PHOTOS COURTESY OF SPRINGRAIN FARM & ORCHARD

Community Connection

Organic Farm Focuses on Conservation, Natural Systems Integration Strategies

by LAUREN TURNER

SpringRain Farm & Orchard is located in Chimacum, Washington, a small, unincorporated community on the eastern Olympic Peninsula with a long history and strong identity as a progressive agricultural area.

SpringRain is a certified organic family farm owned and operated by John Bellow and his wife and partner, Roxanne Hudson, who are committed to sustainable, organic food production for their local community.

Like many farm spouses, Roxanne is not a full-time farmer. She wears different hats on the farm, handling bookkeeping, social media, marketing and publications, and she does all the value-added production. She is also a professor and researcher in the College of Education at the University of Washington in Seattle.

John operates the farm full-time, with the help of five permanent employees including a farm manager and a sales manager, plus a seasonal field crew of six to 12 members.

John and Roxanne started farming in the mid-1990s east of Mt. Vernon, Washington, as a CSA, selling their products through the Mt. Vernon food co-op and the Anacortes farmers' market. In 2008, they purchased 28 acres in Chimacum and started farming at their current location.

From the farm's inception, John and Roxanne have integrated the community, initially reaching out to them for financing. They are proud to say that people in the community who now receive annual repayment from farm sales hold all of the farm's debt.

The farm grows a wide variety of berries, orchard tree fruits, greenhouse crops, salad greens and perennial vegetables including sweet, tender asparagus. Five to 6 acres are in tree fruit, which includes heirloom gourmet apples and Asian and European pears.

About 10 percent of the tree fruits are plums, and there is an area of hazelnut trees. There are 2 acres in blueberries and another 2 acres in mixed cane fruit (berries), with just under a half-acre in currants and gooseberries. They grow a maximum of a quarter-acre of strawberries both in greenhouses and outside.

They have eight greenhouses, one an earth-sheltered structure that maintains higher temperatures, which was used early this spring for plant starts and herbs, and then transitioned to other crops, including cherry tomatoes and cucumbers.

Some of the greenhouses are ventilated and thermostat controlled. They are about 100 feet long and vary in width from 20 to 30 feet. All together, they cover about a third of an acre.

The greenhouses help achieve John and Roxanne's objective of transitioning their crops out of the main growing season for the area and instead targeting the off-season and shoulder season. They do a lot of work to dovetail with others and avoid overabundance. They grow greens in late fall, winter and spring, and they are able to extend the strawberry season.

They also produce eggs from pasture-raised chickens and ducks, and ethically raised chicken, heritage turkeys, rabbit and duck. They produce other value-added products such as dried herbs, farmstead jams and jellies and pestos. They sell daily from their self-service honor-system farm stand and weekly at four area farmers' markets. They sell all of their products within a 70-mile radius of their farm, further strengthening the farm's connections to the community.

They also sell wholesale to local restaurants and groceries and to the larger Puget Sound region through the Puget Sound Food Hub, which takes orders from businesses and institutions that select products from an aggregate of sustainable family farms. The Hub receives orders packaged by the member farmers and distributes them as one order to each of the ordering entities. SpringRain sells chicken and rabbit through the Hub. For more information on the Puget Sound Food Hub, visit *pugetsoundfoodhub.com.*

WORKING IN HARMONY

Systems thinking is key to SpringRain Farm & Orchard's operation. John and Roxanne regard their farm operation as a complex of integrated natural systems that interact and affect one another, and they plan for the an-

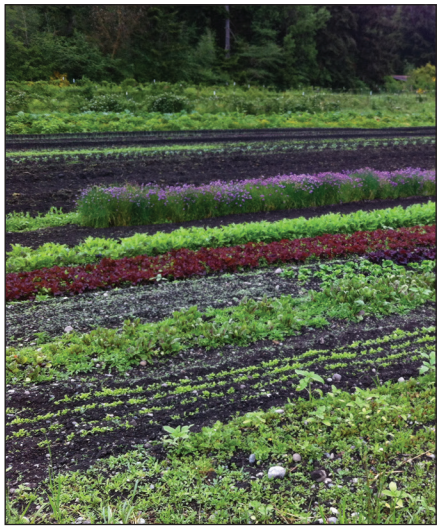
imals and plants to work together. The diversified farming system involves protein, vegetables, fruit and pollinators, and they strive for the farm to be an ecological system that mimics a natural ecosystem.

That means, for instance, that besides raising chickens for meat and their amazing eggs with rich orange yolks, they also think about other services the chickens and ducks provide. Poultry are at the heart of their operation, and they are essential to the farm's integrated pest management system, as they eat insect pests and disease vectors. They are raised among the perennial fruits where their manure provides rich fertilizer for trees and plants. Broiler chickens live in apple and pear orchards, spreading manure and scratching up weed seeds. They eat fallen fruit, which enhances disease management. At night, they are protected in custom-built houses that move between rows of trees.

The farm raises laying hens that are good foragers and work well in their system. Laying hens have several areas for grazing and roaming. They

also have portable housing on trailers in fields that are self-contained, with roosts, nests and hoppers for feed. The hens tend not to roam more than about 150 feet from the houses, which are moved to a new location every few months. Eggs are collected each morning. Laying hens are typically retired after about two years. Retired layers and roosters are sold as stewing hens because their flavor and higher fat content produces terrific stock and bone broth.

The farm raises 200-300 heritage turkeys per year for Thanksgiving. The turkeys have dedicated housing for night, and are let out in feeding areas each day, wandering around the farm at will. They can go to the hazelnut area for shade, without dam-



aging the trees. John protects crops of concern with temporary fencing, rather than penning the birds. He uses "step-in" or ElectroNet fencing, which is not time-consuming to place. Spent fruits are fed to chickens and turkeys, enhancing the flavor of their meat and eggs, ensuring no waste and maintaining a perpetual cycle of manure-to-soil to fruit-to-manure.

Ducks play a critical role in eating mummy berries to help control that fungus.

The ducks that are raised for their eggs (a different breed is raised for meat) live in the blueberry fields where they graze on grasses and weeds between blueberry rows. They eat grass and bugs, as well as some of the low-hanging fruit. The farm benefits from their cleaning up dropped fruit. Retired layer ducks are eaten for meat on the farm.

Rabbits also occupy the blueberry fields. They live in pasture hutches that move up and down the fields so they can eat clover and grasses. They are also fed organic hay and apple tree trimmings.

Several sheep are kept as "slow mowers" around greenhouses, fencelines and around hedgerows. They are kept fenced in individual paddocks, which are moved to wherever mowing is desired. The farm used to raise several dozen lambs at a time, but receive a better rate of return from the land from other uses, such as rabbits and poultry, so now they keep only about three lambs for their grazing services. When the lambs are ready for harvest, John and Roxanne announce they are available, and they quickly sell out.

Honey is not as sure a profitable product as some. Production is less than it once was due to typical bee problems such as winter die-offs and mite infestations, but the farm still produces some honey and also keeps some orchard-based bees for pollination.

VALUE-ADDED PRODUCTS & ANIMAL PROCESSING

Value-added products are produced in a rented commercial kitchen a half-mile from the farm. John and Roxanne are in the process of constructing their own commercial kitchen, but are not licensed yet.

The meat processing part of the farm's operations is a separate business entity called Chimacum Fresh Poultry, which like the farm, is community financed. John designed and built a WSDA certified slaughter facility, a permanent structure, used to process poultry and rabbits on-site at the farm.

Two of his longest-standing employees typically spend all day each Friday moving the animals via a five-minute drive to the facility, then humanely slaughtering and processing them. The meat is sold fresh at the farm stand and farmers' markets on Saturdays and sold frozen through all outlets the rest of the time.

All waste products, such as skins, feathers, blood and entrails are composted. The farm has its own compost facility, developed by an NRCS (Natural Resource Conservation Service) engineer to USDA standards. The farm makes its own compost with plant residues, alder sawdust, animal manure and the by-products of processing animals. Mature compost is strategically applied, according to an operation plan developed with NRCS. National organic program standards control where and when the compost can be spread.

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SOIL FERTILITY

Composting is an integral part of their overall soil management. Other soil management methods include cover crops of buckwheat and a mix of green manures such as vetch, peas, beans and grass.

Many perennial crops are grown, with herbs and other broad-leafs planted underneath to diversify the understory. Crops are rotated in the greenhouses from summer to winter, and vary year to year. Calcium and organic soil amendments such as blood meal or potash are applied as needed. There are nine different soil types on the farm, and they have the soils tested periodically at a lab in Portland, Oregon. Compost is applied in the greenhouses every other year, supplemented by organic amendments that address soil test results.

These soil management methods produce healthy soils that nurture healthy plants and complement other farm practices that support a truly integrated pest management system.

Having a diversity of crops reduces the opportunity for a single insect pest to colonize and require intensive management.

The fruits grown on the farm are selected for their resistance to diseases in the area that are hard to control. For example, scab resistant or immune apples are grown.

The farmers also avoid problems through the timing of growth. John has phased out growing brassicas, mustards and kale during the height of flea beetle season. Leaf blight on tomatoes is avoided by using a combination of landscape fabric and greenhouse growing. Drip irrigation is automated, and watering time and amount is scheduled to avoid fungal problems. In rare cases when a fungicide is needed, an organically allowed copper-based product is used.

Beneficial insects such as ladybugs, lacewings and wasps are regularly released to maintain high levels on the farm. Sixty-five or 70 birdhouse boxes have been installed on fence posts across the farm. Large populations of

swallows and other birds and bats occupy the boxes and eat insects. There are hedgerows all around the farm, and grasses are allowed to get tall to provide habitat for frogs, snakes and spiders that aid in pest management.

CONSERVATION & LOCAL TIES

It is no surprise that John and Roxanne are committed to conservation. They have donated a conservation easement to the Jefferson Land Trust, which protects their property forever as farmland. They work with the USDA to use conservation practices that protect soil and water quality. Most sensitive areas – marshes and riparian areas – are fenced off and have been replanted with native trees and shrubs.

Chimacum Creek bisects the farm. John and Roxanne have worked with the local conservation district and the Olympic Salmon Coalition to restore critical salmon habitat in the creek. They placed large woody debris structures along the entire length of the creek that crosses their land. The action of the water against the debris scours out sediment and creates a sandier bottom for salmon to spawn. They also planted native tree species to create a buffer of 100 feet average width on each side of the creek. No farm production occurs within the buffers. They constructed a bridge to replace the shallow ford that once permitted driving through the creek to cross it.

John had a contractor install a solar system that generates 15 percent of the electricity used on the farm – just under 10 kilowatts. It is on the roof of the barn where chicks are raised before being turned out to pasture. The system is tied into the power grid so that any excess goes to the local utility district, and the farm gets a discount on their power bill. The farm, however, uses most of the power to run infrared heaters for the birds.

To conserve water, all irrigation is automated on timers. Each greenhouse has automated water controls, set for a particular crop's needs.

In 2011, with the future of farming in mind, SpringRain Farm & Orchard expanded their circle of farm with community, when they founded the Jefferson County FIELD program with several other farmers in the area. FIELD is an educational program that provides a multidisciplinary study for interns into sustainable agriculture. Established by farms for the benefit of farms, about a half dozen local farms and farms from neighboring counties participate in the program at any time.

Not all participating farms are organic farms, though all are focused on sustainability. The farmer and intern enter into an agreement outlining the objectives the intern hopes to achieve. Interns engage in farm-based learning supplemented by intensive workshops in a variety of subjects, such as humane animal slaughter, water law, farm construction, cider production and marketing. Participating farms agree to offer a minimum of one day of teaching, which each intern takes

back to their host farm. This year John will teach a class on integrated pest management. Host farms also provide a representative to the FIELD program board. Washington State University provides a coordinator and offers continuing education units to the interns.

Interns typically spend one season, March through Thanksgiving, on their host farm. There is no guarantee of employment following the internship, though some farmers have assisted their interns in finding jobs, and John and others have hired some of the interns.

John and Roxanne have clearly achieved their objective for SpringRain Farm & Orchard to be an ecological system that mimics a natural ecosystem. Their system is remarkable in its efficiency, both economically and ecologically. They have involved community as an essential part of the ecosystem and have taken meaningful steps to ensure the future of this type of farming. They offer a shining example for similar endeavors across the country. In short, this small farm has a big impact.

NEED MORE INFORMATION?
For more information on SpringRain Farm & Orchard, visit *springrainfarm.org* or call 425-218-7756.

Lauren Turner is a freelance writer, specializing in agricultural, environmental and community topics. She retired from a 30-year career with the U.S. Forest Service, where she worked as a wildlife biologist, ecosystem manager and District Ranger. An avid organic gardener, she lives in Sequim, Washington, with her husband and their three cats.

Visit *ecofarmingdaily.com* to read an article by Lauren Turner on the Puget Sound Food Hub.

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