

## Living Energy Farm

### November-December 2011 Newsletter



#### Stucco Party

We at Living Energy Farm have a saying: all of our Saturday work days are fun, but some are more fun than others. While wheeling hoeing in the hot sun and whacking down forest regrowth with a machete may not be your cup of tea, it's hard to resist the appeal of smearing oatmeal-like goop all over a wall. And this is exact what it takes to apply stucco, the building siding of choice at LEF.

Stucco is made from combining sand, lime, and a small amount of portland cement. It is a weatherproof barrier for the outside of a building that is cheap, non-flammable, and lasts nearly forever. Because of its low cost and practicality, stucco has been used for centuries on the houses of poor folks all over the world. But because of the stigma against building a house that looks like a poor persons', stucco is very uncommon in this country as vinyl or wooden siding have become standard.

Among its other virtues, stucco is easy and fun to apply. It requires very little skill; as Alexis likes to say, "if you're doing it carefully, you're doing it wrong." Last Saturday (December 3rd) we had a great work party where a dozen people came out to stucco our new greenhouse. Folks smeared it on while our "Otto-matic" (an old cement mixer fitted with a hand crank, turned continuously by Otto) kept them well supplied. It took only half a day to finish the first coat. A few days later, the second and final coat went on even faster.



*The "Otto-matic" mixer.*

#### Nickel Iron Battery

One of the technological goals of Living Energy Farm is to design our farm and community so as to avoid the use of "black boxes," which are devices with a short lifespan that we cannot manufacture or repair ourselves. In electrical systems, black boxes are particularly difficult to avoid. The lead acid batteries commonly used in photovoltaic systems are a classic black box- they typically do not last more than five years, and require a toxic and expensive recycling process. This is why we are designing our photovoltaic systems as to minimize the need for batteries, using mostly "direct drive" systems that use electricity while the sun is shining without an electrical storage system. However, there are some cases where direct drive is impractical, and electrical power is significantly safer or more efficient than alternatives. Examples include lighting (candles and oil lamps pose a significant fire hazard) and temporary livestock fencing.

Nickel iron batteries are more benign and durable than lead acid. They are not prone to corrosion and the electrolyte, potassium hydroxide, is non-toxic. They last over twenty years before needing to be reconditioned, and can be reconditioned at home, meaning they can last for centuries. But because nickel iron batteries cost five times more than lead acid, they are very rarely used. But if energy use is modest and the need for batteries is minimized, nickel iron is a practical storage device for electricity.

Living Energy Farm was pleased to be donated a pre-World War II nickel iron battery that had not been used for decades. By adding water and charging it with a solar panel, Jon was able to power this LED light (see photo). We will be purchasing more nickel iron batteries to power highly efficient DC LED lights in our house.



## Sweet Potato Slips for Sale

Living Energy Farm is proud to offer organic sweet potato slips for the 2012 growing season through Southern Exposure Seed Exchange! We are growing 9 different varieties for shipping beginning in May. Slips can be ordered online: <http://www.southernexposure.com/sweet-potatoes-c-229.html>

Sweet potatoes are fun and easy to grow in the southeast, and provide heavy yields of nutrient dense tubers that can be stored through the winter. They have traditionally been an important staple for food self-sufficiency in the south, as well as many tropical parts of the world. Now you can help support Living Energy Farm by purchasing our sweet potato slips to grow in your own garden.

## Call for Interns

Living Energy Farm is looking for agricultural and natural building interns starting in the spring of 2012. The main focus of the coming year will be building our first residence, so interns will have opportunities to learn about strawbale construction, passive and active solar heating, photovoltaic systems, biogas, and many other aspects of designing and building a house that uses no fossil fuels. Interns will also learn about fruit tree propagation and orchard maintenance, growing vegetables for seed, and working with oxen.

Interns will be housed on site or at one of our neighboring communities. Building or agricultural experience is preferred but not necessary. If you are interested in interning with us next year, e-mail [livingenergyfarm@gmail.com](mailto:livingenergyfarm@gmail.com) or call 434 409 6006.