

PROGRESS REPORT 2011
North Central Region
Sustainable Agriculture Research and Education (SARE) Program

Project Title: Evaluating 2nd Generation Hybrid Hazelnuts Through On-Farm Production Trials

Project Number: FNC10-823

Producer/Project Leader: Chequamegon Foods Farm, LLC – Harold Vanselow, Interim General Manager

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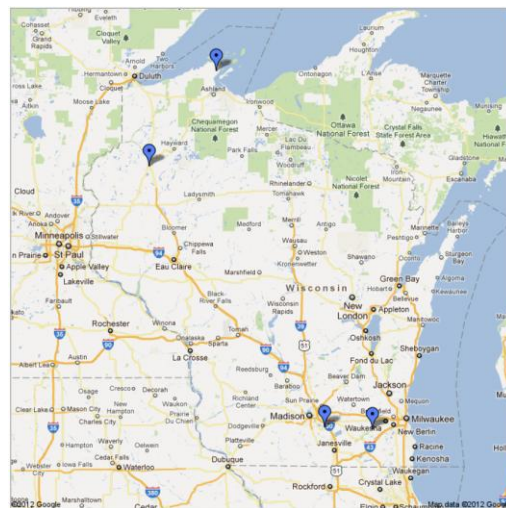
1. Describe in detail your work activities and how you used your grant funds this year. (Use another sheet if necessary.)

The primary purpose of the project in 2011 was to establish the production trials at four locations in Wisconsin. In cooperation with Jason Fischbach of Bayfield County UW-Extension we were able to plant 400 plants at each of four locations:

Chequamegon Foods Farm
Harold Vanselow
87380 Betzold Rd.
Bayfield, WI 54814

Spooner Agricultural Research Station
Phil Holman, Superintendent
W6646 Hwy 70
Spooner, WI 54801

Emancipation Acres
Joel Helge
1956 Skaalen Rd.
Stoughton, WI 53589



Hazel Valley Farm
Jeannie Herold
S70W34138 Township Road X
Eagle, Wi 53119

At each site, the plants were arranged in 9 rows to accommodate trellising and harvesting trials that will be implemented starting in 2014. At each site, 350 plants were full sibling seedlings sourced from the breeding program of Forest Agriculture Enterprises. These seedlings are from seeds collected from a crossing block in Iowa consisting of clones of the top two plants from the Forest Agriculture Enterprises breeding program. For comparison, seedlings of American hazelnut were established at every fourth plant within each row. After planting, a grow tube was installed to provide protection from rodents, wind, and deer browse. All input costs, including labor hours, were recorded by each cooperator and will be used to develop enterprise budgets. Drip irrigation was installed at the Bayfield, Eagle, and Stoughton sites. Overhead irrigation was used at the Spooner site. Weed control varied by location with a combination of mulch and herbicides used at all locations.

2. List the results of your project and what you have learned so far.

After the first year, we have learned that establishing hazelnuts is similar to other perennial woody crops requiring careful site preparation to reduce weed competition. Input cost data has been recorded, but not yet summarized in a Research Bulletin. As with other tubelings, the full-sibling plants used in this trial require protection and the tree tubes can be very helpful. The majority of the new information generated by this trial will be available starting in 2012 as we record plant growth and survival. We are excited to have established these plantings as they will yield valuable data as to the performance of the select Forest Agriculture Enterprise genetics. Equally important, the plantings will play a valuable demonstration role, allowing UW-Extension to provide outreach education throughout Wisconsin.

3. Describe your work plan for next year.

Year-end survival and growth data will be collected in the spring of 2012 just after the plants emerge from dormancy. At this time, height will be recorded for each plant. The rest of the year will be spent on weed control and watering. A combination of mulch and herbicides will be used in 2012 to control weeds. Drip irrigation will be used, as necessary, to maintain adequate soil moisture. Supplemental nitrogen will be applied at a rate of 50 lbs/ac just after budbreak. Survival and year-end growth will be recorded in October of 2012 along with 2012 input data. A Research Bulletin reporting on the growth and input costs will be developed in the late-fall of 2012.

4. How did you share information from your project with others? (Include the number of people who attended field days or demonstrations.) What plans do you have for sharing information next year?

An article about the trials was included in the Hazelnut News newsletter that is available for download at www.midwesthazelnuts.org (see attached). The newsletter was emailed to the Upper Midwest Hazelnut Development Initiative listserve with more than 200 recipients. The newsletter was also distributed at the Wisconsin Hazelnut Field Day (45 people) and the Minnesota Hazelnut Field Day (60 people). Information about the trials will be presented at the 3rd Annual Midwest Hazelnut Growers Conference in March 2012.

The Wisconsin Hazelnut Field Day will be held in Eagle, WI in 2012 and will feature the production trial. The topic of the field day will be hazelnut establishment. In addition, Research Bulletins reporting on the plantings will be prepared and distributed.

Send completed report by e-mail (e-mail is preferred) or mail to:

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If you have questions or need to make major changes to your budget, please call or e-mail Joan Benjamin at: 573-681-5545 or benjaminj@lincolnu.edu.

Hazelnut Production Trials Are Underway

- Jason Fischbach, UW-Extension Agriculture Agent, Ashland and Bayfield County

The Chequamegon Food Cooperative in Ashland, WI, in partnership with Bayfield County UW-Extension and Forest Agriculture Enterprises received funding from the SARE Farmer-Rancher Grant Program in 2011 to establish four hazelnut production trials in Wisconsin. The goals of the trials are to develop enterprise budgets using real-world data, evaluate advanced selections of hazelnuts from the Forest Agricultural Enterprises breeding program, evaluate renewal pruning as a tool to manage yield, and to provide a demonstration to interested growers.

The trials were established this spring at the Chequamegon Food Farm in Bayfield, Emancipation Acres in Stoughton, Hazel Valley Farm in Eagle, and the Spooner Agricultural Research Station in Spooner. Each planting consists of 400 full-sibling plants provided by Forest Agriculture Enterprises. The plants are 6 feet apart and the rows are 15 feet apart. At each site, mechanical tillage was used to create a weed free planting bed. The potted seedlings were transplanted in late-June and mulched. A Vine-Grow tree tube was installed over each plant and drip irrigation is being used to provide water.

At this point, we have not developed best management practices for establishing hazelnuts. Observations tell us that hazelnuts are relatively slow to establish and may invest considerable resources into root development rather than shoot growth in the first few years. As a result, competition from weeds can be extreme in the first couple of years. Thus, we chose to use clean tillage, mulch, and drip irrigation to most efficiently control weeds and provide water.

We decided to use tree tubes to protect the seedlings from herbivory and wind. More importantly, by putting a tube over each hazelnut plant we have the option to use glyphosate (Round-Up) to control both broadleaf and grass weeds. The use of the tubes is a bit of a risk since we do not know how the tube will affect the growth of the hazelnut plant. However, tree tubes are used with other deciduous species with great success.

Starting in 2013, three pruning/training treatments will be applied: 1) the plants will be pruned and trained to a flat fan system on a wire trellis; 2) the plants will be renewal pruned to a 3-5-7 system (3 three-year old stems, 5 two-year old stems, and 7 one-year old stems); 3) the plants will be allowed to grow in their natural form.

As the plants mature, we will be collecting growth and yield data along with costs of production and other economic data. The results of the trial will be posted on the Upper Midwest Hazelnut Development Initiative website: www.midwesthazelnuts.org.



Spooner Trial Planting. The plants are arranged in three rows with 6 foot plant spacing. American hazelnuts are planted every fourth plant.



Hazel Valley Farm Trial Planting. The plants are arranged in nine rows with 15 foot row spacing and 6 foot plant spacing.

Transplanted in mid-June, the hybrid plants are busy growing roots and have pushed 3-4 new leaves since transplanting—shown here on August 8. New seedlings, such as these, perform much better when weeds are controlled and moisture is provided.

