



PROFILES IN soil health

David Conant
Richmond, Vermont
900 acres
Crops: corn, alfalfa grasses, sweet corn, pumpkins
Planting: no-till, minimum tillage
Covers: winter rye, winter rye mix with tillage radishes



Champlain Valley Farmer Focuses on Soil and Water Quality.

Vermont farmer, David Conant, is a leader in the farm community for his ability to strike the balance of healthy land, valuable crops and productive dairy cows. The Conant Riverside Farm is aptly named for its picturesque location in a valley along the Winooski River. While farming in the floodplain can be challenging, Conant retains a state of appreciation and responsibility for his land. The river provides vital nutrients to his fertile soil, which is a key ingredient in the farm's recipe for success.

In partnership with his son, Ransom, the Conant farm is now under its sixth generation of family management and employs six full-time workers. They milk 400 dairy cows daily on the 900 acre property, of which about 500 acres are cropland. The Conants also



Cover crop seeds are applied by helicopter on Conant's fields in 2013. The aerial cover crop program is facilitated by the University of Vermont Extension and NRCS.

rent adjoining land and parcels up to five miles away, resulting in a total of 750 acres of cropland. Constraints to further growth of the farm include suburban development pressure and limitation of the location that is tucked in the river valley and surrounded by steep hills. The dairy business is diversified with a sweet corn and pumpkin operation that is managed by David's wife, Deb.



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Spotlight on Water Quality Partnership

Water quality issues have always been important for progressive farmers like the Conants, but over the last few years they have taken even more proactive steps to enhance their level of stewardship. For many years they have used conservation practices such as no-till and cover crops. These cropland management practices are designed to keep nutrients on the land and out of the river, while also minimizing erosion and improving soil quality. Storage and utilization of waste also has been a part of a long-term planning process including sizable infrastructure improvements.

David Conant has been sharing his successes and challenges with local farmers for decades. In 1985, he and a group of farmers started the Champlain Valley Crop Management Association with the assistance of Jeff Carter from UVM Extension in Middlebury. The Association worked together until 2003 when the group of 20 decided to acquire the services of Agricultural Consulting Services and hire a local Technical Service Provider (TSP). Conant says this arrangement has worked very well, but there remained a need for farmers to work together and share their ideas and resources. In 2012, Conant and a group of other producers formed the Champlain Valley Farmer Coalition Inc., again in partnership with the local UVM Extension office.

The Champlain Valley Farmer Coalition (the Coalition) was formed in part by assistance through a NRCS Conservation Innovation Grant, secured by UVM Extension Agronomy Specialist, Jeff Carter. According to Carter, "It is a great pleasure to work with progressive and forward thinking farmers like the Conants when it comes to adopting new and improved farming practices to protect our soil and water resources." The Coalition's mission is to promote on-farm agricultural practices that improve water quality in Lake Champlain. Conant says the group helps farmers influence others to get on board with adopting practices to control soil erosion and



A new concrete waste storage facility on the Conant farm is collecting all manure, milkhouse waste and rainwater to be later applied as nutrients on their fields.

improve manure utilization. "Farmers know we have a big role to play in the lake cleanup," said Conant. "We are learning where we need to be and how to get there." The group is now working on field trials in the basin with different cover crop mixes. "The goal is to be green and covered all year long."

New Practices for a Sustainable Future

Many farmers in the Champlain Valley have already adopted new management practices with the goal of better water quality and improved soil health. Some agronomic practices require significant planning, time and equipment investment, but minimal financial resources from the producer due to generous payment rates from NRCS. For the last two years NRCS, UVM Extension and other partners promoted application of cover crops by helicopter. Aerial application allows for growth earlier in the season for a more effective cover throughout the year. Conant and many farmers in the Valley participated in this program with great success. In 2013, the aerial seeding program resulted in almost 6,000 acres of cover between Vermont and New York.

While field-based conservation practices are vital to soil health and improved water quality, NRCS also provides technical and financial assistance for large construction projects such as waste storage facilities and barnyard improvements. Part of Conant's plan

profiles in soil health

David Conant, Vermont

for waste utilization through manure injection was the need for an improved waste storage facility. The earthen lagoon installed on the farm over 20 years ago was intended for winter storage only. The size limitation required the Conants to spread manure in the spring and fall, when flood and heavy rain events are more likely to happen. The high water table on the land also caused concern for Conant who was losing confidence in the clay-lined base of the pit.

In 2013, the Conants installed a new, concrete waste storage facility with NRCS assistance through the Environmental Quality Incentives Program (EQIP). The new tank has nine months of storage capacity, which equates to 3.5 million gallons. The base of the pit is eight feet higher than the old one, alleviating worries of the high water table. Conant said the process of working with NRCS on this large project was nearly flawless, and he was impressed by the coordination and attention of NRCS engineers and soil conservationists. "We have a tremendous responsibility for what has been done for us. We are very appreciative for all the help and financial assistance." Tate Jeffrey of NRCS was the lead engineer and Christine Gingras of the Vermont Agency of Agriculture provided on-site construction inspection.

Planning for Success

At the foundation of all NRCS work is a planning process that takes place between a landowner and their soil conservationist. The process is dynamic and focuses on the landowner's goals for conservation of their property. Danny Peet is the lead soil conservationist for the Conant farm. "It took several years of exploring alternatives to get to the 2013 EQIP plan and contract," says Peet. "One of the most important reasons David says the project was nearly flawless is because of the active role he took in the process. This is critical to our planning and working with any farmer that comes through our door." A high level of trust is evident while observing the two men discuss the future of conservation on the farm.

We are learning where we need to be and how to get there. The goal is to be green and covered all year long.

- David Conant, landowner

The Conants pump waste into the new storage pit from a remote heifer barn for nine months out of the year. The large pit now captures all manure, milk house waste and rain water, which Conant estimates is a little over five million gallons a year. This is a tremendous asset for the farm because by utilizing the waste (nutrients) there is a reduced need to purchase and transport nutrients to the farm to nourish cropland. "It was a great feeling to finally be able to do this," Conant said of pumping from the remote pit and storing all waste in one area.

Plans for 2014 on the farm include hundreds of acres of no-till and cover crops. He is exploring the ideal cover crop mixes and seeding times for his fields. Conant spoke of the "need to change the mindset" referring to using innovative practices, such as cover crops and no-till seeding, that focus on soil health and long-term sustainability. Conservation Crop Rotation and Forage and Biomass Planting are some agronomic practices Conant is considering with his soil conservationist. He plans to share his results with others through the Coalition. Larger projects on the horizon include a new mortality composting facility and expanded waste utilization infrastructure. After spending some time on the Conant farm, one can feel the potential of what can be accomplished for soil and water quality in the Champlain Valley.

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