



NEW FAMILY FARM

Stewardship Profiles in California Agriculture
Environmental Leadership with Water Efficiency and Soil Health

Ryan Power and Adam Davidoff have been close friends since meeting in their seventh grade running club. In 2010, they formed New Family Farm in Sebastopol. Both have had a long-term interest in farming, and Ryan is a graduate of the Apprenticeship Program in Ecological Horticulture at the University of California Santa Cruz. The pair farms fifteen acres split between two parcels of land. New Family Farm, known for its high quality produce, specializes in potatoes, onions, tomatoes, and winter squash, and was recently rated “best” in the Whole Foods Responsibly Grown system. They are part of the F.E.E.D (Farmers’ Exchange of Earthly Delights) Sonoma foodshed project and sell their produce to North Bay Area grocery stores, restaurants, and at two Sonoma County farmers’ markets.

PROBLEM

Part of New Family Farm is located on a floodplain, and can only be farmed in the summer. The other part is on a hillside and prone to erosion. There is a creek on the property that can swell up to 15 feet deep, causing extensive erosion. Adam and Ryan are also interested in building soil organic matter.

SOLUTION IMPLEMENTATION AND MANAGEMENT

To improve soil structure and fertility while reducing the likelihood of erosion, New Family Farm practices crop rotation, conservation tillage, and production-scale no-till farming.

Specifically, Ryan and Adam practice Keyline Design, an innovative practice, utilized throughout drought-stricken Australia. In Keyline design, an implement called the Yeoman’s plow is dragged behind the tractor to cut gentle lines through the soil at an angle against the flow of water downhill. This technique increases the rate at which water infiltrates the soil with minimal soil disturbance.

As a result, flooding and erosion are reduced, more water is retained in the soil, ultimately increasing groundwater reserves. New Family Farm also offers this tractor service to nearby landowners as a secondary source of income. Adam and Ryan also built a water diversion system known as a French drain to help divert stormwater from the floodplain back into the pond.

ACHIEVEMENTS

- Increased soil organic matter
- Increased pollinator and beneficial insect habitat



“We like to farm in a way that increases life, biodiversity, and abundance; not just for people, but for all of ecology. We are stewards of the land and it is a privilege to feed people.”

-Ryan Power

Lastly, they installed flow meters to gauge water consumption and improve irrigation efficiency. New Family farm also implements dry-farm techniques to reduce water use and maximize the flavor of the crops. The next water conservation effort the pair plan to undertake will be a rainwater harvesting system.

To build topsoil and increase humus content, Ryan plants both summer and winter cover crops. His winter cover crop mix consists of bell beans, vetch, oats and peas. He also manages soil nutrients by planting two cover crops back-to-back.

CHALLENGES/OBSTACLES OVERCOME

Ryan is passionate about cover crops. In perfecting his technique, he has learned that it is important to refrain from cultivating the fields too close to the rainy season. Before the first rain, Ryan plants the winter plow-down cover crop into the late-summer Sudan grass, which dies in frost and falls down. As it grows, the plow-down mix comes up through the Sudan grass mulch. Not only does this system ensure that the soil will be covered continuously and protected from erosion, the grass dieback creates an optimal carbon to nitrogen ratio in the soil. Ryan also uses Sudan grass and buckwheat judiciously during the spring and summer, between crops or in the furrows. Buckwheat produces flowers after a month, attracting beneficial insects.

Adam and Ryan are proud that ponds and vernal pools on their property provide habitat for animals including migrating birds like Kingfishers, and they've maintained wildlife corridors support the presence of weasels, coyotes, and foxes.

MEASURING SUCCESS

Ryan believes that water is the lifeblood of their farm. The Keyline Design slows down the flow of water and spreads it out before it reaches surrounding waterways. "Ideally," he says, "we can redirect the flow of water across hillsides so that it moves down as slowly as possible, percolating into the subsoil and recharging our aquifers. As farmers we need to be thinking about how to best store and collect water."

Adam and Ryan planted two hundred and fifty feet of hedgerows to attract pollinators and protect the farm's delicate soil from erosion. Ryan's cover cropping technique, described above, has led to a .75 to 1 percent increase in soil organic matter.

For more information about the stewardship practices discussed in this profile, please contact the farmers directly. You can reach Ryan Power by email to newfamilyfarmers@gmail.com

STEWARDSHIP PRACTICES



Water Efficiency



Soil Health



PROJECT PARTNERS

- Kitchen Table Advisors
- Natural Resources Conservation Services (NRCS)
- Sonoma Resource Conservation District

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