

***SARE Final Report***

**SECTION 1**

**Cover Letter**

What follows is the requested final report, submitted by Henning Sehmsdorf, Project Coordinator, and Carol Miles, Technical Advisor.

Please remit final payment of \$3,720.50.

**SECTION 2**

**Type of Report:** Final

**Project No.:** FW04-006

**Purchasing Agreement No.:** 03-5135003

**Project Title:** Agricultural Science Class: Principles of Ecological Food Production”

**Location:** Lopez Island, WA 98261

**Funding Period:** 4/1/2004-10/31/2005

**Total Grant Award:** \$7,441

**Project Coordinator (Producer):**

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**Cooperators/Participants:**

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Dana Cotton, School Chef  
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Katy Prime, Intern  
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**SECTION 3****Project Summary:**

During the academic year 2004-5, the class in ecological food production was offered as an elective during fall and winter semesters (see class descriptions, Fall 2004 and Winter 2005), and continues to be offered as a regular part of the school curriculum.

In Fall 2004 class enrollment was five students, one of whom took the class for science credit. One student collaborated with Dr. Carol Miles in multi-year bean trials, the results of which formed the basis of her senior project required for graduation.

In Winter 2005 enrollment increased to eight students (there were more students who wanted to take the class, but space and transportation limits precluded a larger enrollment). Students gathered every other week at the on-farm processing kitchen to prepare and preserve farm-grown foods, and learn about human nutrition, under the guidance of Dr. Elizabeth Simpson and farm intern, Katy Prime (who is now pursuing an M.S. degree in nutrition and community food systems at WSU).

The present enrollment is seven students, two of whom are conducting senior projects on sustainable lifestyles and the farm-to-cafeteria component of the project.

**Objectives:**

- 1) teach students at Lopez Public Schools how to produce nutritious vegetables year round using low-cost production techniques that are environmentally friendly;
- 2) develop school menus with the local school chef to utilize island-produced food year-round, to teach students how to prepare such foods, and to generally improve the nutritional quality of the school lunch program; and
- 3) give high school students an opportunity to learn in hands-on fashion agricultural science for credit.

**Results:**

The class in “Ecological Food Production” met twice each week for two hours each time, from September through June. On the first day of each week students came to the farm to learn about animal husbandry, water recycling (including solar-driven water collection and irrigation systems), compost building, seed and plant propagation, soil structure and biology, crop maintenance and data collection, human nutrition, harvesting and preparing foods. They were given short readings to clarify the work and observations done that day.

On the second day, students met with Lopez High School teacher, Dr. Elizabeth Simpson, to discuss their readings, watch and take notes on relevant videos, read and analyze model essays, discuss their chosen topics, and write reports.

Each week students also harvested seasonal foods, such as potatoes, greens, and dried beans, and deliver them to the school cafeteria. The students organized themselves into teams to clean and prepare the farm-grown foods to be served in the school cafeteria for lunch.

Other project outcomes included students participating in building a 6-foot electric fence to protect summer vegetables from deer and rabbit predation.

Students also built a 12’x45’ hoop house to grow succulent greens during the winter. The design of the hoop house improved on the structure used the previous winter that had not been able to withstand seasonal winds.

**Class Evaluation.** Students were asked to fill out evaluations at the beginning and the end of the course. They were asked about what they hoped to learn, how they perceived farming in general, how they perceived nutrition and food choices, and how they intended to employ what they had learned. Their initial responses indicated different levels of knowledge. Their final responses showed that they had learned a great deal during the semester through reading, films, discussions, and hands-on experience about the differences between conventional and organic farming, about animal husbandry, about nutrition and health, and about sustainable farming practices. Some excerpts from their responses:

“From this class I have learned all sorts of specifics about farming, like preparing a bed, composting, animal care.”

“‘Eating is an agricultural act’ (Wendell Berry). I think that the farming practices of most large commercial and dairy farms are disgusting. The way in which plants and animals are treated with chemicals is not only bad for the land, and plants and animals, but also for the people who consume them. Because many people are unaware of what they are eating, they are also unaware that they are supporting monster corporations. If only people would start reading labels (and not just the fat or calorie content). I don’t think that it’s possible for land to be worked this way (agribusiness) for much longer. I think we would be better off, now and in the long term, if there were more farms on less land, and they were farmed without chemicals or artificial fertilizers.”

“After learning more about food content and the preparation of non-organic food, I find myself disgusted with the food choices I have made in the past. I can no longer pick something off the supermarket shelf and carelessly eat whatever it contains. I no longer eat factory farmed meats, and find it hard to enjoy a prepackaged salad from Western Family.”

“Farming is an art. Not any person can master the process of farming. It takes time and knowledge to be able to produce quality food.”

“Most people’s goal in life is to live long and prosper. Well, to live long, part of it is to eat the right foods. Everything I learned was a shock to me and I would like to shock everyone else. I will tell everybody I can what I learned.”

“I look at the world today and see all the problems the people and planet are suffering, and it is amazing how many of them are traced back to our health, the way we live our lives, the way we grow food, and our dependence on nonrenewable resources. Only a fraction of the farming done in the US is done in a sustainable way and that the majority is done in an unconventional, subsidized way that is resulting in the depletion of natural resources, and soil, the ingestion of chemicals, pollution and waste, the bankruptcy of small farmers...I intend to live in a way that is sustainable and healthy. I want to eventually have my own farm or at least be able to grow my own food. I want to help educate people of the world on how they can live sustainably and healthily, so that we can save our health and not cause any more damage to this planet we live on.”

**Benefits and Impacts:**

The students’ increased understanding of nutritionally whole foods and of ecologically sound production methods resulted in several student senior projects, and in two cases led to choosing college programs related to ecology and sustainability

The class has had a ripple effect on other students, parents, the school administration, faculty and kitchen staff. For example, at least three or four families of students have established home gardens for ecological food production to supply their domestic needs. Other students have influenced family food choices through discussion of food nutrient content and impact of processing on food quality. The menus served at school lunch have been revised to feature predominantly locally grown greens and other vegetables. The school administration is developing plans for ecological school programs to get students involved with helping and learning about the environment (see “The Islands’ Weekly,” vol. 23, no. 41, October 11, 2005).

**Adoption:**

The “Ecological Food Production” class is continued at Lopez Island High School without further grant funding. Plans are under discussion to expand the program into the middle and elementary grades.

Washington Congressman Rick Larsen, who sponsored H.R.2626, the congressional bill designed to support farm-to-cafeteria programs nationwide, came to see the farm as a model for the type of programs he envisions (see “Bringing local produce into the school,” *The Islands’ Sounder*, September 22, 2004), as did legislative aides for Washington State’s two senators, Patty Murray and Maria Cantwell (“Aides to Cantwell and Murray Visit Lopez,” *The Islands’ Weekly*, vol . 22, no. 17, April 27, 2004).

In addition to the farm hosting the class in “Ecological Food Production,” three other farms have joined in making contributions of vegetables, fruit and meat to enhance the school lunch program. Parallel farm-to-school and farm-to-cafeteria programs are being developed on neighboring Islands (see “The Islands’ Sounder,” October 5, 2005).

The English 10 curriculum taught at Lopez Island High School has adopted materials from the agriculture class on the contrasts between agribusiness and local food production and the ecological, economic, social and political impacts of the globalization of foods. The response of students, parents and administrators has been very enthusiastic.

#### **Reactions:**

Parents, teachers and farm customers have expressed their appreciation and support for this class and its impacts on the community as a whole. This opinion was expressed in the editorial section of the local newspaper, “The Islands’ Sounder,” September 22, 2004 (see attached).

At the occasion of the presentation of the poster describing this project at the Tilth conference (November, 2004), several mainland teachers requested farm visits to learn more about the program. School districts and farmers on neighboring islands are in the process of developing similar programs. Staff at WSU extension in Seattle have responded favorably to the project.

#### **Recommendations:**

I would recommend to other school districts and farmers who are considering starting a school agricultural curriculum project to inform themselves of similar efforts around the country, for instance Alice Waters’ Edible Schoolyard Project described in “Organic Gardening,” October/November 2005. I concur with the recommendations made in the article to form a farm-to-school committee, presenting the committee’s proposal to the local school board, engaging other parents, teachers and officials in the community, and calling for volunteers through service programs such as Americorps.

In my experience, schools typically do not have the budget to pay full value for the food they purchase from local farmers. Given that, how do farmers survive being part of this program? Are parents willing to pay more for high-quality school lunches, or can monies be raised in the community to support farm-to-cafeteria projects?

**Outreach:**

In Spring 2004, student Tasha Wilson published her report, “Ecological Food Production. Farm-to-School Project on Lopez Island, WA” on the website of Navigating Our Future ([www.navigatingourfuture.org/LopezHSPProjects.htm](http://www.navigatingourfuture.org/LopezHSPProjects.htm)), a county-wide non-profit organization dedicated to sustainable development, and in the Washington State University Extension newsletter, Sustaining the Pacific Northwest.

During Fall semester 2004, a 3’ x 4’ poster, “Farm-to-School-Project” was created by Carol Miles and Henning Sehmsdorf (<http://csanr.wsu.edu/DemoFarms/FarmSchoolPoster.pdf>) and presented at the WSU/OSU Research Symposium held in connection Tilth Producers’ 30<sup>th</sup> Anniversary Conference in Portland, Oregon, on November 12<sup>th</sup>, 2004. Ca. 40 producers, teachers and school personnel visited the poster and discussed the project. A summary of the project description was published in the Symposium Proceedings (<http://csanr.wsu.edu/DemoFarms/FarmSchoolPoster.pdf>).

In October, 2004 the poster, “Farm-to-School Project” was displayed at the Lopez Public School Open House, during which parents viewed and discussed the work of students with teachers and administrators.

In December, 2004 the poster was introduced by Holly Freishtat, Project Manager, at the monthly Farm to School meeting at King County Extension.

The poster was displayed again at the King County Small Farm Expo in March, 2005, where Henning Sehmsdorf was an invited speaker, and in April, 2005 at the Whidbey Island Conservation District.

At the end of Fall semester 2004-5, five students submitted their report, “Lopez School Ecological Food Production Class” (see attached) for publication to two local newspapers, The Islands’ Sounder and San Juan Island Journal. The report was submitted to WSU Extension newsletter, Sustaining the Pacific Northwest.

In June, 2005, one student presented her senior project, “Seeds of Life,” in a public forum to the community of Lopez Island (<http://csanr.wsu.edu/DemoFarms/seedslife.pdf>)

On May 14<sup>th</sup>, 2005, the students of the agriculture class, “Principles of Ecological Food Production,” participated in an all-day farm workshop, “Real Food on the Farm,” at which the foods grown and processed during the class was featured. The workshop was open to the public and drew participants from San Juan County and the near mainland, <http://csanr.wsu.edu/DemoFarms/RealFood.htm>.

The members of the class also were invited to present their project at the planned “Youth Summit” organized by Navigating Our Future for June, 2005.

## **Attachments**

### **1. Class descriptions, Fall 2004 and Spring 2005**

### **2. Poster presented at Tilth Symposium**

### **3. Articles:**

- “Sustainable, organic farming’s many benefits,” *The Islands’ Sounder*, March 3, 2004.
- “Congressional Aide Visits Lopez Farm,” *The Islands’ Weekly*, vol. 22, no. 11, March 16, 2004.
- “Bill to bring local food into school cafeterias,” *The Islands’ Sounder*, March 17, 2004.
- “Aides to Senators Cantwell and Murray Visit Lopez,” *The Islands’ Weekly*, vol. 22, no. 17, April 27, 2004.
- “Bringing local produce into the school,” *The Islands’ Sounder*, September 22, 2004.
- “Kudos to Sehmsdorf for bringing healthful food into the school,” *The Islands’ Sounder*, September 22, 2004
- “Keeping it a demonstration farm forever,” *The Islands’ Sounder*, February 16, 2005.
- “Meet the new Lopez School Superintendent,” *The Islands’ Weekly*, vol. 23, no. 41, October 11, 2005.

## SECTION 5

### Technical Advisor Statement

The project “Ecological Food Production” class has been completed. The class was offered pass/fail or for credit at the Lopez Island High School in the 2004-05 school year. Five students enrolled in the class in Fall 2004 semester and 8 students enrolled in the Winter 2005 semester.

Classes met two days a week for 2 hours each day. On the first class day of each week, students met at the farm and participated in farm activities. Students then took home published literature (such as book chapters, popular press articles, and journal articles) that discussed that day’s activities. On the second class day, students met in the class room at school and discussed the agricultural, social and political aspects of the material they read and their agricultural class activities. Students were positively impacted by this experience.

As an outcome of this project, we have developed a high school agricultural class curriculum that could be used anywhere in the country. The curriculum targets plant science concepts that will be addressed in the first year of agricultural science college classes. Thus, we have well prepared students to pursue a college education in an agricultural field.

It has been my pleasure and honor to collaborate with Henning Sehmsdorf and Elizabeth Simpson to develop and carry out this project.

Sincerely,

Carol Miles, Ph.D.  
WSU Agricultural Systems Specialist