

Workshop Summary

By Remi Cohen

The Napa Sustainable Winegrowing Group (NSWG) had the opportunity to co-host a seminar with the California Sustainable Winegrowing Alliance (CSWA) on Sustainable Ecosystem Management for Winegrowers. The event took place February 28, 2006 at the River Ranch Farmworker Housing Center in St. Helena.

The event began with an introduction by Ann Thrupp, the Managing Director of CSWA. Ann introduced the Code of Sustainable Winegrowing Workbook that was created by CSWA's Sustainable Winegrowing Program. Ann defines ecosystem management as the application of ecological science to resource management and the conservation and promotion of essential ecosystem services. These services include but are not limited to the water cycle, nutrient and mineral cycle, habitat, vegetation and wildlife, insects, fungi and bacteria, and the wider system incorporating the concept of biodiversity. The two main goals are to maintain the ecosystem integrity with the essential ecosystem services and to sustain biodiversity. Biodiversity can be sustained with watershed management, soil and water conservation, habitat and vegetation management practices, cover crops, hedge rows, etc. The idea is to go beyond compliance and be proactive with environmental laws to gain a positive reputation in the community.

Kent Reeves, Wildlife Biologist at East Bay Municipal Utilities District, is the author of the Ecosystem chapter of the Code of Sustainable Winegrowing Book. Their initial goal is to define the resource base that will determine the quality of life now and into the future. Kent showed us an interesting breakdown of the Mokelumne River watershed and its various urban, natural, and agricultural habitats, and the bioregions that exist within each of these habitats. Most of the agricultural habitat in this watershed is vineyard land and most of it is owned privately. This region has evaluated a land and development management plan to enhance habitat especially in riparian habitat which often suffers from low biodiversity and many invasives such as Himalayan blackberry and periwinkle. Reeves also suggested creating habitat with owl boxes and perch sites, streambank stabilization, conservation easements, identification and education about sensitive species such as the salmonids, the CA Tiger Salamander, and the valley elderberry longhorn beetle, and restoration projects. He suggested the importance of monitoring for pest and beneficials and the connection between terrestrial life and aquatic life.

It was a pleasure to have Ann Baker, Landscape Architect, discuss her experience creating hedgerows in vineyards. She has worked with Larkmead and Spottswoode among other wineries to create hedgerows that promote ecosystem health and provide ecosystem services such as windbreak, microorganism habitat, nitrogen fixing species, beneficial birds and insects, nutrient and dust filters, natural area buffers, groundwater recharge, carbon sink, evapotranspiration and cooling and beauty. It is important to have connectivity to provide a fluid habitat for the inhabitants of hedgerows. Often vineyards have too much edge and not enough interior in their hedgerows. Access to water is another crucial feature. At Larkmead, they have diversified a Ponderosa Pine stand by layering in shrubs such as toyon and mahogany. They have also converted an eroded

roadside ditch into established vegetation onto which they will layer wildflowers. A direct application of hedgerows in vineyards would be to attract leafhopper predators such as the big eyed bug, damsel bug, and minute pirate bugs. Clovers, sunflowers, carrot family species, willows, and permanent plantings of trees and shrubs can attract these insects.

Baker stressed the importance of knowing the flowering periods of the species involved and making sure to have a wide range of flowering times. She also gave a brief overview of many species that she has found robust enough to be successful in CA vineyard hedgerows including willow, ceanothus, yarrow, toyon, poppies, baby blue-eyeds, OR sunshine, CA buckeye, deergasses, Prunus species, sages, and evening primrose. Perennial grasses are a good hedgerow starting point and include Festuca species such as CA and ID fescues, Nassella species such as N. lipid and N. cerrua needle grasses, and Juncus (rush) and Cerex (cedges) species. Perennial wildflowers can then be established on these stands as it is difficult to get them started without these stands. Baker stressed that minimal soil disturbance is preferred in hedgerow formation. Sheet mulch instead will activate worms. Drip or microsprinkler irrigation will be necessary as well as mulch and protective borders.

The group had the opportunity to review and complete the Ecosystem Chapter of the Sustainability workbook.

Following the workbook completion, the group reconvened to hear Joe Browde, Project Manager for CSWA, speak about air quality challenges related to vineyards. Common air pollutants include particulate matter, ozone, volatile organic compounds, nitrogen oxides, sulfur oxides, carbon monoxide, and lead. Particulate matter (from dust and fossil fuel combustion) and ozone (created from a photochemical reaction between nitrogen oxides and VOC's) are important vineyard operations. Particulate Matter (PM) of sizes less than 10 microns really penetrates deep into lungs. To reduce PM10, we can employ cover crops, use minimal tillage, farm at night, use trees and hedgerows, reduce tractor passes, use water or a dust protectant on roads, and restricted speeds and areas of travel. Other improvement areas include microirrigation, energy efficient pumping systems, replacing older diesel engines with cleaner burning engines or electric motors, rely on biological and cultural disease control tactics, minimize pesticide drift and base pesticide applications on threshold levels. It is also important to avoid using pesticides with higher VOC content such as pressurized products like soil fumigants and emulsifiable concentrates (Round-Up).

The lectures concluded with Patrick Healy, the Environmental Manager of Fetzer. He states how important it is to sit down and develop a sustainability mission. Fetzer farms 1700 acres organically and they have a goal of zero waste by 2010. They have created a new green building using recycled wood, low energy lighting, earth berm walls, and alternative green power. They use solar panels and purchase Green Power from no fossil fuel burning generation plants. Fetzer has elected to be energy efficiency and greenhouse gas emissions audited three times. They have reduced their direct emissions. Trucking is one of their biggest emissions and their use of Green Power offsets some of this.

Efficiency and Conservation are the 2 ways to reduce emissions. Winery refrigeration is perhaps the biggest use of energy and upgrading this functionality in a winery can improve efficiency. Lighting, motors, timers on boilers, and tank insulators all help. In the vineyards, Dust-off on roads, applying sulfur at night, using biodiesel tractors and cover crops are some of their sustainable practices.

All of the speakers stressed how important it is for the leaders of a company to get together and develop a sustainability mission to share with their employees. Set goals, monitor data, and track performance on your goals to accomplishing your mission.

The group had the opportunity to review and complete the new Air Quality Management Chapter of the Sustainability workbook.