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CONSERVATION Showcase

Schrack Farms Builds Soils with Simple Management Changes

Clinton County, Pennsylvania
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Schrack Farms Resources LP is located in the mountainous Clinton County region of central Pennsylvania in Sugar Valley. Sugar Valley is the home of Fishing Creek, a high quality cold water fishery and tributary of the Susquehanna River which flows to the Chesapeake Bay. The farm is located on a homestead land tract that has been family owned for ten generations since 1774, and received the Pennsylvania Bicentennial Award in 1974 for 200 years of family operation.

Conservation is an important element of the Schrack Farms operation. Farm partners have applied no-till practices for the past forty years in an effort to reduce erosion and improve soil quality. For the past five years, they have followed crop harvests with diverse cover crop plantings to stabilize soil aggregates, increase soil organic matter and improve the health of their soil.

Additionally, Schrack Farms has improved nutrient management by avoiding heavy manure applications during wet periods. A manure management system (i.e., manure digester) was installed with Environmental Quality Incentive Program (EQIP) assistance in 2006 to convert manure waste into energy, recover solids for reuse on the farm as bedding, and apply liquid nutrients through a drag hose system to reduce soil compaction and time applications closer to crop uptake. The digester has also managed to cut fossil fuel inputs and greenhouse gas emissions.

Schrack Farms now milks 950 cows and farms 2200 acres, a figure that has expanded since its original 10 dairy cows on 100 acres in 1954. They now farm corn for grain and silage, soybeans, rye, wheat, barley, and alfalfa/hay. To add more diversity to their soil health management system, about five years ago Schrack Farms began adding a suite of cover crop species including rye, triticale, sunflowers, crimson clover, and buckwheat and have now enrolled their Resource Conserving Crop Rotation into the Conservation Stewardship Program (CSP).

Cover crops improve soil health by increasing organic matter and promoting soil micro- and macro-organisms.

Schrack Farms employs a diversity of cover crop species including buckwheat shown above.

Jim Harbach, a partner of Schrack Farms and one of the Pennsylvania No-till Alliance directors (class of 2015), recently hosted a field day showcasing his soil health improving strategies. Working with Scott Heckman, NRCS District Conservationist, John Chibirka, NRCS Soil Resource Scientist, and Lisa Blazure, Clinton County Conservation District Technician, Jim learned how much his conservation efforts have improved water infiltration rates of his Buchanan series loam soils. Typically somewhat poorly or moderately well drained and slowly permeable, the surface of this soil tends to compact under the impacts of raindrops or heavy equipment when left uncovered or worked under continuous tillage. Because of long-term no till, residue management, contour farming, nutrient management and recent cover cropping

practices, Schrack Farms have a well aggregated soil surface structure that lets the water in far better than poorly managed soils of the same series. An advocate of conservation and director of the Clinton County Conservation District, Jim says "Just think of the problems that would go away if we could get the majority of crop land to perform like that."

Jim wants the water to stay on his farm because he knows rain makes grain. He works with his crop consultant, Gerard Troisi, to better understand how he can reduce inputs, save money, and produce better crops each year.

To help farmers learn how soil health improving practices work, the Pennsylvania No-Till Alliance recruited guest speakers Dr. Christine Jones, a soil health expert from Australia, Will Brinton, President of Woods End Laboratories in Maine, and Peter Donovan of Portland, Oregon director of the soilcarboncoalition.org to speak at the Schrack Farms field day.

These experts explained how healthy soil life activity improves both water and nutrient cycles in the soil. Soil life is responsible for holding soil aggregates together that allow water to move through the pore spaces in the soil profile. The same well-aggregated soil structure that lets in the water also allows air movement. Without a supply of air, soil life populations decrease or migrate towards anaerobic loving micro-organisms detrimental to healthy plants. In short, the soil is alive. Those unseen micro-organisms need air to breath so they can make nutrients available for plant uptake.

Jim is just beginning to measure soil respiration rates on the Schrack Farm to further improve his nutrient management decisions. Beyond improving the water cycle on his farm, the green cover of continuous cropping allows Jim to maximize use of solar radiation so he can harness the soil life food supply without interruption.

And more green cover on the planet results in less heat that is reflected back to the atmosphere where it alters climate and water cycles towards more extreme events.

If more producers follow Jim's simple management changes, the future looks bright for farming and natural resource communities in Sugar Valley, throughout the Chesapeake Bay region and even the entire planet!

Jim Harbach is a partner of Schrack Farms Resources LP and active member of his local Farm Bureau and Watershed association.

Schrack Farms hosted a field day on August 28th 2014 to educate producers on soil health practices.

Conservation Showcase written with assistance from the Capital RC&D Area Council.