MEET CRAFT: Imladris Farm

We had another great CRAFT Tour this past week-end: it was our biggest tour yet and there was a lot to learn. Thanks to all those who came out and participated and thanks again to Walter and Wendy at Imladris Farm for having us.

Our tour started with a brief talk by Chris Reedy from Blue Ridge Food Ventures (BRFV). Chris let folks know that farmers can come into BRFV to process small amounts of produce from their farms (i.e. freezing, dehydrating, etc). He also spoke about Winter Sun Farms CSA – a new program at BRFV whereby summer produce is frozen and put away to then sell to CSA members all through the winter. BRFV buys produce from local farmers for this CSA. Chris welcomed folks to call or email him (828.348.0130 / creedy@awnc.org) for more details.

The main tour then got underway with Walter talking in-depth about Imladris Farm. Imladris is a sixth-generation family farm and the main products are meat rabbits and goats, eggs and value-added jam. These are all things that they can do well at their scale and they have been successful in finding a market for these products through local restaurants and tailgate markets.

We started out in the raspberry patch where Walter has created an efficient system for growing healthy raspberries and healthy goats...after the fruit season has ended, the trellises are taken down and the raspberry patch is fenced in and the goats are turned loose to graze. Walter has also been experimenting with making biochar as way of dealing with the rest of the raspberry canes. His biochar system is fairly simple – he uses a 55 gallon drum that is lifted off the ground with rebar. The dried raspberry canes are put into the drum and lit on fire, the rebar is then taken out of the bottom, the drum is dropped down which takes out the oxygen and the canes burn down into charcoal. This system is still being modified and Walter recommends checking out this u-tube site for more ideas: http://www.youtube.com/watch?v=dqkWYM7rYpU

Next we headed to the rabbit barn where Walter talked about the basic care and harvesting of meat rabbits. He then spent a fair bit of time explaining his marketing technique for selling rabbit meat. Originally, rabbit meat was not successful at the tailgate markets (customers were a bit afraid of the concept) so he sold a lot of the meat to local chefs. Overtime and with much patience, the sales of rabbit have gone up at the market and Walter and Wendy have found that breaking the rabbit meat down into sections and selling it that way (i.e. legs, loins, etc) has helped them increase their tailgate sales.
We then spent a brief amount of time talking about the farm’s egg production. Walter and Wendy’s son Andy is mainly in charge of the chickens and of selling the eggs and they have been experimenting with different breeds of chickens. They are now finding that game roosters (descendants of the fighting cocks) have much better instincts than the domesticated sexlink breeds. This is helpful in their free-range system where all kinds of dangers are present and chickens need to be on their toes in order to survive.

This was yet another great tour, with a great group of CRAFT members, a tasty potluck and lots of good talks and laughter. As CRAFT continues to grow, these tours become wonderful places to learn, ask any and all questions and meet a lot of new folks who are in the farming community in western North Carolina.

CRAFT stands for Collaborative Regional Alliance for Farmer Training. It is a membership program for farmers and their workers that will expand season-long learning opportunities. Membership is rolling, and we still have 4 great tours to go! For more details, or to join, visit CRAFT online.

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<th>True Nature Country Fair</th>
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<td>OCTOBER 8TH, 2011</td>
<td>News Bits are reader-submitted news, events, and opinion. Submit your bit to <a href="mailto:enews@organicgrowersschool.org">enews@organicgrowersschool.org</a></td>
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The True Nature Country Fair is a celebration of the heritage of the southern Appalachians, with a focus on applying traditions in the future. Thus our mission: celebrating our heritage and cultivating our future.

Our focus is on local, organic, and sustainable. Everything featured at the Fair is from the southern Appalachian region and will be produced from resources that are at least 50% organic and/or sustainable. The exhibit areas include a farmers market, energy and shelter, health and healing, social and political action, and crafts. The education component includes workshops on gardening, farming, and homesteading, plus nature walks, a children’s program, and small livestock displays.

Education at the Fair is totally experiential. Vendors of products are

**OGS is Hiring!**

**Development Coordinator**

for

The Organic Growers School based in Asheville and western NC

**Application Deadline: August 25th, 2011**

Proposed Start Date: October 1, 2011

The Organic Growers School invites applicants for a Development Coordinator who will report to the organization’s Director. Specific responsibilities include:

1. Fundraising assistance, including but not limited to grant research, drafting and reporting in coordination with other staff.
2. Outreach to the public for the organization as a whole
3. Administrative support pertaining to all organizational initiatives
4. Maintenance and improvements to the organizational resource development plan

We are particularly eager to find organized, hard-working candidates who possess

1. Extremely strong written and oral communication skills
2. Past experience with and/or success with grant writing
3. Research skills, and knowledge of the internet
4. Practical experience and/or knowledge
also teachers, as they demo how to use their products or services on a practical scale. Businesses or organizations interested in participating in the Fair should contact Program Manager Karen Vizzina at earthstarnc@earthlink.net or 828.342.1849

Learn or teach about:
Farm and garden
Old Time Music contest
Heritage and Primitive Skills
Native American Arts and Culture
Artisan Foodways
Craft Artist
Alternative Energy and Green Building
Farm Animals
Storytelling/Spoken Word
Farmers Market
Homesteading
Nature Walks
Medicinal Herbs
Permaculture
Farm Preservation
Social and Political Action
Food Vendors with a local focus

Other events at the Fair include One Bowl, a local foods dinner, a silent auction, an old time music contest, and more! The entrance fees for the Fair are $10 for adults, $3 for children ages 3-12, and free for children ages 2 and younger.

Visit the Fair online for more info!

Farmers Corner: Ask Tom

Editor's note: This month we have a new twist for the Ask Tom column – Tom is asking a question to Walter Harrill of ‘I’maldris Farm about ram pumps -- a pump that uses the energy of falling water to pump some of that water to a higher level, without an electric or gas pump. If you have ever lived in an older house you may have heard pipes rattle when you shut off the water quickly. That “water hammer” is caused when the water moving in the pipe is suddenly stopped and crashes into the back of the closed valve. The hydraulic ram pump was invented in the 1770s. It works using the same basic idea that when moving water that is suddenly stopped, it creates a high pressure zone behind the valve. The ram pump allows a portion of that moving water to be lifted by that high pressure to a location above the pump. Yes, that’s correct. Water “flows uphill”
when a ram pump is involved -- without the need for electricity or gasoline. The "catch" is that most of the water moving in the pipe is released back to the stream so only a fraction of the moving water is lifted.

Dear Walter,

During this exceptionally hot summer our electric bill is much higher than normal. To help deal with this problem I am looking at super-insulation for our produce cooler and a hydraulic ram pump to reduce pumping for irrigation. I understand that you did some work with hydraulic ram pumps. What is your favorite design?

-- Tom

Water Harrill wrote Tom that the best resource that he found in research about two years ago is from our neighbors at Clemson University [http://virtual.clemson.edu/groups/irrig/Equip/ram.htm](http://virtual.clemson.edu/groups/irrig/Equip/ram.htm).

Walt goes on to say "We built ours out of PVC plastic pipe (polyvinyl chloride available at building supply stores) using thicker schedule 80 for the drive line, I think this would be the best place to consider refit with galvanized steel pipe, as less flexible pipe yields a higher pressure spike. Ours cost a little over $100. I believe it had a 1" inlet and 1/2" outlet. Of the entire set-up, the only moving parts (and therefore, about the only parts liable to wear out) are the two check valves. Note that these are "swing" check valves, not "spring" check valves. We ended up replacing them on approx. a quarterly basis since grit in our water scratches the seal between the gate and it's housing, allowing water/pressure to escape.

Our biggest challenge was a continuous water source - we were using the overflow from our reservoir fed by the spring, so any time that we used a bunch of water; someone had to hike up the mountain to restart the system. The good news is that at this point, the system is already primed, so it's a 30 second process to get it going again (initial priming can run 15-30 minutes).

A few added notes from Walt -

I skipped the 1 1/4" valve labeled (1) in the graphic above. It increases friction of the running water, decreasing the efficiency of the ram, and I just didn't see it as necessary.
The pressure gauge is very handy for the initial priming, since what's required is cycling the ram by hand literally hundreds of times (pushing down on the gate of (4), letting the water push it back shut, pushing it down, letting it shut, etc) until it finally builds enough pressure to run on it's on. 100psi would have been overkill for our system - we were primed at 17-18 psi and typically ran just below 30. The gauge just lets you watch it slowly climb, so you don't get frustrated and give up, or alternatively, so you don't keep going in spite of some small leak that keeps it from building pressure. A hard lesson, though, is that pressure gauges don't do well left under pressure, so (10) is important, and I always removed the gauge once I had everything running and stored it in the shop.

The calculations for drive pipe length give you a wide range of "correct" possibilities (150 x drive pipe diameter to 1000x drive pipe diameter). Within that range, as you shorten the drive pipe, you increase the speed of the cycle, but shorter cycles seem to yield less pressure per cycle, so anything within that range gives you the same output. With that in mind, I lengthen the pipe to the maximum, so that I'm getting maximum pressure/cycle, and therefore reducing the number of cycles my valves are enduring, and hopefully, increasing the lifespan of the valves.

A few notes from Tom follow:

- Here is a movie of the Clemson pump operating
  [http://virtual.clemson.edu/groups/irrig/images/MOV00426.MPG](http://virtual.clemson.edu/groups/irrig/images/MOV00426.MPG)

- Here are a few rules of thumb from web searches

A hydraulic ram pump is powered by a body of water flowing downhill with a height difference. A general rule of thumb is that the water can be pumped 30 times as high as the available drive head (the height difference of the water driving the pump). So a head of 1 m can be used to pump up water to ~30m, while a 7 m head can pump water up to 210 m. With height difference, the actual difference in vertical height is meant, not the length measured along the slope, although excessive length can cause friction losses. (Tom’s note: This height can be measured with a transit or carpenters level on a pole.)

The capacity of a hydraulic ram depends on the scale of the pump, which is often measured in the diameter of the tube delivering the water to the pump. Pumps exist in the range 1" up to 5". The optimum length of the drive pipe is five-to-twelve times the vertical distance between the source and the pump, or 500-to-1000 times the diameter of the delivery pipe, whichever is less. This length of drive pipe typically results in a period between pulses of one-to-two seconds. A typical efficiency is 60%, but up to 80% is possible. The drive pipe is ordinarily straight but can be curved or even wound in a spiral. The main requirement is that it be inelastic, strong, and rigid; otherwise, it would greatly diminish the efficiency.

The source for the rules of thumb above is:
Several Home Power magazine ram pump articles were assembled by Collier publishing with permission. Home Power is a great resource for small scale energy production consider subscribing at (PV, wind, hydropower, etc. -- not just on ram pumps)

Here are some NCSU Extension links on possible permits needed to draw water from a stream:

Links on designing intake structures if you intend to use water from a stream

Many thanks to Walt Harrill for the practical experience behind this article. He has done OGS workshops on ram pumps in the past, so let us know if you are interested. Thanks

-- Tom

Commercial Farmers: Got a Question for Tom? Email it to us!

Gardener's Corner: Ask Ruth

Dear Rhonda,

This is my second year at gardening and I am wondering what to do about Japanese Beetles. Last fall I laid down the milky spore and that has seemed to help some. I spray with a soap/oil solution, sanafad?...pick them off. They are devouring everything. Anything else to try? Not gonna use poisons.

Thank you for your time,

Rhonda

Dear Rhonda,

Japanese Beetles can be discouraging, and it is a bit nerve-wracking when they arrive in droves and decimate your plants seemingly overnight. It sounds like you are taking the right steps already, but (Yikes!) you are still dealing with lots of beetles.

Japanese beetles were first discovered in the United States in 1916, and are present in most states east of the Mississippi River and in a few of the western states. They are very pretty bugs, having 3/8” long metallic-green bodies with iridescent copper-colored wing-covers. Japanese beetles feed on the foliage, flowers, and fruit of a wide variety of plants, but have a preference for about 50 different plants. Some of their favorite foods are roses, Japanese maples, apples, peaches, plums, cherries, grapes,
raspberries, crape myrtles, linden, and birches. Commercially they can compromise corn and soybean crops. As they feed, they will skeletonize or completely destroy plant leaves. They love to eat rosebuds. Apparently they send out an APB when they find likable food, and feeding females release powerful sex pheromones that will quickly attract males in droves.

Japanese beetles usually emerge in June-July and hang around for about a month. They mate and lay their eggs mostly in grass and lawns. The eggs hatch in late summer/fall and the grubs begin feeding on plant roots until the weather cools down. They overwinter in the ground and resume feeding in spring once the weather warms back up. Japanese beetle grubs feed on a number of different plant roots ~ but they love grasslands and lawns. Kentucky bluegrass and tall fescue (both prevalent in the mountains) are among their favorites.

** Lets go over some options for controlling Japanese beetles:  

**HANDPICK:** Generally, I don’t hesitate to squish bugs and smash their eggs with my fingers, but I have to admit ~ squashing Japanese beetles bare-handed is a bit intimidating. They seem to drop to the ground and disappear when you try to hand pick them, so I think it helps to have soapy water to drop them in. Rather than dropping them into a jar, I have switched to brushing them off the leaves into a bowl of soapy water (the wider opening captures more of them). **Hand picking is best achieved in the morning when the beetles are more sluggish.** Linda Blue, Buncombe County Extension agent, thinks handpicking is one of the most effective ways to deal with Japanese beetles. Why? If you spray them with an insecticide today, you will kill some of them, but more beetles will arrive the next day.

**MILKY SPORE:** The idea with Milky Spore is that if you get rid of the grubs, you will reduce beetle populations. Milky Spore contains the Milky Spore disease bacterium *Paenibacillus* (formerly *Bacillus* *popilliae*). These bacteria will kill the grub stage of the Japanese beetle by eating it from the inside out. Milky Spore is not harmful to humans, pets, beneficial insects, wildlife or aquatic life, and comes in two formulations. (1) The powder formulation will only have to be applied once, and can be applied anytime the ground is not frozen (10 ounces treats 2500 ft.). It is applied every 4 feet in teaspoonfuls. Each teaspoonful contains 100 million spores. (2) The granular formula (in 20 lb. bags that cover 7000 sq. ft.) should be applied with a drop spreader 3 times a year (spring, summer, and fall) for 2 years (or 6 applications over 2 years).
The Milky Spore should be watered in after it is applied. The advantage of the granular mix is that it is applied over the entire surface of the yard, so spores are present everywhere and the likelihood of a grub eating a spore is increased. When each infected grub dies it will release 3 billion new spores into the soil. So Rhonda...spore numbers will increase every time a grub dies and will increase with each passing year; lasting up to 15 to 20 years. Spore numbers increase more slowly in the Northeast where the weather is colder. Rhonda, I have one question for you about your Milky Spore application ~ *If you used the granular formulation, have you applied the follow-up applications?*

**JAPANESE BEETLE TRAPS:** Japanese beetle traps definitely work. The bait for the trap is either a sex pheromone, or something that smells like yummy beetle food. At the prospect of good food or a chance to mate, the beetles congregate quickly. The problem with the traps is that they often attract more beetles into your yard/garden than would have naturally been there in the first place. If you use beetle traps, set them as far from your garden as possible and empty them religiously (daily). Consider putting them out only a couple of days a week.

**INSECTICIDAL SOAP:** The soap must actually hit the beetle directly. Spray in early morning when beetles are sluggish.

**SURROUND®:** Surround® is a white kaolin clay that is mixed with water and sprayed on plants in liquid form. It is used on many fruits, tomatoes, cucumbers, squash, and other vegetables. The white color of Surround® seems to confuse pests and the clay barrier is an irritant. A white residue (non-toxic) may remain on the fruit at harvest time and can be washed off with water.

**FLOATING ROW COVER:** Row covers are a very lightweight spun polypropylene fabric that rain and light can pass through. You can use floating row cover to wrap particularly delectable plants, or even cover a small garden completely. The floating row cover acts as a physical barrier so that Japanese beetles are unable to access the plant. You will need to leave some room for plants to grow.

**BENEFICIAL INSECTS:** Two parasitic wasp species, Tiphia vernalis and T. popilliavora, are natural enemies of the Japanese beetle grub. They were imported from Japan, Korea, and Northern China as early as 1021 as biological controls that will attack the grubs. A tachnid fly, Istocheta aldrichii, will parasitize adult beetles. The presence of aphids, and Umbelliferous plants like fennel, dill, and Queen Anne's Lace, will help retain these beneficials in your garden.

**NEEM:** An application of Neem Oil as soon as beetles are spotted can help diminish feeding. Apply every 7 days while beetles are feeding. To prevent leaf burn and to avoid hurting honeybees, spray Neem Oil late in the evening.

**PYRETHRIN:** Pyrethrin is extracted from the chrysanthemum plant and is noted for its ability to provide quick “knockdown”. However, knockdown doesn’t necessarily mean death. To be effective you must spray the pyrethrin directly on the Japanese beetle, so be thorough when you spray. Along with the top parts of the plant that you can see; be sure to spray the undersides of the plant as well.

**MYCOTROL:** I am not aware of this product being sold in smaller containers for gardener use. Mycotrol contains a naturally occurring fungus, Beauveria bassiana strain GHA. According to the EPA “Many strains of *Beauveria bassiana* are found worldwide in the soil. They control insects by growing on them, secreting enzymes that weaken the insect's outer coat, and then getting inside the insect and continuing to grow, eventually killing the infected pest...Tests show that the fungus is not toxic to mammals, birds or plants. There is a potential for the pesticide products to harm bees, so the products must not be applied near beehives or where
bees are actively hunting for food.”

Rhonda, I am not sure what Sanafad is, but I wonder if you meant SPINOSAD. Monterey Garden Insect Spray and Captain Jack’s Dead-Bug Brew are two retail products with Spinosad as the active ingredient. The active ingredient is a rare soil dwelling bacterium called *Saccharopolyspora spinosa*. It was discovered at an abandoned rum distillery by a scientist on vacation in the Caribbean in 1982. Neither of these products specifically names Japanese beetles on the label, but they both say that they target leaf-eating beetles. *Spinosad should also be sprayed late in the evening to avoid honeybees.*

Researchers are studying GERANIUM PETALS as a possible Japanese beetle control. According to the Agricultural Research Service ~ when Japanese beetles eat the petals of a geranium flower, within 30 minutes they roll over on their backs, their legs and antennae begin to twitch, and they are paralyzed for a few hours. Even though they are typically recovered within 24 hours, they often fall victim to predators, since they are unable to defend themselves while they are paralyzed.

**OTHER IDEAS I GLEANED FROM MY RESEARCH:**

- Vacuum the beetles off your plants with a dustbuster.
- Deter Japanese beetles by grinding up your captured beetles in a blender with water, and spraying them back on the plants.
- Spray plants with garlic sprays.
- Kill the grubs by walking over your lawn numerous times wearing aerator sandals (they’re spiky), or running an aerator over your yard a few times.

So Rhonda, there doesn’t seem to be a magic bullet for Japanese beetles, and it looks like you are already on the right track. Keep up the good work and try experimenting with any of these ideas that appeal to you. I’d like to end our discussion of Japanese beetles with this optimistic note ~ Japanese beetles like to eat poison ivy and multiflora rose!

Thanks for writing,
Ruth

Gardeners: Got a question for Ruth? Email it to us enews@organicgrowersschool.org

*Ruth Gonzalez* is a former market farmer, avid gardener, local food advocate, and founder of the Tailgate Market Fan Club where she blogs at [www.tailgatemarketfanclub.wordpress.com](http://www.tailgatemarketfanclub.wordpress.com). In her job at Reems Creek Nursery, Ruth offers advice on all sorts of gardening questions, and benefits daily from the wisdom of local gardeners.

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**Tech Notes**

*it's the little things....*

**TECH NOTES** is a new section of the enews, and comes from our CRAFT Farmer Training program. Every CRAFT tour contains insanely helpful information about production, marketing, and general farm management, and every tour always uncovers tricks that farmers have developed from years in the field. We'll post smaller tech-notes on our website as tours progress, but look to the enews for more in-depth articles and interviews that may make a day on the farm a tiny bit easier.

This month we’re talking with Ben and Cedar McCann of Goldfinch Gardens in Celo, NC. Ben and Cedar have been CRAFT members for two years now, and we’re loving
their online marketing system that allows them to skip the tailgate markets and still get their delicious produce to area consumers.

**OGS**: Explain your system.

**Ben**: We are marketing in two ways. One is direct to restaurants, nothing new there. The other is through our online farm stand at [www.goldfinchgardens.com](http://www.goldfinchgardens.com) This new system lands somewhere between CSA, farmers market, and farm stand. Each week, we take a look around and estimate what we think will be available for harvest by Friday. We then put that inventory on our website and send registered customers an email informing them that the website is ready for their order. They order online between Tuesday and Friday. We harvest and pack based on their orders. Saturday, we take it all to an abandoned fruit stand and put customer orders in large igloo coolers with ice packs ready to pick up. Customers prepay a lump sum by check so there is no cash exchanged. Every time they order the total draws off of what they have already paid. The computer handles the accounting. Customers get exactly what they want, we have zero waste. All that is harvested is paid for.

**OGS**: Did you set up the internet marketing on your own, or do you use a service?

**Ben**: We initially set this up on our own using e-mail, then google docs, then a DIY website set up by a wwoofer, and finally a leased software package from [www.localfoodmarketplace.com](http://www.localfoodmarketplace.com). Each of these systems worked, but require differing levels of paperwork and record keeping on the part of the farmer. As we grew past 30 members, it became clear we needed to automate more of it to free us up to farm.

**OGS**: Could a farmer without much web savvy set up a similar marketing system or should he/she consult a web designer?

**Ben**: The email system and even the google docs system could be achieved with basic internet skills, but the website versions require a little more savvy. One could setup like we have without a web-designer, but a good familiarity with the web would go a long way. It is not hands-free. The only customer complaints we receive are from computer glitches. These are infrequent and disappear once customers learn the ordering system. As the system becomes more popular, the software options will improve and less will be required of the farmer.

**OGS**: Has internet marketing been successful for you?

**Ben**: We feel that this has been successful for us in that it has now replaced the income we were earning at the Asheville City Market last year at this time. Given that all harvested produce is pre-sold, it is much more efficient way to market. We feel that this has a lot of room to grow. We have 2 drop sites now, one here in Celo, and the other in Burnsville. We have not yet really advertised in Burnsville because we are still learning what quantities we can produce and the word of mouth trickle is a nice pace to increase at. We like the local aspect of it. We are keeping the food much closer to the farm. We feel customer loyalty similar to a CSA, and by people who are our neighbors and friends. It creates a lot of potential for reaching customers in a rural/small town area that otherwise would be ignored for those big city pockets.

**OGS**: What have you learned via this process? Any advice you’d have for other farmers looking to market in similar ways?

**Ben**: Be patient, this is a new system, so people are a little wary at first. But then word of mouth spreads it like wildfire. Build in as much flexibility as possible, as long as it doesn't hurt your operation. e.g. Our pick-up is self-serve in coolers with ice packs. Some customers pick-up Saturday a.m. as soon as I drop off, others get their stuff on Sunday or later. It isn't as fresh, and they know that, but it gives them the convenience of picking up on their schedule. We currently have 60 customers, but only 30-40 order each week. The more you
have, the more consistent your sales will be as individuals vacations or gardens will have less influence on the overall orders.

**OGS**: What’s the nature of customer response?

**Ben**: Customers love this new system. Except for the occasional computer glitch, people are very happy. What is not to like? They get what they want, when they want it. But, it is not for everyone. Some potential customers are not online, so we ask them to find an internet buddy to order for them. As many come to us through word of mouth, this usually isn’t a problem. Some customers can’t be bothered with ordering every week, and would prefer a set box, CSA style. And some customers like to schmooze with farmers in a market setting. There is no farmer waiting to talk to them at the self-serve drop site.

**OGS**: Finally, do you see this type of marketing as a coming trend, one that may replace or otherwise change existing direct marketing models?

**Ben**: I see this as changing the dynamic of the CSA model, not the farmers market. Farmers market offers a lot of convenience to the customer, CSA gives it all to the farmer. (gross simplification) We believe that our system strikes a balance, with convenience for the customers and great benefit for the farmer. But as business models are customer driven, I see no reason why customers would forgo the market experience if it is near their homes and they enjoy the scene. Maybe if their favorite item is always sold out by the time they get there, this would ensure that it was reserved for them.

Thanks to Ben for answering all of our questions. Be sure to check out their website for yourself to see how the system works. There are other software programs available out there, so do some searching before you start a similar program for yourself.