



Roger Raineville Borderview Farm

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From Milk to Milkweed



Driving down the dirt road to Roger Raineville’s Borderview Farm in Alburgh, the farm name is easily understood. On one side of the road is Borderview Farm, and on the other side of the road boundary markers remind that the flat fields and woods beyond are Canada. Roger’s family has been dairy farming for a few hundred years, recently in Canada, and in France long before that. He started dairying with his father in the 1960’s on North Hero, and in 1983 Roger bought the farm in Alburgh. Twenty-five years later he sold the cows to take a break from the non-stop life of caring for them. Roger says that as a dairy farmer he was “married to his cows,” and needed time to slow down the pace of work. It was also thanks to his hard work dairying that he was able to pay off the farm, which allowed him to finally take a bit of break. At that time, he decided to focus on growing crops, and started raising ostriches for meat and replacement heifers for sale. His neighbor and friend

Dr. Heather Darby became an agronomist working at UVM and the two partnered together to conduct research trials at Borderview Farm. This partnership has continued for many years and has included numerous studies of traditional Vermont-grown crops as well as varieties of many specialty crops such as canola and hops. Reflecting on how agricultural research benefits farmers’ operations, Roger says, “It’s worth a lot!” He knows that many producers rely on information generated by these research trials to help them make decisions on their own farms.

After years of their collaborative research, one day Heather pondered out loud, “Hey Roger, what do you think about growing milkweed?” Given his passion for experimenting combined with his deep respect for Heather’s groundbreaking research, Roger was intrigued.

At that time some Canadians in Quebec were beginning trials of commercial milkweed production. Milkweed is a perennial native species found in meadows. It grows seed pods that are several inches long and full of white silky fibers. Milkweed is the primary food source for endangered monarch butterfly caterpillars. With the loss of meadows containing milkweed and a related decline in monarch butterfly populations, conserving and propagating milkweed meadows has become increasingly important. In addition to the ecological value of milkweed,



the silky fibers have a long history of use in textiles, though today they have fallen out of use in the industry.

In 2015 Borderview Farm started by direct seeding 75 acres with milkweed. Several years later they planted another 20 acres of milkweed fields. At the same time Roger joined the board of directors of a milkweed production cooperative, "Monarch." At that time the coop had 132 farmers growing 2,000 acres of milkweed. Borderview Farm was the only coop member outside of Canada. The farmers of Monarch were collectively experimenting to develop production techniques and specialized machinery for harvesting and processing. Working with milkweed was exciting and full of many unknowns.

There were many risks in growing a novel crop like milkweed. Harvesting the milkweed was one of the biggest challenges. The coop had plans to make and provide harvesters to its farmers. However, they discovered that it was harder to do this than anticipated. One reason for the difficulty harvesting is the very strong stalk of the milkweed plant which resists processing. Also, there is a short season of only a couple weeks to harvest before the pods open and the fibers blow away in the wind. The short harvest season also means there is only a very brief window of time to build and test harvesting equipment to learn what is effective and then redesign with improvements. Once harvested, milkweed can be hazardous to work with because the fibers become airborne and can irritate breathing, requiring a respirator to be worn.



Roger has always enjoyed tinkering and working on equipment, so he took on the challenge of designing and making a milkweed harvester. After a couple of trials, Roger rebuilt an old combine and added a vacuum system to suck up the fibers. It worked! In 2019, with the milkweed fields mature and full of pods, Roger

harvested a record amount for the farm. However, with the onset of covid, Roger was unable to cross the border and make the seven-hour drive to bring the milkweed to the coop. This meant he couldn't use the coop's special equipment to process the milkweed fiber into pre-textile mats for use in insulation and other products. While Roger overcame the challenge of harvesting through his own inventiveness, he couldn't have anticipated the risk of the border closing and being cut off from the coop's fiber processing and marketing assistance.





While Roger had troubles stemming from the closed border, the coop began experiencing its own organizational issues. Although developing the machinery was difficult enough, creating a new market for milkweed fiber products was even more problematic. The textile company the coop was working with filed bankruptcy and reorganized. The coop also put a lot of their finances into promoting the fiber through an expedition to Mt. Everest, which got some attention but did not deliver the interest they had expected. Because of all these challenges, the coop lost a majority of its members and now membership is only about a third as many farmers as it was several years ago. Roger had a glut of fiber with no market. He gave a lot of it away to a couple of large companies and to the military for their own experimentation, hoping that this could be another way to grow a market for milkweed. These groups have not yet shown significant interest in collaborative development of milkweed products and markets. With milkweed's superior water resistant and insulating properties, the Canadian Coast Guard is testing the fiber for cold weather apparel, and other products are being developed in Canada.



Though Borderview Farm has not yet been able to profitably grow milkweed for fiber, Roger has been able to get revenue from milkweed by selling the seed for conservation purposes for others to plant and create milkweed meadows. Additionally, the farm has been part of the USDA Farm Service Agency CP-42 Pollinator Program, which pays farmers to establish native pollinator species like milkweed because of the benefits to monarchs and other pollinators, while also being a good cover crop and reducing farm runoff into waterways.

Roger managed the risks that are part of growing milkweed through persistence and ingenuity. Borderview Farm hasn't been revenue positive from their near decade-long investment in learning to grow and harvest milkweed. Roger understands that developing a market for a unique product like milkweed is something bigger than the work of a single farmer and takes time. He still believes that milkweed could be a win-win for farmers through its ecological and potential economic benefits. Borderview Farm is continuing to experiment with milkweed and other crops and Roger believes interest in milkweed fiber will continue growing. Yet even with all his passion for experiments with milkweed and other crops, Roger says that he'll always "be a dairy farmer at heart."



Photos courtesy of Roger Raineville and Josiah Taylor

June 2022

 **National Institute of Food and Agriculture**
U.S. DEPARTMENT OF AGRICULTURE



This material is based upon work supported by USDA/NIFA under Award Number 2018-70027-28584 and Award Number 2018-70027-28588. USDA and the University of Vermont are equal opportunity providers and employers.