

Senesac Family

Cottonwood Stables, LLC

By Kristin Williams, UVM Extension

Jeff and Lisa Senesac and their daughter Emily run Cottonwood Stables in Colchester, Vermont, on over 200 acres bordering the Winooski River. The farm has been in the family since the 1920's and was previously a dairy farm operation. Jeff's grandfather traded land in Morrisville to move to Colchester and Jeff managed the dairy herd for 15 years before the farm transitioned to crop production and a full-service equine boarding facility in 2003. Jeff has been successful by being flexible, trying new things, working with and learning from nearby farmers, and being honest with himself about costs of production.

Jeff had a long affinity for horses and showed in 4-H. The farm affiliation to horses started generations ago with workhorses, and Jeff realized they needed to make a change years ago because the costs of dairy production were not being covered by their revenue. Their daughter Emily had a pony growing up and became integrated into the equine boarding business. Their horse facility included building an indoor arena, 32 stalls, a washroom, tack room and grain room. The family works together in managing the facility and keeping clients and their horses content and happy. Located near a population center and two colleges means it is a convenient location for horse owners, including college students looking to have their horses nearby.

In addition to producing hay for the farm which they use to feed horses, Jeff grows about 100 acres of corn grain. Jeff also works in tandem with an adjacent farmer to hay additional land for the nearby Park District, as well as a nearby goat farm. The corn grain is sold to a local feed distributor and Jeff notes that there are additional feed distributors that he could sell his corn grain to. There are not many farmers in the region that grow corn grain and so he has mostly had to use his own ingenuity and research when it comes to integrating conservation practices into his grain production system.

Jeff grew soybeans previously as well, but a number of factors made it less appealing. First, his fields had a late flood for four years right before soybean harvest time. He also noticed around 2012 that the price of inputs became much more expensive, and compared to years past it was double or more than double, particularly for the price of soybean seed. His soybeans were sold to a processor in northern Vermont, who dried and stored them and then sold them to Canada, where he notes they may likely have been sold back into Vermont. All these factors combined to make it less practical to grow soybeans. Jeff has also considered and trialed growing sunflowers but had challenges with weed pressure that made it a less viable option.



Jeff began adopting cover crops and no-till about seven years ago. Technical assistance from UVM Extension and cost share programs through Natural Resource Conservation Service (NRCS) made it possible for him to try these techniques. Jeff didn't go half-way with no-till – he jumped in with both feet, on all his tillable acres. He discovered very quickly that no-till had particular challenges in a corn grain system, which his neighbors growing corn silage weren't experiencing. Corn grain production leaves substantially more residue in the field than does corn silage. While this has the much added benefit of retaining all that organic material, it can be a challenge for the no-till planter. After a conversation with a fellow farmer he considered and then sought out a flail chopper to manage the corn residue post-harvest.



Jeff retrofitted his own planter, with help from UVM Extension and his own research. Over the years he has modified it to improve the success of his system, including changing the coulters and row cleaners. He has also recently observed that his corn wasn't planting uniformly and realized he would need to adjust his depth gauge to ensure the entire planter got the seed uniformly in the ground.



Farmers and service providers gather at a No-Till Planter Tune-Up Clinic hosted by Jeff and coordinated by UVM Extension and the Champlain Valley Farmer Coalition.

Paying attention to depth, seed trench closing, and seed germination are important in no-till. In sum, Jeff's success is based on attention to detail with his planting equipment; it is a preventative way to manage risk. He also has shared what he has learned about no-till with other farmers.

Jeff also treats the no-till and cover crops as a system and has tried many different approaches to establishing cover crops. Establishing them when the corn is knee high was not that successful, one reason being weed pressure from weeds such as Bur Cucumber, which is deposited on his fields from the period flooding. Jeff has also tried broadcast inter-seeding via a helicopter and a Highboy. Corn grain production does not leave much time in the fall for post-harvest cover crop establishment, but Jeff has yet to find the ideal way of inter-seeding. Jeff has tried both winter rye and annual rye-grass cover crops, along with a 4-way mix (oat, radish, winter rye, vetch) one year when he had a prevented planting.

The biggest benefits to adopting this system has been savings in fuel and increase in soil biology, particularly a noticeable increase in earthworm activity – the residue that he sees in

the spring is 'gone' by the fall, being pulled down earthworm burrows and decomposed. The biggest challenge in maintaining adoption to this system is the cost, in that he has utilized and maxed out his cost-share from the NRCS. He has also teamed up and received state grants for other innovative practices, a GPS system and recently awarded a no-till grain drill to be shared among multiple farms for cover crop planting and re-seeding hay fields. He has also engaged with USDA in other conservation projects, utilizing the Conservation Reserve Program (CRP) through the Farm Service Agency (FSA) fund for setting aside land near the Winooski and an adjacent stream as a riparian area.

These actions are all in keeping with his awareness and concern for water quality. He is an active member of the Champlain Valley Farmer Coalition, attends events regularly and keeps himself up to date on resources and on-going innovations. Jeff has invited college students onto his farm to learn more about conservation practices that he employs.



Shovel in hand, Jeff is ready to observe the soil biological activity in his fields.

The farm location provides some unique challenges. Jeff notes that flooding, or really what he would say is a seasonal high water table, is his greatest challenge. The Winooski River often overflows its banks in the spring and sometimes in the fall, depositing alluvial materials onto the land that is adjacent to the river. While this could have the benefit of replenishing the land, it often becomes an added challenge to spring planting with risk of flooding, and the materials deposited are not always of ideal nature for planting or replanting, and it also brings in unwanted weed seeds. In addition to weather cycle changes, he attributes increased water challenges to being immediately downstream from increasing development and impervious surfaces. He has noticed an increase in fields flooding compared to years past even given similar intensity storms. He is also near Lake Champlain, so it can get backed up when the Lake is high.

Jeff does utilize crop insurance through USDA-RMA on his corn grain production, which has covered prevented planting and market price. He chooses coverage on loss based on affordability and risk. He also notes that he has to weigh the risk of replanting and not getting a crop versus the amount of coverage in a given year when there is a potential prevented planting. Last year (2019) was a wet spring and he had prevented planting on half his grain crop. One thing he noted was that corn hybrids are not generally bred for seasonal high moisture; they are generally bred for drought tolerance. In his soils his best years are the driest ones; even though his soil is sandier near the river, he has no problems with dry years.

Given all of that, what lies ahead for his business? Jeff noted that if he was to continue growing corn grain he might consider some sort of very minimal or strip-till system. However, Jeff is actually considering selling land to Vermont Fish and Wildlife and then re-leasing parts of it from them for hay production. He notes that the state of Vermont's RAPs

already require him to plant cover crops earlier than other land because of the flood risk. He says that it may be more affordable to lease hay ground and manage water risk that way. Also, recent conversations have given him considerable thought about how farmers value (or don't value) their own labor and investment in their property. Either way, his daughter will continue to be involved in the business and he will continue working with neighboring farmers. One thing is for sure, Jeff will keep innovating and adapting.



College students gather to learn about no-till, cover cropping and other practices Jeff practices on his farm, and UVM Extension shows off the USDA-NRCS rainfall simulator.



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