ENVIRONMENTAL BENCHMARKING

CASE STUDY: Buck Farms

Dave Buck and his two sons, Darren and Adam, operate their family's crop farm in Lansing, New York. Up until the mid-1980's, the farm raised registered dairy and registered beef animals. Due to the challenging agricultural livestock and dairy market conditions and the benefit of an off-farm opportunity, Bucks converted their dairy/beef operation to that of only growing hay and grain crops. This change of operation allowed for greater seasonal and production flexibility and schedules. The crops grown now include hay, wheat (used as grain, straw and cover crop), soybeans, and corn (as grain and silage). Many of these crops are sold on the market or provided directly to other farmers for their production needs. Three hundred acres are owned and operated by the Buck family with about two hundred more that is rented for crop production.

Since there are no cattle on the farm, attention is needed to supplement soil fertility with animal manure from another livestock operation. Rotating crop production fields allows for "soil rest". These resting periods help to ensure high production capacities while maintaining and improving soil nutrient levels. Monitoring these levels are critical in the crop business.

Water management is an ongoing challenge for New York farmers. The Buck farm is no exception. Realizing that future projections for increased frequency of heavy rainfall events, as well as projections for more frequent summer droughts and water deficits, will be an ongoing concern and challenge for all farmers. Farm and field specific adaptations to manage water, soil erosion and drainage are continually being refined to keep resources

Photos courtesy of PxHere

Farm Details

MUNICIPALITY:
Lansing

FARM SIZE:
872 Acres

PRODUCTS:
Hay and Grain Crops

PRACTICES:
No till
Cover crops

MOST PROUD OF:
Cover crops

PARK FOUNDATION
Cooperative Extension Tompkins County
December 2020

in place while maintaining or improving crop yields. A couple of practices that have helped reduce erosion have been to seed grasses into their field low spots keep topsoil in place during heavy rains and to plant cover crops after harvest so that winter winds will not carry soil away from the field. The cover crop practice has been successful as the Bucks noted that not seeing "brown snow in the hedge rows" is a welcome sign. Corn stalks are composted back into the soil, additionally helping to keep soil in place while also returning nutrients and fiber to the soil.

One thing is for sure, the importance of managing any farm operation, with the challenge of unpredictable weather, will be even more intense as our changing climate continues. With the advances of precision agriculture and applying only those necessary soil amendments and nutrients, farmers will continue to evolve into meeting the needs of the consuming public to produce more food with less available land. It is no doubt that Bucks will be part of Tompkins County's farming future.

This is one of eight case studies created as part of Cornell Cooperative Extension's 2020 Agricultural Benchmarking Study, funded through a grant by the Park Foundation. For more information or to read more studies visit our website at www.ccetompkins.org/SustainableAg or contact Graham Savio at gs695@cornell.edu

PARK FOUNDATION

Cooperative Extension Tompkins County

Photos courtesy of PxHere

ENVIRONMENTAL BENCHMARKING

CASE STUDY: Carey Farm

Dan Carey

The dairy industry is complicated and it takes some experimentation to see and make a difference. That's the way it is with Dan Carey's farm in Groton, NY. Making some changes to his operation and the management of his dairy herd has improved economic benefits for the farm, the workers and the environment.

Dan has transitioned a bulk of his operation to a grass fed and pastured dairy where the cows get a significant portion of their nutritional needs from grazing on pasture including eating hay in winter. At first when he turned the cows out to pasture, he noticed a decline in production based on his practice of milking twice daily . This can and is often alarming to a farmer when your income is tied to the amount of milk that you can produce. But Dan stayed the course and saw lower production costs including feed, fertilizer, labor, lessened manure spreading and fuel consumption. It has paid off in helping improve the business bottom line. He keeps track of the pastures so they are not overgrazed, rotating through about one hundred acres. The cows are moved often to keep their diets enriched with the balanced nutrition rations, that include enough protein, in order to keep their production predictable.

The size of his herd is determined and kept in check by the amount and capacity of the land available for grazing. He has been able to reduce the issues and problems that arise from manure handling as grazed animals deposit most of their waste directly on the land where it breaks down naturally and fertilizes the

Farm Details

MUNICIPALITY:
Groton

FARM SIZE:
1,710 Acres

PRODUCTS:
Dairy

PRACTICES:
Strip tillage
Minimum tillage
Cover crops

MOST PROUD OF:
Grazing

PARK FOUNDATION
Cooperative Extension Tompkins County
December 2020

soil. Healthy soils include attributes of good soil structure, high amounts of organic matter and microorganisms. These help to stimulate deep roots and lush pasture growth, increasing the water holding capacity and lessening erosion. This is helpful to lessen drought impacts on the farm and can help to reduce flooding. Herd health is a significant factor. Herd health is always on the mind of responsible dairy operators. Cows feed and produce better when cool and able to roam. While pastured, their hooves stay cleaner as well, keeping for cleaner and healthier livestock.

Future plans for the Carey farm include transitioning his son, Eric, into the management fold. Next year there are plans for building manure storage. As part of the Owasco Lake watershed, good farming practices include protecting our public waters. Farms and animal feeding operations are concerned about this as well. The construction of adequate manure containment facilities and riparian buffers are good for business, the public and the environment.

This is one of eight case studies created as part of Cornell Cooperative Extension's 2020 Agricultural Benchmarking Study, funded through a grant by the Park Foundation. For more information or to read more studies visit our website at www.ccetompkins.org/SustainableAg or contact Graham Savio at gs695@cornell.edu

PARK FOUNDATION

Cooperative Extension Tompkins County

Photos courtesy of Grace Wyly Farm

ENVIRONMENTAL BENCHMARKING

CASE STUDY: Grace Wyly Farm

Brendan Wyly, a small-scale pastured beef producer located in the Brooktondale area of Tompkins County is helping to advance regenerative agriculture by being conscious of what consumers want and what they are willing to spend their food dollars on. Knowing that consumers desire high quality meats that are produced with the sensitivity to animal care, as well as positively stewarding ecological systems and environmental health, are aspects of farming that Brendan strives to make a priority.

Starting small was and is important for Brendan to learn the ins and outs of the grass-fed beef and organic hay businesses. Growing up in Hereford, Texas, "Beef Capital of the world", he is deliberate in looking at alternative ways of producing beef. Competing with conventional beef producers has its challenges. He has realized that his alternative model for producing grass-fed beef is more labor-intensive and requires more farmland to pasture animals than compared to conventional systems. Even his selection of choosing the Belted Galloway beef breed was intentional. "Belties"are a traditional Scottish beef breed that are well adapted to poor upland pastures and can withstand the windy cold winter months that New York holds. Regular pasture rotation helps to ensure that high quality forage exists for cattle grazing, even in those droughty years. Watering his livestock, while keeping them out of the waterways through new fencing, are also very important criteria to this small farmer.

Grasses at Brendan's farm are what grazing livestock consumes as their mainstay diet. These are organic hay lands so pesticides or artificial fertilizers are not added.

Farm Details

MUNICIPALITY:
Brooktondale

FARM SIZE:
56 Acres

PRODUCTS:
Beef

PRACTICES:
Rotational grazing
Organic certification
Runoff area protection

MOST PROUD OF:
Rotational grazing

PARK FOUNDATION
Cooperative Extension Tompkins County
December 2020

ENVIRONMENTAL BENCHMARKING

CASE STUDY: Grace Wyly Farm

As pasture grasses are maintained into the future, deep root systems will continue to develop. These improved grassed pastured lands, with deep roots, will help to keep water in the soil and will reduce erosion, all while improving soil health. Natural fertilizers come as livestock manure, adding to the natural biology to the soil.

Rotational grazing and keeping his cattle from physically entering the on-farm pond are features that hold pride for this small farmer. He has seen improved weed control in the pastures as well as healthier livestock because of these specific practices. This farm is part of the Six Mile Creek Watershed, an important drinking water source for the City of Ithaca. It's headwaters begin in the Towns of Dryden and Caroline. Brendan's efforts and investments in keeping these water's clean have important ecosystem benefits that include cleaner waters that drain into the creek resulting in less sediment and reduced risk of microbial and protozoan contamination from his pasturelands. We all benefit from these cleaner waters.

Starting this operation is possible because of additional off-farm income. It can reduce the risk of maneuvering the learning curve, production routines and learning of specific market opportunities. As this operation continues to evolve, our community will see a unique, and rather handsome, livestock breed on the Ithaca-area hillsides. We can also appreciate the dedicated efforts that Brendon makes to keep those downstream waterways clean.

This is one of eight case studies created as part of Cornell Cooperative Extension's 2020 Agricultural Benchmarking Study, funded through a grant by the Park Foundation. For more information or to read more studies visit our website at www.ccetompkins.org/SustainableAg or contact Graham Savio at gs695@cornell.edu

PARK FOUNDATION

Cooperative Extension Tompkins County

Photos courtesy of farm's Facebook page

ENVIRONMENTAL BENCHMARKING

CASE STUDY: Hemlock Grove Farm

Brian Caldwell, Hemlock Grove Farm in Danby, New York grows over twenty varieties of organic apples. He also grows chestnuts and hazelnuts. His small but expanding orchard uses no herbicides and he practices strict orchard sanitation, thereby reducing the risk of pests and diseases. He currently has a 200 acre farm and is looking to plant more.

His knowledge is great. As a former Cooperative Extension Educator and a retired research support specialist in the Sustainable Cropping Systems Lab at Cornell, his interest in organic and natural production systems is living through Hemlock Grove's operation.

Brian's high quality apple produce operation uses an integrated system that takes considerable hand labor and produces slightly lower yields than a conventional orchard. With this in mind, he may have lower apple yields than conventionally grown fruit, but the fruit grown is certified organic by the Northeast Organic Farming Association of New York. Hemlock Grove Farms adheres to strict requirements for production practices in order to support good land stewardship while providing quality products to a regional food system. This contributes to a food system that is ecologically sound and economically viable.

Being a specialty crop grower with fewer acres has its challenges. Often, the type of crops and the size of operation may limit his ability to secure funding for conservation practices that would be incentivised to other larger, more conventional farms.

Farm Details

MUNICIPALITY:
Danby

FARM SIZE:
209 Acres

PRODUCTS:
Apples

PRACTICES:
Planting more tree crops

MOST PROUD OF:
Tree crops

PARK FOUNDATION

Cooperative Extension
Tompkins County

December 2020

ENVIRONMENTAL BENCHMARKING

CASE STUDY: Hemlock Grove Farm

In his orchard, Brian maintains perennial vegetative cover. Unlike many orchardists who spray and mow, Brian manages the orchard floor to encourage broadleaf weeds and wildflowers that serve as habitat and food for beneficial insects, as well as pollinator species. Maintaining the diverse environment around the trees has improved soil health and promoted robust and diverse root systems. Hand thinning, fertilization using compost and compost teas, along with environmentally benign sprays to address insects and diseases, has helped create an ecosystem that considers the protection of the apple eaters and the environment. From the start he has used these "cover crops" because of their tremendous benefits, including improved soil health, water efficiency, reduction of fertilizer use, and pest control. Production risks not traditionally considered by the public include the high populations of deer and the increasing prevalence of ticks. Adequate fencing is very expensive and a major constraint for successful production and greater yields. These same constraints negatively influence the expansion of his organic fruit operation.

Hemlock Grove Farm also boasts a mature chestnut and hazelnut orchard. These woody perennials that produce nuts yearly without the annual tillage required of grains and vegetables. These nut trees are valued to be excellent ecosystem service providers that serve to reclaim and maintain degraded landscapes and sequester carbon in topsoil and plant biomass. The nuts are a valued crop as well. All in all, Hemlock Grove Farm is an oasis of ecological diversity that proves beneficial to our community.

This is one of eight case studies created as part of Cornell Cooperative Extension's 2020 Agricultural Benchmarking Study, funded through a grant by the Park Foundation. For more information or to read more studies visit our website at www.ccetompkins.org/SustainableAg or contact Graham Savio at gs695@cornell.edu

PARK FOUNDATION

Cooperative Extension Tompkins County

Photos courtesy of farm website

ENVIRONMENTAL BENCHMARKING

CASE STUDY: Remembrance Farm

Nathaniel Thomson – Remembrance Farm

Remembrance farm is located in the Trumansburg area with land that is in both Tompkins and Schuyler Counties. It is a vibrant operation specializing in salad greens and root vegetables through various retail outlets, restaurants and through individual shares of a Community Supported Agriculture (CSA) program. Growing food at any scale, including a commercial enterprise, is a balancing act in managing a wide landscape of risks. Risks take the form of weather, production strategies and yields, pest and weed control, consumer markets, the economy, cash flow and debt to name a few. Owners Nathaniel and Emily Thompson operate and manage "risk" of this one-hundred acre, certified organic vegetable produce and organic dairy farm with a focus on biodynamics. About forty acres are owned and another sixty are rented to accommodate full production. During our conversation, Nathaniel shared that working this land starts with a philosophy and appreciation that the farm is in itself a living and breathing organism, and that the methods and practices used enhance and balance all aspects of health to the farm. The human health and spiritual aspects are also nourished through these methods. Make no mistake, Nathaniel is a trained agricultural scientist. Growing up in the Hudson valley, he gained some farm experience as a young man and refined his existing awareness of biodynamic culture. His interest was keen and with education and a few decades of persistence, now makes this farm and philosophy a continued work in progress. Using tools and services available including: soil nutrient testing, grazing management plans and soil health

Farm Details

MUNICIPALITY:
Trumansburg

FARM SIZE:
180 Acres

PRODUCTS:
Vegetable Crops
Mixed Livestock

PRACTICES:
Cover crops
Reduced tillage
Rotational grazing

MOST PROUD OF:
Intensive cover cropping

PARK FOUNDATION

Cooperative Extension Tompkins County

December 2020

assessments all help to monitor improvements made and amendments needed. Nathaniel's use of animals in organic and biodynamic production helps contribute to the living organisms and the fertility in the soil.

This farm uses a number of recognized healthful agricultural practices that contribute to a healthy ecosystem. An important practice for this farm is that of using mulches and cover crops. The planting of cover crops improves the soil, as well as the farm's financial bottom line. Species and varieties of cover crop seeds used is a yearly balancing act with considerations that include seed cost per pound, market availability and unique crop characteristics. Reducing soil compaction, soil erosion, and weeds along with improving the soil's water holding capacity and the nutrient stores go a long way towards helping improve crop yields. Rotational grazing and pasture management are key to help with nutrient cycling and building organic matter. Nathaniel did share that it is sometimes challenging economically to manage both livestock and crops. In part this is due to the essential separation of livestock from the high-value produce. Remembrance Farms applied and received money through the Conservation Stewardship Program for high-tunnel construction as well as for practices that help actively manage, maintain existing conservation practices,as well as to implement additional conservation activities.

Nathaniel imagines the future in helping others realize and take an interest in the farmer experience. Like many farmers, there is a desire to have the non-farming public understand the farming lifestyle, but the important contributions of growing food for our neighbors near and far is a challenge and a complex business.

This is one of eight case studies created as part of Cornell Cooperative Extension's 2020 Agricultural Benchmarking Study, funded through a grant by the Park Foundation. For more information or to read more studies visit our website at www.ccetompkins.org/SustainableAg or contact Graham Savio at gs695@cornell.edu

PARK FOUNDATION

Cooperative Extension Tompkins County

Photos courtesy of farm's Facebook page

ENVIRONMENTAL BENCHMARKING

CASE STUDY: Shelterbelt Farm

Erica Frenay, of Shelterbelt Farms in the town of Caroline, on the southeast hills from Ithaca, is a powerhouse of knowledge and perspective. She manages their farm, with help from her husband and children, in producing mainly grass-fed livestock and various poultry species. Rotational grazing of these animals, or "flerds" as she fondly refers to them, happens primarily among the partitioned twenty-five-acre farmstead. Some additional rented land is also used as part of the rotational grazing plan. In addition to raising livestock, they also sell eggs, ginger, honey and other value added products.

Erica and family purchased the overgrown and abandoned farm acreage in 2005. It had been idle for at least thirty years. The challenge of this property was that it was overgrown with weeds, brush and thickets, so much so that one could not easily walk the land. There were many "wet" spots and moss-laden surfaces. The pH of the soil was below 5, quite acidic for what is commonly used for crops and decent grazing. Erica places high value on soil health that includes maintaining strong and variable vegetative cover to allow for deep and abundant root growth. Since those early days, the farm has seen some significant improvements. Soils are deeper, with desired plant and tree life becoming more of the norm than the exception. This is because it is a labor of love and intentional drive, that of improving the land so that it supports a variety of species, from fish to birds to plant life, with water management as part of the cornerstone of planning. One gets an immediate appreciation of the intentional effort and determination, as well as the learning by doing model that has refined

Farm Details

MUNICIPALITY:
Brooktondale

FARM SIZE:
25 Acres

PRODUCTS:
Mixed Livestock
Specialty Plants
Value Added Products

PRACTICES:
Improved drainage
Control of Invasives
Increased Diversity

MOST PROUD OF:
Improved drainage

PARK FOUNDATION

Cooperative Extension Tompkins County

December 2020

her ecological perspective.

Shelterbelt Farms provides a host of ecological and ecosystem benefits that may be overlooked if you are captivated by the rolling hills of the Ithaca area landscape. Foraging and grazing animals provide important soil fertility in the form of manure, and the "pruning" of various grass and weed species, promotion of desired species which in turn can contribute to increased soil root growth and water holding capacity. In droughty years, water holding capacity is essential for pasture health and regenerating on-farm ponds. The diversity of plant and tree life is impressive.

Water management is a priority for Shelterbelt farms. Whether providing directional flow, improving the soil's water holding capacity, or by keeping water "on-farm" via the construction of holding ponds, Erica is determined to keep as much water on site as possible to add to the diverse ecology of the farm. Not only does water add an important dimension to their farm's ecology, keeping it on-farm serves to protect against erosion, and the washing-off from the farm into the Six-Mile Creek Watershed. This is an important contribution since the watershed is a critical water supply for the Ithaca community.

Not only does Erica spend a great deal of time on the farm, she also works off the farm as an educator and resource for the Cornell Small Farms Program. Evolving and learning is part of the farm's success. Keeping the perspective of building the farm from the ground up is very evident philosophy of Erica. Her appreciation for the key role that healthy soils and diverse ecology play for the long term success of their farm will undoubtedly provide resilience to the sometimes extreme weather events and changing climate the Ithaca area experiences.

This is one of eight case studies created as part of Cornell Cooperative Extension's 2020 Agricultural Benchmarking Study, funded through a grant by the Park Foundation. For more information or to read more studies visit our website at www.ccetompkins.org/SustainableAg or contact Graham Savio at gs695@cornell.edu

PARK FOUNDATION

Cooperative Extension Tompkins County

Photos courtesy of Graham, Savio

ENVIRONMENTAL BENCHMARKING

CASE STUDY: Stick and Stone Farm

Chaw Chang sat down with us recently to discuss how his organic operation, Stick and Stone Farm, in the greater Ithaca area allows our entire community to consume fresh and organic produce every year. With intentional practices, human capital and intervention, he and co-owner spouse, Lucy, grow standard and unique vegetables crops working with all the variability and goodness nature puts forth. Intentional or not, these farmers provide an ecological benefit and land management that often may go unnoticed. Profits are not their only motivation for organic farming; being good environmental stewards and employing safe growing practices serves their family and the consuming public.

This certified-organic farm was founded in 1995 and relocated to its present location between Ithaca and Trumansburg. There are approximately one hundred and twenty acres that make up the total farm, with property both owned and rented, for production purposes. Every year there are about forty acres of vegetables in production. Some tree fruits are being added to the mix. The land that is not cultivated is "resting". These plots are intentionally removed from production in order to manage weeds and to "rebuild" soil fertility, structure and soil health. The rotation of fields, coupled with organic grain cover crops, are considered some of their most important practices that contribute to building soil and weed control. Organic vegetable production requires a great amount of labor to keep weeds under control. Many growers, organic and conventional, use black plastic as one option for weed control. Chaw is trying to move away from using plastic and is incorporating using hay mulch in between plastic, but with mixed results. It

Farm Details

MUNICIPALITY:
Ulysses

FARM SIZE:
219 Acres

PRODUCTS:
Mixed Vegetables

PRACTICES:
Cover Cropping
Mulching
CSP
Delayed Mowing
Planting for Beneficials
Invasives Removals
Improved Drainage
Reduced Tillage

MOST PROUD OF:
Cover Cropping
Delayed Mowing
Mulching

PARK FOUNDATION
Cooperative Extension Tompkins County
December 2020

is labor intensive and expensive. Even in drought seasons, the crops are watered from two ponds on the property. There are high tunnels and greenhouses on the farm. "High tunnels" are used for growing some of their vegetables under cover, somewhat like a greenhouse, but the plants are usually grown directly in the ground. Chaw said that the high tunnel crops have the best return for the labor involved.

Stick and Stone Farm has applied for and received grants towards solar electric panels and reseeding ditches to control erosion. They plan to build a second fuel storage tank to protect against leaks and fuel escapes. These practices are important to keep private and public waters clean.

The Chang family clan serves the community in many more ways than providing organic produce. Their intentional farming practices and welcoming nature offers opportunities for the public to learn about different farm practices, the challenges farmers face in growing food in a responsible manner, as well as inspiring more people to learn more about how to grow their own food.

This is one of eight case studies created as part of Cornell Cooperative Extension's 2020 Agricultural Benchmarking Study, funded through a grant by the Park Foundation. For more information or to read more studies visit our website at www.ccetompkins.org/SustainableAg or contact Graham Savio at gs695@cornell.edu

PARK FOUNDATION

Cooperative Extension Tompkins County

Photos courtesy of farm's Facebook page

ENVIRONMENTAL BENCHMARKING

CASE STUDY: Walnut Ridge Dairy

John Fleming recently sat down with us to share a little bit about the Walnut Ridge Dairy located in Lansing, NY. Farming, especially in the late summer and fall is an especially busy time as harvest is one of the major highlights to a growing season. This farm is no exception, so we value the opportunity to meet, in between these important harvest windows, to learn a little bit more about the complex business of managing the land that supports this dairy. This is considered a family dairy farm, presently made up of three families managing all aspects of the operation.

Walnut Ridge Dairy LLC (formed in 2013) was originally founded by Dave and Joan Hardie (Hardie Farms) in 1951 with 14 cows and 170 acres. Dave and Joan, first-generation farmers, did not have a farming background. But what they may have lacked in farm experience was more than made up in farm and business innovation. Dave and son, Skip, became equal partners. As the farm grew, they realized they needed to bring in outside talent…what is now a shared ownership of the farm by a few families. Steve Palladino, originally hired as a herd manager in 1984, became a partner with Hardies' in 1998. John Fleming started on the farm in 1990 and became a partner in 1999, Keith Chapin came on board in 2011, bringing with him his own herd of 450 cows. Keith became a partner in 2013 when Walnut Ridge Dairy LLC was formed. Skip is "officially" retired from the farm management, but still is active in the leadership of the operation. Today, the dairy milks approximately fifteen hundred cows three times per day. There is also the management of the non-milking heifers and the young stock. The milking parlor carousel holds sixty cows in separate stalls, each being milked simultaneously. Animals require constant management and care. Growing feed for the animals is also labor intensive and requires its own management challenges.

Livestock management is linked to high quality forages and feed that the animals consume. Corn (silage and grain) and

Farm Details

MUNICIPALITY:
Lansing

FARM SIZE:
5459 Acres

PRODUCTS:
Dairy

PRACTICES:
Vertical tillage
No till
Cover Crops
Soil Health Testing
Improved Timing of Manure Application

MOST PROUD OF:
No till/reduced tillage with cover cropping

PARK FOUNDATION

Cooperative Extension Tompkins County

December 2020

forage hays, that include alfalfa and grasses, are the main crops grown on the farm's property. Conserving soil and water management are continual priorities for the farm especially noting a changing climate with more frequent and hard rainfall events. Incorporating grass waterways, underground water run-off catch-basins and tiling help to manage the surface and subsurface water flows. A manure injection practice also helps with improved nutrient management, that allows for the field managers to account for nitrogen and phosphorus in the manure, while reducing over-the-ground runoff of extra liquid. Cover crops are also planted to improve soil health and fertility while reducing erosion. Wheat and rye are common cover crops, but triticale was used this past year as the price was significantly less. Nearly twenty-two thousand acres are managed with rotations between corn and forage crops. Managing these fields for cropping requires various key soil health practices. Generally, crop rotations are often planned at four years of corn (silage and grain) with four years of hay (alfalfa). The timing and duration of rotations may change due to seasonal weather, soil type, forage stand health and the workload on the farm.

Some of the important soil health practices that John has been proud of that the farm has implemented are no-till and reduced tillage in combination with cover cropping and nutrient management. The reduced tillage efforts were prompted because deep till methods unearthed many rocks. Picking rocks is time consuming and expensive. Less tillage means less rocks. Additionally, tractor and equipment passes are reduced thereby lessening soil compaction and erosion, as well as reduced fuel consumption, equipment use and labor costs.

Usually cover crops are planted after the corn silage acreage is harvested, but a unique inter-seeding technique was tried on the farm several years ago with some interesting benefits. After the corn was established, at about knee-high, a cover crop was planted in June. This helped cover the soil and buffered the negative impacts of seasonal drought and heavy rains. Additionally, while adding green manure, it helped to reduce erosion and allowed for good tractor wheel traction. This also showed time saving and cost benefits by not having to go in after harvest to plant another cover crop. This practice is one that John would like to implement again on more of the corn silage ground. The farm also contracts with a specialty crop consultant who helps refine the planting and seasonal management of the fields. Modern precision agriculture techniques, using computer-assisted sensors, are implemented for field navigation, soil sampling, and data analysis that allows for specific and localized seed planting rates as well as localized spray applications.

One thing is for sure, Walnut Ridge Dairy is still growing and experimenting with many ecosystem practices to benefit the farm and the community. They continually strive to improve upon the many benefits of the positive soil health practices they have adopted. Overall this farm is improving its bottom line by reducing their operating costs, tightening up their management of nutrients, being responsible water and land stewards and producing higher yields.

Each partner brings a different perspective and skill set to the farm. These varied approaches and styles are viewed as a strength for the farm's future success. Even with the differences, they share a vision about the farm's successful future and the families and community that it supports.

This is one of eight case studies created as part of Cornell Cooperative Extension's 2020 Agricultural Benchmarking Study, funded through a grant by the Park Foundation. For more information or to read more studies visit our website at www.ccetompkins.org/SustainableAg or contact Graham Savio at gs695@cornell.edu

PARK FOUNDATION

Cooperative Extension Tompkins County