

Establishing a Wisconsin Hatchery to Produce and Sell Organically Raised Pastured Poultry Chicks

Final Report for FNC04-535

Project Type: Farmer/Rancher

Funds awarded in 2004: \$5,980.00

Projected End Date: 12/31/2005

Matching Non-Federal Funds: \$7,845.00

Region: North Central

State: Wisconsin

Project Coordinator:

[Julia Maro](#)

Project Information

Summary:

In order to eliminate some of the health problems associated with the traditional Cornish Cross chickens, the project will utilize the Corndel Cross breed of chickens in a breeding program to produce organically raised chicks that are bred specifically for pasture production systems. Selection characteristics will include size, weight, leg color and temperament.

PROJECT BACKGROUND

Julia Maro received NCR-SARE Farmer Rancher grants in 2003 (FNC03-495) and 2004 to establish a Wisconsin hatchery to produce and sell organically raised pastured poultry chicks.

In the first year of the grant projects, our farm consisted of 83-acres. Only one to two acres was available for raising meat chickens as much of our property is wetlands and woods. Based upon our involvement with raising chickens and being members of the American Pastured Poultry Producers Association, we were very committed to being part of the pastured poultry movement. However, the number of chickens we could raise in a sustainable manner per season was quite restricted due to our limited acreage options. At that point, one of our pastured poultry friends suggested we could fill a niche by hatching and selling chicks. We began researching this idea and decided to pursue a SARE grant to assist us in exploring this enterprise.

In the spring of 2003, we purchased the 14 acre field adjoining our property. This land had been farmed conventionally in a corn/soybean rotation. We immediately had Midwest Bio-Ag do soil testing and began the process of converting this field to organic production. That field as well as our entire poultry and vegetable operations were certified organic in the summer of 2005.

For the past three years, we have had a small CSA (Community Supported Agriculture) serving three to six families regularly and several others as we have surplus vegetables. We direct market our pastured poultry, eggs, and goat milk soap on farm and through a local Downtown Farmer's Market in Eau Claire, WI. We also

raise and sell certified organic white and heritage breed turkeys for Thanksgiving. Vince works in town full-time. Julie currently works two days per week during the school year. Our goal is to spend more time farming and less time working in town. We have four children. Ben (23) began law school this fall. Marissa (18) recently started college. Our sons Sasha (10) and Ilya (6) were adopted from Russia. Going to Russia and seeing how much of the rest of the world lives has inspired in us a deep appreciation for sustainable family- and environmentally-friendly agriculture. We believe a family owned and operated farm is an excellent place to raise responsible children. Our boys have daily chores and help with the chickens as much as they can. We feel we are blessed with an excellent quality of life. We often give thanks that all the food found on our dinner table was either raised right on our farm and/or by other local farm families.

Before receiving this grant, we raised pastured poultry and laying hens. All of our livestock was and is fed certified organic feed, which we purchase locally from S&S Grains in Arcadia, WI. Prior to receiving this grant, all of our chicks were purchased via mail order from out of state.

Prior to receiving this grant our greatest area of weakness was not closely examining each of our enterprises as to their financial viability. Having this grant and meeting with our various financial advisors has significantly improved our ability to examine the financial health and sustainability of each of our farm enterprises.

PROJECT DESCRIPTION AND RESULTS

Goals. The goal of this project has been to establish the first Wisconsin-based hatchery to produce organically raised chicks specifically bred for a pasture-based poultry production system. The problems addressed included: producing a chicken less prone to the heart attack and leg problems commonly seen in the standard Cornish Cross meat chicken and establishing a local source for Western Wisconsin poultry producers to obtain quality chicks. The breed we selected for this project was the Corndel Cross developed by Timothy Shell of Mt. Solon, Virginia.

The majority of pastured poultry producers in our region purchased Cornish Cross chicks shipped in from out of state hatcheries. These come from breeding stock raised for confinement poultry operations. Both factors can lead to significant problems. Shipping stress can cause a higher mortality rate and lower dressed weights resulting in lower producer profits. Confinement genetics can lead to death due to inactivity, heart attack and leg problems.

We proposed that breeding, hatching and raising chickens on our farm would reduce the problems associated with shipping stress. We also believed it would insulate us from the problems that could arise if shipping companies would cease transporting poultry on a temporary and/or long-term basis.

The following objectives were used to complete the steps necessary to conduct our project:

Objective 1: Raise and winter over breeding stock to produce chicks for the 2005 season.

Steps to Reach Goal:

a. In thinking about our options for selecting our 2005 breeder flock we felt we had two choices. One would be to keep the best stock from each hatch we raised on our farm. The other would be to keep the best birds out of our last Corndel flock raised this season. In consulting with Matt John, we quickly concluded that the best option was to keep the best of each flock. The drawback was that it meant keeping an additional pasture pen set up all summer just for the upcoming breeder stock. By October, we had selected 15 Roosters and 60 hens for a total breeder flock of 75 birds. Maintaining an additional pasture pen and space for our breeder flock

throughout the summer added significantly to our labor.

b. Corndel Breeder Flock Statistics 2005 Flock (Hens and roosters kept and mortality were tracked. For details, request a report from the NCR-SARE office: ncrsare@umn.edu or 1-800-529-1342.)

c. Winter Housing: We spent a lot of time researching winter housing for our 2004 breeder flock. We decided to erect a 14 x 24 hoophouse that was 6 feet high in the center. Rationale included:

- Structure had the potential for multiuse
- Chickens could add fertility to our garden area through deep bedding
- During nice winter weather, the chickens will have access to a large fenced in area providing them with more space as well as continuing to improve our soil fertility
- We have a neighbor who is Amish who has built his own greenhouse and who could assist us in building construction

The chickens were moved in on 10/27/03. Our electrician installed an exhaust fan connected to a humidistat. Deep bedding was placed in the hoophouse and was added to on a regular basis. Despite the fan and two vents on the opposite side of the structure, we experienced significant moisture problems at times. This was particularly problematic when we have received large amounts of wet snow. At those times, moisture built up on the cover within the hoophouse and "rained" into the building despite our best efforts to use a shammy cloth to remove the excess water. In January, one hen died and another appeared sick. At the suggestion of Jeff Mattocks from Fertrell Corporation we switch to wood shavings for bedding. We did not have any sick chickens after making this change. However, we spent significantly more than anticipated on bedding (\$250.11). We had budgeted \$45.

During the summer of 2005, we added a barn with a lean-to specifically designed to provide winter housing for the breeder flock. An exhaust fan and humidistat was added to deal with moisture and humidity. This housing proved to be a significant improvement over the hoophouse used during 2004. Factors we believe added to the improvement included: insulating the winter housing area, installing two screened windows for ventilation, higher ceilings, and having a more permanent structure. In addition, the chickens did venture out in the winter. Within days after a snowfall, the chickens were able to walk around the entire building structure and were frequently seen enjoying the sunshine and dustbathing outdoors.

d. Egg Production: Our 2005 breeder flock laid its 1st egg on Feb. 24th. Forms from ATTRA (Appropriate Technology Transfer for Rural Areas: www.attra.ncat.org or 800-346-9140) were modified and used to track daily egg production by size, number cracked, number dirty and total set aside for incubation. Only eggs weighing more than 60 grams were set aside for incubation. Dirty and cracked eggs were not incubated.

Eggs Laid /# Set Aside for Incubation

March 10-31: 465 / 203

April: 678 / 121

May (28 days): 353 / 167

June: 674 / 369

July (9 days): 248 /

It should be noted that there were times when eggs were not set aside for incubation as both incubators were full. As the summer progressed, this flock developed an egg eating habit which significantly reduced the number of collectable eggs.

e. Incubator/Hatcher: During the 2005 season, we added an additional incubator which enabled us to hatch more chicks closer together in time.

Objective 2: Evaluate the economic viability of our on-farm hatchery operation.

a. Breeder Flock Feed Consumption was as follows: 8900 pounds of feed at an average of 24 pounds per day from Sept. 1, 2004- Sept. 5 2005. The cost of certified organic feed varied during this time period from .20/lb to .23/lb. Feed cost for this group was \$1960.00.

b. One of the questions raised by this objective is whether brooding can be profitable. At this point, it appears that maintaining a breeder flock and hatching Corndel Cross chicks does not have the potential to be a profitable enterprise for our farm. Several factors contribute to this conclusion. One is that our feed costs are high due to feeding certified organic grains. We did advertise our chicks as at the Upper Midwest Organic Farming Conference in La Crosse, WI.

The flyers we posted appeared to generate a lot of interest and we did get a couple customers from it. However, as the organic rules state that organic feed needs to be fed from day one and not that the chicks need to come from certified organic parentage, there does not appear to be a significant niche market for this type of chick at this time.

c. Another factor impacting the economic viability of this enterprise is the significant amount of labor involved in maintaining a breeder flock particularly in our harsh Wisconsin winter climate. We do have several customers who greatly appreciate these longer grow out birds for a variety of reasons including health factors and flavor. Having this grant and growing out the Corndel Cross did show us that there is a market for these longer growing chickens.

There were three farms in different parts of the country that got breeder stock from us with the intent of starting their own breeder flocks. At this point, we believe that a smarter choice for our farm will be to barter and/or buy back eggs or chicks from these other farmers than to maintain a breeder flock of our own. This appears to be a significantly more cost effective option for us.

d. We sold chicks to a number of small local farmers who picked their stock up from us at our farm. Chicks were sold for \$1.49 a piece and each producer was given at least 2 extra chicks in their box. All together, 520 chicks were sold. Proceeds from these sales were \$775. In addition, we raised over 150 Corndel Cross chickens on our farm that we sold as certified organic whole frozen chicken for \$2.89 per pound.

e. During the course of this grant period, we acquired an additional 14 acres for pasturing our chickens. This allowed us to significantly increase our meat chicken production (from 300 to 1000). Investing our labor time in this enterprise is more profitable and thus more sustainable for us at this point.

f. Although we have decided not to continue with a breeder flock, we will continue to use our incubators and hatchers for several purposes. One is to hatch heritage turkeys. We successfully incubated, hatched and raised over 20 rare heritage breeds this season. We mail ordered 15 heritage turkeys from Oklahoma. Four of these were dead upon arrival and we lost several due to shipping stress in the first few days after their arrival. Recently, we discovered a local source for heritage turkey eggs. Hatching turkeys on farm will allow us to continue with hatching as well as contribute to the sustainability of our farm. In addition, we recently found out that the American Livestock Breeds Conservancy is launching a project to establish a niche market for the Buckeye chicken. With our current incubator set up and hatching experience obtained from this grant project, we may be able to contribute to a project like this that would help preserve the genetics of an endangered breed.

g. One area we believe we significantly improved on this year by being more selective of our breeder stock was the dressed weights of these birds. For example, on one processing date, we had 30 Corndels processed. These chickens were 11

weeks old. Their processing weights averaged 4.22 with only two birds weighing less than 3 pounds. This is significantly better than the dressed weights seen during our first season when at least 1/3rd of the chickens weighed less than 3 pounds.

Objective 3: Evaluate customer satisfaction with Corndel Cross chick customers who order during the 2005 season.

Customer satisfaction was assessed by contacting all but one of our chick customers (unable to reach them) after they had raised their chicks to processing age. The majority of our customers were small farmers who expressed disappointment with the traditional Cornish Cross due to a history of heart attack and leg problems. Most ordered small quantities of chicks (25-50). The exception to this were three farmers from out of state. Two were interested in starting their own breeder flocks of Corndel Cross chickens. One had been developing his own breeder flock of Corndels for the past couple years.

All of the small producers were highly satisfied with their chicks. The few chicks they had lost died either due to a predator problem or unusual accidents (e.g. one lost a chicken that had gotten its leg stuck in an electric fence). No sickness or disease-like symptoms were reported by any customer. One farmer commented that the Corndels "didn't seem like other chickens I've raised". They reported the Corndels as more aggressive grazers and more active overall. In general, these small producers were not as concerned with feed consumption and profitability as their larger counterparts who rely on pastured poultry income as one enterprise that contributes significantly to the bottom line profitability of their farm.

Objective 4: Develop a taste profile for the Corndel Cross chicken.

The following taste profile was developed through discussion with our chicken and chick customers as well as with various chefs who had tried these chickens. A summary of their comments and opinions is as follows:

Texture: Meat tends to be "chewier" as compared to a conventionally raised bird. This does not mean that it is tough but rather seems to be that these chickens are more muscled due to their increased activity level. It is recommended that this be pointed out to customers and that they be provided with cooking recommendations. This would include cooking them slower than a conventional bird and at no higher temperature than 325 degrees. One of the chefs who loves these birds believes that the best birds are those weighing less than three pounds. He marinates them for one to two days before slowly roasting them.

Taste: Several of our customers really notice the taste difference between the Corndel and the Cornish. Some however report no noticeable difference in taste. Gourmet chefs who have tried these birds have had their customers ask them what kind of chickens these are as they noticed a significant difference. These same chefs have also reported that the skin of the Corndels is more yellow than a standard meat bird and they prefer this.

Carcass: The Corndel Cross chicken has a slightly longer and more narrow carcass than their conventional counterparts.

One of the farm families that purchased chicks from us did their own butchering and stated that the Corndel Cross was "a whole different bird" compared to the Cornish they had raised. They related the following observations:

- Leg bones were bigger and stronger
- Necks were longer and thicker with a lot of meat on them
- Skin was "so much thicker"

PEOPLE

Producers: This year, we sold chicks to 7 different small farmers from our local area.

Most ordered 50 or fewer chicks. All received a farm tour and were told about our SARE grant and shown our incubator/hatcher set up. In addition, we continued to receive e-mails and phone calls from farmers all around the country who were interested in this project and these chickens.

Businessman: Originally, we had planned to work with our CPA Dan Borreson during this project to assist us in evaluating our farm financially and for tax planning purposes. However, Dan retired and instead we worked with Todd Kostman another CPA from his firm. Todd and Carl Rainey (see below) have contributed significantly to our understanding of our farm and each enterprise as a business.

Consultants:

Timothy Shell - Timothy developed the Corndel Cross breed and has provided a wealth of helpful information.

Matt John - Owner/Operator of Shady Lane Poultry Farm, Inc. in Kentucky. After Tim Shell moved to China, I had some difficulty contacting him. At that point, I contacted Matt who shared freely of his knowledge and expertise.

Tom Delahany - Tom has a flock of Tim Shell's Corndel Cross chickens. He and I have been in contact to share information about our flocks. Tom has a lot more experience doing this than I and has been a very valuable resource. Tom received chicks from the last hatch of our breeder flock. He will be incorporating the genetics from our birds into his flock and is willing to trade chicks in the future.

Carl Rainey - Carl provides financial consultation to farmers through his position with the WI Department of Agriculture. He is helping us to examine the profit potential of each of our enterprises.

RESULTS

1. The major results of this project were reported in the previous section outlining our objectives and results. In summary, we improved significantly on our winter housing during this reporting period. We were successfully able to winter over a breeder flock of Corndel Cross chickens and gather, incubate and hatch their eggs. Things we improved on this season were the ability to produce larger hatches at one time. This was due to the larger size of our breeder flock and increased hatching capacity. One very unexpected result was that our breeder flock began eating their own eggs during the middle to late part of the summer and we were not able to break them of this bad habit. This cut substantially into our profits both in terms of eggs for hatching as well as eggs to sell for eating. Eggs which did not meet the size requirements for hatching and/or which were laid when the incubators were at full capacity were sold as table eggs for \$3.00 per dozen.

2. When we began this project, we did not anticipate acquiring an additional 14 acres from our neighbor. This completely changed our involvement in pastured poultry. Before buying this land, our ability to grow out meat chickens in a sustainable manner on pasture using rotational grazing was significantly limited by the small amount of land we had open and available. Adding the additional acreage totally changed the number of meat chickens we were able to raise using portable pens and portable electric fencing. From a financial standpoint, growing out more meat chickens is more profitable for us than maintaining a breeder flock and selling chicks.

3. We have learned a significant amount about the entire process incubating and hatching our own chicks. In the past, we relied on purchasing our chicks from out of state hatcheries. Now that we have the ability to hatch here on our farm, we will continue to use the incubators and hatcher to raise at least a portion of our own poultry. We already have plans to hatch heritage turkeys on our farm again next season. We did try that this season and were successful. In addition, we will be

exploring the possibility of working with the American Livestock Breeds Conservancy to hatch and raise some breed or breeds of poultry found on their endangered list. We believe this is one way of being a good steward of the resources we received through this grant and of continuing its impact into the future.

DISCUSSION

- We learned and accomplished many things with this grant. We deeply appreciated the opportunity that this SARE grant provided our farm to test out an idea which we felt had the potential to be a niche enterprise for our farm. One of the decisions we have come to based on our ability to test this idea is that having an on-farm breeder flock and hatchery is not profitable enough to be sustainable for our farm. Several factors contributed to this including the high cost of certified organic feed and the significant amount of labor that goes into maintaining a breeder flock year round in a cold climate. Things we learned and accomplished included:
 - A 12 x 24 hoop house is not an effective means of wintering over a 50 bird breeder flock due to condensation concerns. We were successful in our second season at wintering over our flock in an insulated lean-to portion of our barn.
 - Our Sportsman's incubator and hatcher combination worked very well. This season in addition to hatching Corndel Cross chickens we successfully hatched heritage turkeys, guineas and layers both for ourselves and for neighbors. This did contribute to our farm and neighbor's self-sufficiency. We anticipate continuing to use this equipment to hatch heritage turkeys and other poultry. During this past season, we made contact with several very nice restaurants in our area that are interested in these rare breeds of turkeys. Two purchased turkeys from us. We believe the third restaurant would have bought from us but we were sold out.
 - Hatching chicks is a great way to promote our farm especially to families who have children. Having people out to see chicks hatch and how their food is produced has provided great PR for our farm. This past spring, we took our small incubator and several dozen eggs into our son's 3rd grade classroom. The class hatched out and cared for 15 chicks which were then given a home on our farm.
 - Record keeping - One of the significant impacts this grant has had on our farm is that it has been a driving force behind our improving our record keeping. We downloaded forms from the ATTRA website and modified them as needed to track things such as egg production and incubation statistics. In addition, we used one of their forms for tracking daily feed consumption for all of our meat chickens and turkeys. We believe this saved our farm money in not overfeeding the chickens and in being able to better assess our actual costs.
 - We learned a great deal regarding planning our hatching schedules. We will be able to use this information in the future as we continue to hatch chicks and turkeys.
 - Another major benefit this grant has had for our farm is it put us in touch with some very excellent consultants from various state and regional programs. For example, Carl Rainey from the WI Department of Agriculture, Trade and Consumer Protection has been an invaluable resource in teaching us to look at our farm as a profitable and thus sustainable business.

OUTREACH

MN Sustainable Agriculture Meeting

During the first year of the grant, Vince and I were asked to present a session at the MN Sustainable Agriculture Conference in St. Paul, MN. During the second year of our grant, we were invited to present on our progress to one of their local chapters based in the Duluth area. We created a PowerPoint highlighting our SARE grant project. This was shared with approximately 30 other farmers.

Shaking the Money Tree

At the request of Diane Mayerfeld, I presented a session on our grant work at the Shaking the Money Tree workshop in Camp Douglas, WI. Approximately 35 farmers attended this event.

On Farm Visits

Each time a producer came to pick up chicks, they were given a tour and told about our SARE grant project. In addition, we had numerous families bring their children out to our farm to see the chicks hatch. This provided valuable PR for our farm as well as an excellent educational experience for local children who live in town.

3rd Grade Chick Hatching Project

As stated previously, we brought an incubator and eggs to our son's 3rd grade class. The students and teachers were delighted to participate in this experience. It provided us with an opportunity to introduce the children to our project as well as to sustainable agriculture in a fun and educational way.

PROGRAM EVALUATION

We deeply appreciate this grant program and the ability to try out ideas through conducting on farm experiments. We definitely could not have done this without the financial support provided by the grant. Throughout the process, we learned a tremendous amount about hatching and raising chickens that we never could have learned from a book or through brief on-farm visits to other producers. Although we will not continue with a breeder flock, we have learned a lot about record keeping and raising chickens that will contribute positively and significantly to the sustainability and profitability of our farm.

Research

Participation Summary

Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Agriculture or SARE.



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