also use help with set up and clean up, particularly from people who are familiar with LEF. We have a few open bedrooms for helpers who want to stay overnight. E-mail [livingenergyfarm@gmail.com](mailto:livingenergyfarm@gmail.com) if you'd like to volunteer during the open house.



*First stage of batch water heater construction, stripping and cleaning a water heater tank.*

## LEF In the News (Again)

The magazine *International Permaculture* is one of the most detailed and extensive permaculture magazines in print. They recently did an article about LEF with a great photo spread. One either has to sign up for a free trial or buy a subscription to view the magazine. The article is an interview between Alexis and Simon Hursthouse. Simon lives in a traditional village in Hungary, where he is trying to blend modern permaculture ideas with traditional village and agricultural life. The website is <https://www.permaculture.co.uk/>



*Seeds crops, sunflowers and corn.*

Now that we have all the permits complete for our main house, we are in a better position to pursue media attention, and thus to promote the LEF idea of wholistic sustainability. Starting around September 18, we will begin sending out press releases. Hopefully, we will have lots to report in the next newsletter.

## Bringing in the Harvest

We expanded our seed production this year. As is always true, some crops have done better than others. We had a drought for most of the summer. Our DC-powered irrigation system kept the crops well watered, but drought made the wild animals even more hungry than usual. As a result we suffered significant deer loss even in crops which the deer don't usually eat, like watermelons. Even with such losses, overall the harvest looks good. In looking at LEF from a food-self sufficiency standpoint, we are making great progress in figuring out how to feed ourselves. Growing wheat has been really easy. We tried oats, and the rabbits devastated them, but we'll try again. Our corn crop looks fantastic in spite of the drought. Our white potatoes and sweet potatoes are better than any we have ever grown at LEF, and we have a great crop of lima beans and peanuts. The beans, potatoes, corn, peanuts, and wheat, along with lots of veggies, eggs from our corn-fed ducks and venison from our corn-fed deer, put us very close to feeding ourselves without any industrial food. We are more confident



*Winnowing homegrown grain with our very powerful direct drive DC fan.*



than ever that the question of "can small scale organic agriculture feed us" can be answered "Yes!," at least given the resources and climate we have at LEF.

There are still a few things to figure out. We need to figure out how to harvest small grains and peanuts efficiently. We will continue to grow our orchards, and eventually wean ourselves off of store-bought fruit. We want to put in a nut orchard (mostly pecans and filberts) so we can grow more of our calories on trees, and maybe cooking oil too. We still haven't found the right biofuel to run our tractors. And most importantly, we need to how it all fits together. Modern environmental notions are so focused on energy production that the critical issue of how energy fits in the bigger picture gets lost. We get lots of advice about biogas, pumped storage for electricity, all manner of energy production ideas. The critical question for us is *not* how we maximize energy production, but how energy fits in with our village economy. What if biogas is easy (it mostly is), but takes too much time or feedstock? What if woodgas works, but only with really good feedstock and expensive equipment? How large of a woodland would it take to provide biofuel (wood for woodgas or pines for turpentine) to support a food self-sufficient village? What is the cheapest, simplest way to sustain a village -- forever? Hopefully, we can answer some of these questions in the next few years.

### **Living Energy Farm, Where to From Here?**

Closing all of our building related permits gives us a moment to reflect and consider where we are going next. For the most part, we have done what we set out to do. We have built a small village that is extremely efficient, fairly cheap, and mostly operates without fossil fuel. The integrated solar systems we have connected to our main house and kitchen are working fantastically well. The farm has been developed to a point where it is economically viable, and we are doing good work growing open pollinated seeds. Our work is far from complete. The farm is not fully weaned off of gasoline machines just yet. Our cooking is still too reliant on firewood. But we are making progress on those fronts as well.

We are doing what we said we would do. We have created a model that we think is viable around the world, and we are looking for ways to spread that model. For us, the project has been both rewarding and, at times, fatiguing. Our "to do" list looks rather impossible at times. The reality is that, no matter how talented or dedicated a group of people may be, doing too many things means some projects are well executed and some are not. We are feeling



*Rosa and Pebbles the Duck. Nobody else can catch them!*

the need to clarify and focus our project better.

Given that most of our major construction is done (we may still want to build a greenhouse or other outbuildings), our need for cash flow is reduced. Our thinking currently is that we will, in the future, focus our project more around education, outreach, and technology development. We will be bringing back our weekend intensives, and making them into an in-depth sustainability training program. (Dates to be announced.) We will likely put less of our energy into growing seeds or developing businesses to support the on-site community. We feel like this course is the wisest in terms of maximizing our impact (and our own personal sustainability and happiness in the project). The financial numbers look like they are at least minimally adequate for this new strategy. With the completion of our main house, we are again putting some more work into looking for partnership opportunities with other organizations that might be able to take the LEF model to other locations. We would love to have help with spreading our sustainable model.

### **LEF's Nickel-Iron Battery Project**

There's a lot of buzz about batteries these days. Given the intermittent nature of solar and wind energy, effective batteries are critical to providing power if we are going to live without coal and nuclear power. Industrial scale lithium-ion batteries are now coming online. These batteries could, potentially, have a big impact on the round-the-clock viability of renewable energy. (See <https://www.bloomberg.com/news/articles/2017-01-30/tesla-s-battery-revolution-just-reached-critical-mass> for some perspective on grid scale battery development.)

We regularly get people sending us advice about a newer, better battery. The recent article in *International Permaculture* has prompted some communications about something called LiFePO<sub>4</sub> (lithium iron phosphate) batteries. The field of battery research and development is technical, complex, and expensive far beyond LEF's meager resources. As far as we can tell, all of the lithium variant batteries degrade with each charge cycle (meaning they have a limited productive life) including the aforementioned industrial scale batteries. The LiFePO<sub>4</sub> batteries are destroyed if the voltage drops too low, which presents a problem in climates where solar or wind resources are inconsistent. NiFe batteries, by comparison, have low energy density (the batteries are large for the amount of power they can store). But they do not degrade on the charge cycle, nor are they damaged by full discharge. We have a 100 year old operational NiFe battery. The (now ancient) NiFe batteries made by Edison's company are regularly cleaned out and used by modern NiFe enthusiasts. The bottom line is that none of the current lithium variant batteries have any hope of making it 100 years.

Even if they did, the rush to make better batteries risks becoming yet another attempt to address environmental problems from a supply-side approach. It is expensive, and ignores the root of the issue. The root of the issue is our lifestyle, and how it is woven together with the industrial, political, and military layers of our society. Even if industrial scale renewable energy systems succeed, they are so expensive and complex that the best we could hope for in decades to come is ever increasing class polarization: an elite class that lives supported by this complex infrastructure while the masses huddle around their smoky fires.

Approaching sustainability with social equity foremost in mind leads to other solutions. We stand by the low-density, homemade or village-made, NiFe batteries as the best option we have seen for providing cheap, durable, stationary, electricity storage for village use. Eddie has been continuing with his mason-jar NiFe project. He has increased the voltage and storage capacity of his units. Sometime this fall we will probably set some of these homemade batteries up at LEF and begin service testing them. Wish us luck.

## **Articles and Stories about LEF in the Media**

Article about LEF at the Atlantic Online Magazine

<https://www.theatlantic.com/politics/archive/2017/01/anarchism-intentional-communities-trump/513086/>

Article about LEF in The Central Virginian

<http://www.livingenergyfarm.org/cvarticle.pdf>

LEF on CNN

<http://www.cnn.com/interactive/2015/09/us/communes-american-story/>

Cville weekly in Charlottesville VA

<http://www.c-ville.com/off-grid-model-environmentalism-made-easy/#.VcHobF054yo>

First video on youtube

<https://www.youtube.com/watch?v=ppTBO8d6jhY>

Second video on youtube

[https://www.youtube.com/watch?v=wdSX\\_TIYkD4](https://www.youtube.com/watch?v=wdSX_TIYkD4)

Video on vimeo

<https://vimeo.com/128744981>

*Living Energy Farm is a project to build a demonstration farm, community, and education center in Louisa County that uses no fossil fuels. For more information see our website [www.livingenergyfarm.org](http://www.livingenergyfarm.org), or contact us at [livingenergyfarm@gmail.com](mailto:livingenergyfarm@gmail.com) or Living Energy Farm, 1022 Bibb Store Rd, Louisa VA, 23093. Donations to the Living Energy Farm Education Fund are tax deductible and can be made via our website.*