



## 30 YEARS OF SUSTAINABLE FARMING AT SHAFER

Thirty years ago each of our vineyards looked as clean as a pool table: not a blade of grass, not a weed, no sign of bird or insect life, just knobby vines were sticking up out of the soil.



“The only way to achieve that super clean look was by using heavy duty chemicals,” says Doug Shafer. “We realized it was the wrong direction.”

It meant tainting the soil with rodent poison to kill gophers, spraying potent herbicides to kill unwanted foliage, applying powerful insecticides to vanquish pests such as the blue-green sharpshooter, and by relying on chemical fertilizers to feed stripped-down soil.

Today we are 100 percent solar powered, we reuse and recycle our water, make our own compost for fertilizer. We partner with owls, songbirds, hawks, bats and other wildlife to cultivate successful vineyards and rely on cover crops to help control insects that would otherwise blight our vines.

### UNCORKING CLEAN KILOWATTS

Shafer Vineyards is proud to be a wine industry leader in the area of solar power. In 2004 we became the first winery in the U.S. to make the switch to 100 percent solar power. In 2008 we built a second array to

power the vineyard system that we use to irrigate the 50 acres of vines that surround the winery.

On sunny days these two arrays produce, at peak, more than 200 kW of electrical power, or in other words, enough to meet the base-load needs of 160 average homes.

Going solar is our way of treating the air as well as we treat the land. The generation of electricity is the number one source of toxic air pollution in the US. Most generator plants burn coal and pump millions of tons of greenhouse gasses and toxins into the air.

Over the lifetime of Shafer’s system alone (30 years) the greenhouse gasses that won’t be produced on our behalf has the air-purifying effect of planting more than 30,000 trees.



In addition, of course, we have eliminated our electricity bill and we actually contribute power to the electrical grid.

### PREVENTING POISON

In the late 1980s we started erecting nesting boxes for Barn Owls and perch poles, which attract birds of prey such as Red-shouldered Hawks, Red-tailed Hawks, and American Kestrels.



The reason we want to attract owls and hawks is simple – we wanted to stop putting rodent poisons in the soil to control the gopher and mole population. These creatures like to tunnel through the ground and eat young vine roots.

Between the hawks and owls, we have day and night rodent patrol (hawks feed during daylight, while owls are nocturnal hunters).

“The work of these raptors is so effective we named our Chardonnay vineyard ‘Red Shoulder Ranch’ to honor them,” says Doug Shafer.

### CONTROLLING INSECTS

Vineyards attract lots of insect pests, among the most troublesome are blue-green sharpshooters and leafhoppers.

“You can spray powerful chemicals to rid your vines of these particular insects, but we prefer to rely on the natural eating habits of songbirds and bats,” says Doug Shafer.

To attract some of nature’s hungriest eating machines, we have erected songbird houses throughout our vineyards. These provide homes for cavity-dwelling species such as swallows and bluebirds, who tend to eat the flying bugs that blight our vines.



These birds raise their young on our property and feed their families on the bugs that would otherwise damage our vines.

After sunset, we benefit from the eating habits of bats, who consuming anywhere from 15 to 25 percent of their body weight per night. Given our location at the base of towering cliffs, called palisades, we enjoy some insect patrolling by bats.

To attract more, we've erected a 500-lbs bat roost, which is currently awaiting its first residents. The bat box is designed to house a maternity colony, meaning this will be a place where the bats can breed and raise their young.

### PARTNERING WITH BUGS AND WEEDS

Another key part of farming sustainably is the use of cover crops. Today our vine rows grow wild with clover, vetch, oats, bell beans and other vegetation that creates a lively habitat for insects.

"The cover crops create a healthy environment where "good bugs" prey on "bad bugs," says Doug Shafer. "More specifically, insects such as spiders and ladybugs

naturally kill off or consume vine-damaging insects such as leafhoppers and blue-green sharpshooters."

Cover crops do double and triple duty. They control erosion while also choking back weeds we don't want. They control the vigor of the vine and at the end of their lifecycle they're plowed under and enrich the soil with nitrogen and other macronutrients. This combined with our own compost allowed us to say good by to chemical fertilizers.



### RECYCLING RAINWATER

For 30 years we have reused and recycled all of our water – and continue to look for new ways of being better stewards of our water.

Our first step, in the late 1980s, was to abandon the old, wasteful system of overhead sprinklers (common in that era) and switch to a drip irrigation system, which cut overall water usage dramatically.

Next we engineered a waste-water system. This allows us to capture all winery water (used to clean tanks, floors, and equipment) and pipe it to a small reservoir, where it is



aerated and naturally processed to eliminate impurities. The newly treated water is then reused for irrigation.

In the mid 1990s we made our biggest investment yet in sustainable water use by clearing four acres of prime Cabernet Sauvignon vines to dig a large pond that collects and stores winter rain runoff from the surrounding hillsides. The lake has a capacity of 30-acre-feet and supplies most of the winery's irrigation needs throughout the summer.

In 2013 we embraced new technology from Fruition Sciences that allows us to dial down water use even further. We've placed Fruition monitors on several vines on the property that monitor water use and sap flow within the vines themselves. This gives us data on the actual needs of the plant and tells us when we truly need to irrigate. The first year we used this new system we saved more than 100,000 gallons of water.