Farmer Rancher Grant Program

Final Report Form

Please fill out the final report form and return it to the North Central Region-Sustainable Agriculture Research and Education (NCR-SARE) Missouri office. The report may be prepared on a computer or handwritten (please write or print clearly) but electronic reports are preferred. The final payment of your grant will be awarded when the final report and final budget report are received and approved.

Use as much space as needed to answer questions. You are not limited to the space on this form. The more details the better.

I. PROJECT IDENTIFICATION

- Name: Christine D. Tailer
- Address: 6489 Straight Creek Road
- City, State, Zip Code: Georgetown, Ohio 45121

- Phone: (513) 205-0054
- Website: straightcreekvalleyfarm.com
- Project Title: Testing the Feasibility of Maple Syrup Production on Southern Ohio Family Farms
- Project Number: FNC09-783
- Project Duration: two years, or one maple syrup season and follow up presentation
- Date of Report: March 27th, 2012

PROJECT BACKGROUND

Straight Creek Valley Farm is a sixty three acre, off-grid, family farm owned and operated by husband and wife Greg Cole and Christine Tailer. The farm is located in Brown County, Ohio, a few miles south of the county seat, Georgetown, and approximately three miles north of the Ohio River. We purchased the farm in 2003 and for the first six years, leased out the farm's ten tillable acres to a traditional farmer who planted corn, soy and tobacco. When we retired from our city jobs in 2009, we began to sustainably farm ourselves, full time, living in the off-grid cabin that we built ourselves. I have been chronicling our adventures on our web site: *straightcreekvalleyfarm.com*, that has a link to my weekly blog.

We now raise all of our own meat, including meat rabbits and pork, have a flock of free range chickens, keep ten bee hives, raise goats for dairy as well as meat, and farm sustainably using no chemicals pesticides, herbicides, or fertilizers. We plant an acre garden of float bed started open pollinated seeds, that we set with an old tobacco setter, as well as we plant clover and hay for our livestock, and sunflowers and beans that we sell as dry seeds. This year we are planting two acres of great northern soup beans.

We have also planted a sixteen tree orchard, that has just started producing, as well as we have various blackberry, raspberry, and june berry patches. We have several raised beds of asparagus,

strawberry, and herbs. The remainder of our sixty three acres is wooded hillside, filled with sugar maple, paw paw, oak, and black walnut. The opportunity to sustainably harvest what is already growing naturally, greets us each morning as we open the cabin door.

We chose not to use any chemicals on our farm because of our love of the bees. We have not used any chemicals at all since 2009, the year that we retired from the city and completely took over farming our land. We now practice composting on a large scale, heavily lime our fields each year (to better allow the crops to absorb natural nutrients) employ crop rotation and cover cropping, and this year we will supplement with fish emulsion that serves as both crop fertilizer and micro organism food. We also enjoy the exercise of cultivating with a small Farmall Cub tractor and hand weeding our fields.

PROJECT DESCRIPTION

We formulated our project to make use of the natural, already existing, sustainable resource of the indigenous sugar maples, showing the rural community in which we live that this is a resource just waiting to be tapped.

GOALS: Our original goals were two fold. We first hoped to "do research" and gather statistical data with the help of 4-H families from our county to determine the quantity of sap produced by southern Ohio maple trees, as well as we hoped to determine the quantity of syrup produced from that sap (i.e.; the sugar content of the sap).

Our second goal was to educate the family farmers, through their children, that producing maple syrup was a viable enterprise here in southern Ohio.

PROCESS

First Phase: I started working on the project in the fall of 2010, by contacting the 4-H groups in Brown County Ohio, sending an e-mail through the county 4-H coordinator, inviting the group member families to participate in the project. I also gave a presentation at the annual awards dinner. Five 4-H groups responded with interest. I then travelled to each group and made a hands-on presentation, detailing how to tap a maple tree, gather the sap, and boil it down, and at the end of the presentation I handed out spiles (taps) to each of the interested families, enough taps for each child to participate. The participant 4-H members ranged in age from eight to eighteen.

Only fifteen 4-H families expressed interest, far fewer than I had hoped, so I then contacted the FFA coordinator at Eastern Brown High School. The FFA group expressed great interest and I made a presentation at the school to the entire FFA membership. Of that group, seventeen students and their families expressed interest and actually completed the project. The high school students ranged in age from fourteen to eighteen. We thus had a total of twenty seven family participants in the project.

Second Phase: In the late fall of 2010, we next purchased and installed a new Leader 2x4 Evaporator, as well as we purchased the necessary fire bricks, flue pipes, sap holding tank, and flow pipes. Greg designed the system to meet our farm's requirements; outside under shelter (outside because we were firing the pan with wood and under shelter because it often rains in the

late winter during sap flow season), easily accessible to groups, close to our standing dead harvested wood fuel supply, etc.

As we researched how to install evaporators, we quickly found that there was no manual! The manufacturer all assumed that installation would be by a "professional installer" at far greater cost! Thus we did not know until we went to our Ohio distributor to pick up our evaporator that we needed flu pipes, at an additional cost, as well as fire bricks. Undaunted, we returned home with the additional materials and Greg began to redesign our system with the actual equipment and materials before him. He designed an ash clean out under the evaporator to make removing the buildup of wood ash an efficient operation. He also designed a sap holding tank to hold the sap and let it gravity feed into the evaporator.

Third Phase: Finally, in the third phase of the project, the sap began to flow in mid-February. I called the 4-H and FFA groups and arranged for two sap boil down days.

The 4-H boil down day was Saturday, February 26th. The FFA boil down day was Friday, March 4th. Prior to each day, we gathered and split standing dead hard wood to fire the evaporator, as well as we gathered and ran our own sap, collected from thirty maple trees that we tapped on our farm. We preboiled sixty gallons of sap, condensed into fifteen gallons in the evaporator, prior to each group's arrival, so that when the groups arrived, the boil down would not take as long and hopefully by the end of each day, each participant could leave with a jar filled with their percent share of the maple syrup.

The 4-H groups only stayed from noon until five pm and the sap had not yet condensed into syrup, so we finished it off and called each participant to return the next day and pick up their percent share of syrup, based on the number of gallons of sap they had brought to the farm. We quickly performed the math to calculate each participant's share of the syrup based on their contributed share of the total sap boiled

The FFA group arrived on a school bus at 8:30 am and left at 2pm. They were able to leave with their percent shares of syrup, again based on the number of gallons of sap that they collected and brought down to the farm to boil down.

The problem we encountered was that the participants were far too enthusiastic! I had asked each participant to collect sap for three days and measure the amount of sap that they collected from each tree. They did not stop collecting and all reported that their collection buckets overflowed and they did not know how much sap they gathered on a daily basis.

One 4-H participant brought thirty three gallons of sap, another sixteen. The others brought between two and eight gallons. One FFA participant brought twenty one gallons, two others ten, and the rest between two and five gallons.

We had planned to measure our sap to syrup ratio by boiling down the sap we collected from our trees on the farm, but we learned that we needed to prime the evaporator with sixty gallons of our own sap to start the boil down. Thus we lost even that calculation.

We were, however, able to derive some empirical results from the data gathered, that will be discussed below. But mostly we ended up with thirty two very excited families who all had their own maple syrup to place on their breakfast tables! All participants were able to place their trees on a county map and we were thus able to arrive at a rough approximation of proximity to flowing water.

Fourth Phase: The fourth phase of the project involved creating an hour long powerpoint presentation that described the process of maple syruping in general and the project specifically. I then applied to present the talk at the Ohio Ecological Food and Farm Association on February 19th, 2012 and an overall sustainability talk that also addressed the project at Farm and Family Night at the Maysville, Kentucky Community College on March 13th, 2012. The OEFFA presentation was titled Maple Syruping with SARE, the Maysville talk was titled Sustainable Small Scale Farming, and both talks were to packed rooms and were very well received.

PEOPLE

Becky Crooper, the OSU 4-H Extension Educator for Brown County assisted with contacting the 4-H leaders.

Dave Dugan, the OSU Brown County Extension Agent also assisted with general thoughts and assistance.

David Erlstein, the Leader Evaporator dealer assisted with answering our questions and providing invaluable advise as to how to set up the evaporator.

RESULTS

Our educational results surpassed our expectations. The thirty two participating families all expressed such appreciation and excitement and five families called the following year with hopes of participating again. Two participants brought their grandfathers down to our farm to visit our more simplistic evaporators so that they could build their own. Three families called the next season to report on their production.

Both of the presentations at OEFFA and Farm and Family Night also were extremely well received and sparked additional interest and many follow up questions. One of the Maysville attendees called and set up a visit at our farm the following week and brought the whole family.

But our empirical results were few. We were able to determine the sap to syrup ratio, as well as the very rough average distance to running water of each tree tapped. The powerpoint slides setting forth our results are set forth below.

4-H Taps and Gallons

February 26th, 2011

- 15 participants brought a total of 105 gallons of sap from a total of 29 trees
- 105 gallons of sap boiled down into 2.85 gallons of syrup or 364.8 oz of syrup
- 36.84 gallons of sap were reduced to 1 gallon of syrup ... thus a **37/1 ratio** sap/syrup
- The average distance to running water (river, creek, stream) was 1/3 mile
  - several trees were right on the banks of a stream or river
  - several trees were one mile from the nearest running water

- At the end of the day each participant returned home with anywhere from one 8oz jar of syrup to 3 quarts of syrup, and actually we continued the boil down as the day grew long and they returned the next day to pick up their percent share.

FFA Taps and Gallons

March 3rd, 2011

- 17 participants brought a total of 94 gallons of sap from a total of 20 trees
- 94 gallons of sap boiled down into 2.24 gallons of syrup or 300 oz of syrup
- 40.17 gallons of sap were reduced to 1 gallon of syrup ... thus a **40/1 ratio** sap/syrup
- The average distance to running water (river, creek, stream) was 2/5 mile
  - several trees were right on the banks of a stream or river
  - several trees were one mile from the nearest running water

- At the end of the day each participant returned home with anywhere from one 8oz jar of syrup to 2 quarts of syrup, and we were actually able to complete the boil down so that each participant returned home that same day with their percent share.

If I was to do such a project again, I would focus on the education of the participants and not on gathering empirical data. Simply the lesson that families in southern Ohio can produce their own sustainable maple syrup and with larger evaporators produce enough to earn extra family income, is a lesson well worth learning.

DISCUSSION

I learned a lot from this grant. It taught me the value of small family farms, the support that the parents give to their children in helping and becoming involved with this project. The grant also

taught not only me, but each of the thirty two families involved, the very real feasibility of maple syrup production at the southern edge of the maple's range.

Our farm greatly benefitted with the addition of the more efficient wood fired evaporator. We will continue to host maple syrup boil down days at the farm, which gives us the opportunity to share not only sustainable maple syrup production, but our off grid, energy self sufficient, lifestyle as well.

We were able to overcome the barrier of a lack of empirical data with the sheer enthusiasm of our participants. This enthusiasm showed that our project still had great worth.

The main advantage of implementing such a project is in educating the rural youth and their families that there are sustainable agricultural opportunities right at their doorsteps. The main disadvantage is that a project such as this can take up far more time than originally planned, but again, the rewards of educating farm youth can be amazing fulfilling.

I would whole heartedly encourage other grant recipients to engage in such educational projects. I have no doubt that there are other sustainable resources, besides the sugar maples, just waiting to be tapped (literally!). And the rewards of educating our rural youth cannot be overstated.

PROJECT IMPACTS

I cannot provide any hard economic data, but I can say that the opportunity for economic gain exists from maple syrup production in Southern Ohio. The opportunity for farm families to fill their own pantries with their own sustainably harvested maple syrup is also an economic gain to each family that does so. (See Benefits and Impact Form)

OUTREACH

As indicated above, I presented a powerpoint presentation at two different events, OEFFA and Maysville Farm and Family Night. I do not know the actual attendance numbers, but I would estimate that sixty people attended the OEFFA presentation and forty attended the Farm and Family Night talk. The brochures are attached.

The powerpoint presentation will also be attached under separate e-mail

PROGRAM EVALUATION

See the evaluation form attached. The bottom line is that I believe that this is an invaluable program and I want to express my most sincere thanks for the opportunity to participate and learn. THANK YOU!