



## Farm Fresh Fuel, Grand Isle County, VT 2012: Project Pilot Year

Hannah Harwood, Crops and Soils Technician  
Dr. Heather Darby, UVM Extension Agronomist

In 2012, with funding assistance from the Vermont Sustainable Jobs Fund (VSJF), UVM Extension instituted a pilot program in order to increase the acreage and visibility of oilseed production in a small corner of the state. The project focused on Grand Isle County, where there were existing farms with sunflower production experience and cropping equipment, a biodiesel processing facility, and the technical assistance to provide guidance throughout the season.

Ten growers participated and over 69 acres of land were planted with oilseed sunflowers. Fields were distributed throughout the county, with at least one grower in each town (Figure 1). Growers received seed and technical assistance and were responsible for all of the crop production, record-keeping, and all other costs associated with growing and harvesting the sunflowers. Some of the 2012 participants were experienced dairy farmers and crop growers; some were homesteaders who had the means to borrow or hire equipment and arrange the logistics of planting and maintaining the crop.

One of the most notable aspects of the project's first year was the amount of tourist attention the sunflower fields attracted. This was both exciting and, at times, irritating. Many growers reported having cars, trucks, and buses pulling over to photograph or walk around in their fields. Several farms were frustrated with the number of people that stopped and helped themselves to handfuls of beautiful sunflowers. In addition to the increased tourist traffic in Grand Isle, the project also raised awareness about the ongoing endeavor to grow oilseed crops in Vermont.

Farm Fresh Fuel signs were posted in fields providing information on "producing our own fuel, food, and animal feed" and directing passersby to find out more about the venture (Figure 2). The project prompted numerous phone calls, emails, and informal conversations from people interested in participating in the coming years.

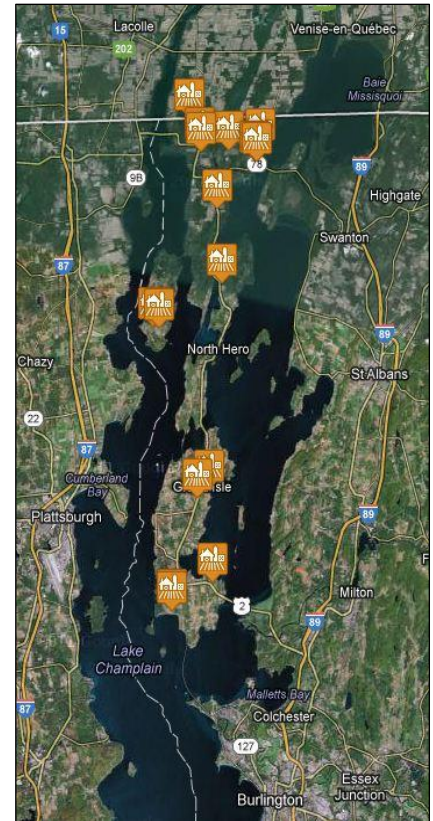


Figure 1. Farm Fresh Fuel sunflower fields, Grand Isle County, VT, 2012.



Figure 2. Signs inform curious passersby.

Results in this pilot year were varied. Due in part to the experimental nature of the project, there were some early obstacles and learning curves to overcome. It was difficult to properly time the termination of a previous crop and the establishment of sunflowers, since many farmers and custom operators were busy getting their first cut of hay in and their corn planted at the same time. Operators' planters and sprayers had to be cleaned and calibrated specifically for sunflowers, and the minimal acreage of the Farm Fresh Fuel project made logistics difficult. Fields that were sprayed, adequately fertilized, and planted properly and at the right time yielded much better than others. In addition, fields with wet soil conditions and poor drainage saw yield drags. There were also issues with pest management; deer and birds wreaked havoc in a handful of fields.

Roger Rainville, owner of Borderview Research Farm in Alburgh, was an integral component in the project. He has years of experience growing oilseeds himself and hosts research projects for the UVM Extension NW Crops & Soils Program. Rainville was one of the earliest recipients of a VSJF Vermont Biofuel Initiative grant, and has since built a state-of-the-art pressing and refining facility at the farm. Borderview owns seed cleaners, storage containers, three types of oilseed presses, a biodiesel processor which can process 50 gallons of biodiesel daily, and a pelletizer. In addition, Rainville, his daughter Natasha, and their field equipment were dispatched around the county when it came time to harvest the sunflowers in October and November. Sunflowers were harvested with a combine, then transported in seed wagons to Borderview for cleaning, drying, and storage (Figure 3).



Figure 3. Roger Rainville and Heather Darby at harvest.

At a December 8<sup>th</sup> meeting in Alburgh, Rainville and his daughter Natasha, who have been working together to process the harvested seed, reported that 10,400 lb of meal had already been produced from over 20 tons of seed. However, the project yielded 56,721 lb of seed, so the presses and their operators will be working non-stop for weeks to finish (Table 1). Oil extraction rates were excellent this year (35-40%), due to good weather and favorable conditions. Oil will be refined into biodiesel beginning in late December of 2012.



Figure 4. David and Julia Lane receive the results of their seed and oil yields from Darby at a December 2012 meeting.

*Photo courtesy of VSJF.*

The early December meeting brought sunflower growers together to discuss the results of the project, swap stories and insights, and go over the project's next steps. Due to the wide variance in acreage and crop and soil management, seed yields varied widely, with anywhere from 25 lb to 26,000 lb of seed for a given grower. All of the participating farmers will bring home their meal and oil, in the form of biodiesel.

Overall, the Farm Fresh Fuel Project's first year was a success. Most growers said they wanted to try again next year, and maybe attempt winter canola as well; plans are underway for Year 2 of the project. In addition, Farm Fresh Fuel inspired other farming communities to look into oilseed production for their own fuel security.

**Table 1. Results of 2012 Farm Fresh Fuel Project, Grand Isle County, Vermont.**

Harvested acres	Average population plants/ac	Head width in	Bird damage %	Average farm yield lbs/ac	Total project yield lbs	Potential oil (32%) gallons	Potential oil (40%) gallons	Meal tons
58	26,634	6.0	12.1	1413	56,721	2,420	3,025	17.0

*UVM Extension helps individuals and communities put research-based knowledge to work.*

Any reference to commercial products, trade names, or brand names is for information only, and no endorsement or approval is intended. Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the United States Department of Agriculture. University of Vermont Extension, Burlington, Vermont. University of Vermont Extension, and U.S. Department of Agriculture, cooperating, offer education and employment to everyone without regard to race, color, national origin, gender, religion, age, disability, political beliefs, sexual orientation, and marital or familial status.



Vermont Sustainable Jobs Fund

Find out more! <http://www.uvm.edu/extension/cropsoil/farm-fresh-fuel-project>