



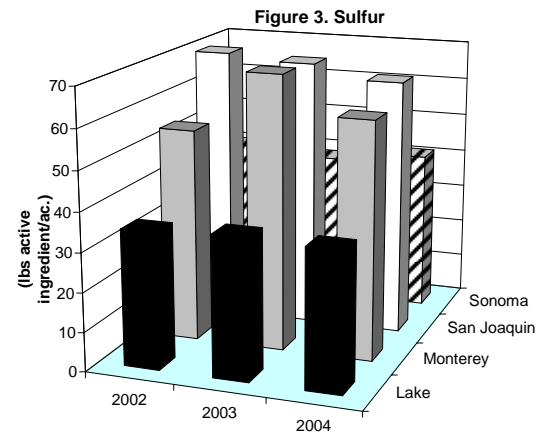
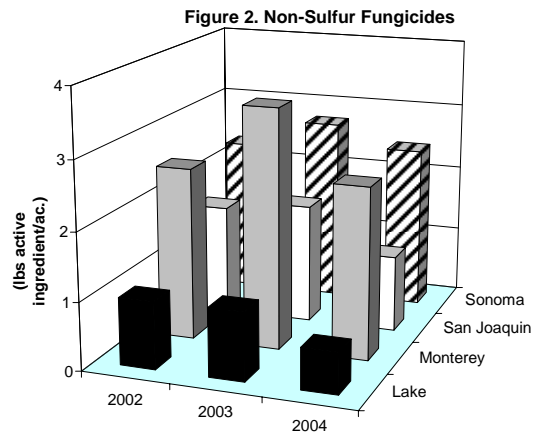
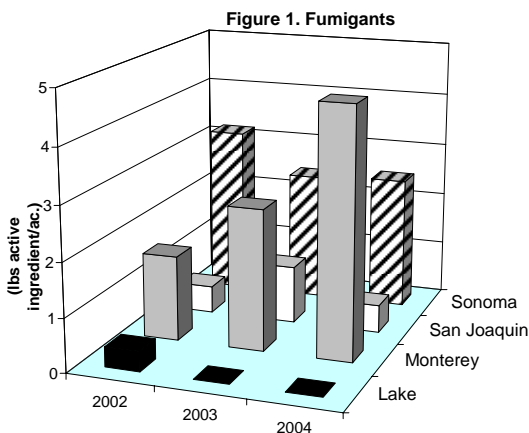
Lake County Winegrape Growers Sustainable Winegrowing Newsletter

What is the Secret to Lake County's Low Winegrape Pesticide Use ?

By Erica Lundquist, Ph. D.
LCWC Viticulturist

I recently completed an analysis of winegrape pesticide use in four counties; Lake, Monterey, San Joaquin and Sonoma. The purpose of the analysis was two-fold. First, a 2002 analysis showed low pesticide use in Lake County compared to the other counties, and it was important to verify that these results were not just a one year occurrence. Second, the LCWC began to sponsor Sustainable Winegrowing Workshops and more frequent grower meetings starting in 2002, and it was time to see if these meetings are having an impact on grower practices.

The first result was very clear. Lake County has lower pesticide use and uses safer pesticides than the other three counties. For the period 2002-2004 Lake County continued to use less pesticides than the other counties in five major pesticide categories; fumigants, non-sulfur fungicides, sulfur, herbicides and insecticides/miticides (Figures 1-5). Lake County growers used more oil than the other counties (Figure 6), and oil is a low risk option used to control both mites and powdery mildew.



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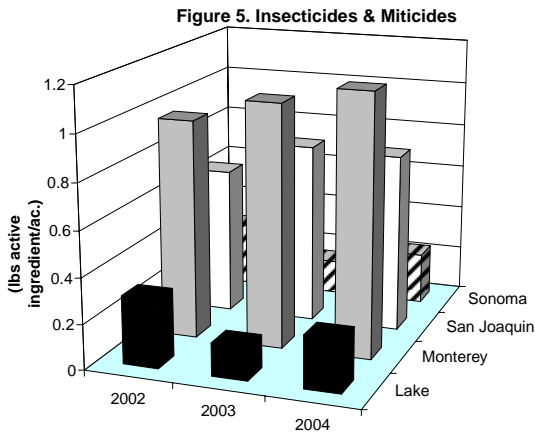
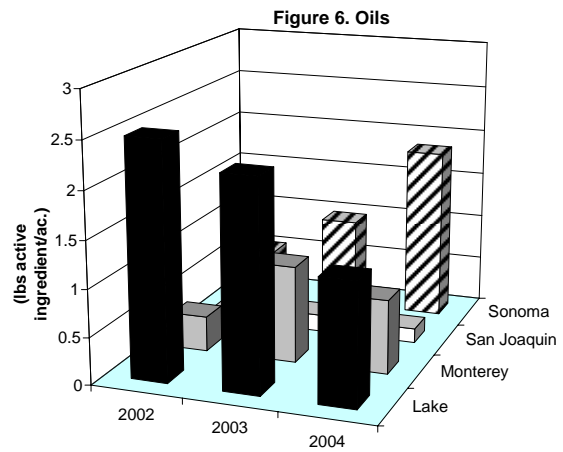
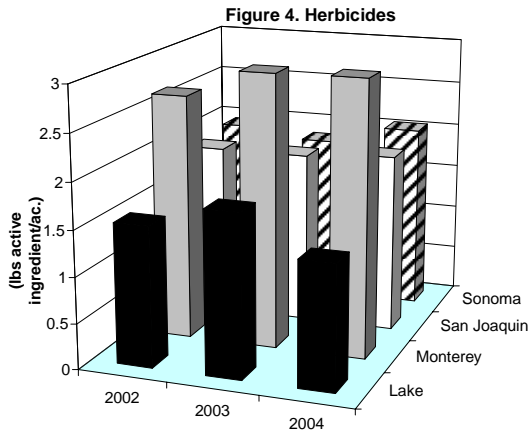
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pesticides were slated for earlier registration review by



the US EPA because they are considered potentially more dangerous and toxic than other pesticides. Even within the smaller amounts of each pesticide category used, Lake County growers were using lower percentages of FQPA I & II herbicides and insecticides/miticides, and similar percentages of FQPA I & II non-sulfur fungicides compared to the other counties (Table 1). The percentages of FQPA I & II fumigants and rodenticides tend to be quite variable because there were much fewer applications of these categories of pesticides.

Results were less clear for the second objective of the analysis. There have been few clear trends in pesticide use patterns over the three year time period. The only consistent

As a way to compare the safety of the pesticides used I also compared the percentage of a given pesticide category that was in Food Quality Protection Act Groups I & II. These

Table 1. FQPA Group I and II pesticides as a percentage of each category.

Pesticide Category	Lake	Monterey	San Joaquin	Sonoma
	(percent by weight of active ingredient)			
2002				
Fumigants	0.1%	2.0%	41.7%	32.8%
Non-sulfur fungicides	14.6%	20.3%	7.4%	17.8%
Herbicides	32.0%	48.9%	63.7%	50.1%
Insecticides & Miticides	9.0%	90.3%	72.8%	17.4%
Rodenticides	4.5%	46.4%	0.0%	0.0%
2003				
Fumigants	100.0%	2.3%	2.9%	6.4%
Non-sulfur fungicides	28.4%	20.8%	8.6%	17.8%
Herbicides	30.4%	54.2%	61.7%	48.0%
Insecticides & Miticides	21.2%	86.8%	80.1%	41.5%
Rodenticides	0.0%	0.0%	46.7%	58.2%
2004				
Fumigants	0.0%	0.2%	0.1%	4.4%
Non-sulfur fungicides	18.3%	15.1%	7.8%	14.6%
Herbicides	41.5%	56.2%	63.2%	51.3%
Insecticides & Miticides	10.3%	76.4%	71.0%	21.5%
Rodenticides	99.3%	7.2%	0.0%	0.0%

trend in Lake County winegrape pesticide use was a decrease in the use of oil (Figures 1-6). Pesticide use in the other categories and the percentage of FQPA I & II materials used (Table 1) showed some variability, but no consistent trends. Because each season's weather affects pest incidence and severity, it is likely that a longer time frame, perhaps even as much as 10 years, may be necessary to detect changes in pesticide use patterns.

Could the lack of change in pesticide use even with grower education imply that there is little room for improvement? I think not. As in any region, there are some growers making greater efforts than others to reduce pesticide use and risk. Continued education on integrated pest management, alternatives to chemical pest control, and low risk pesticide options will have the potential to help many growers. In addition the LCWC Sustainable Winegrowing Education program covers a wide range of topics, therefore changes may be less rapid than with a program focused mainly on pest management.

So what is the explanation for Lake County's low winegrape pesticide use?

One answer might be that I chose counties with high pesticide use for comparison. The basis for choosing Monterey, San Joaquin and Sonoma Counties was that they have large winegrape acreage and are in several major winegrowing regions of the state. I plan to carry out this analysis on several more counties to help decide whether my choices were lucky ones.

Another explanation is that Lake County winegrape growers are very conscious of sustainability and reducing pesticide use. Given the low percentage of FQPA I and II pesticides used and the low overall pesticide use, this certainly appears to be the case.

Another part of the explanation is likely to be Lake County's unique conditions and climate. With its position at high elevation on the North Coast, Lake County seems to have several factors going for it. The elevation and the westerly winds off the Pacific Ocean moderate temperatures so that insect and mite pests go through fewer generations and are less likely to build to damaging levels. Lake County is far enough inland that coastal fog seldom reaches the county, leading to reduced powdery mildew and botrytis pressure. Our chilly winter conditions may reduce or eliminate some pests. For example, Pierce's Disease has never been confirmed in Lake County although it is present in the other North Coast counties.

There may be other reasons for Lake County's low winegrape pesticide use, and I invite your ideas and comments. It is exciting that Lake County has a climate ideal for growing excellent winegrapes, and for doing so with fewer chemical inputs. Now we have an opportunity to "push the envelope" and achieve an even higher level of sustainability.

2007 EQIP PROGRAM APPLICATION DEADLINE

Larry Brewer of the Lake County Natural Resources Conservation Service has announced that applications are now being accepted from Lake County farmers and ranchers wishing to participate in the 2007 Environmental Quality Incentives Program (EQIP). The Lake County deadline for accepting completed applications is December 1, 2006. To allow time to complete paperwork, please visit us by November 27, 2006.

The EQIP program's objective is to promote agricultural production and environmental quality as compatible national goals. The EQIP program offers incentive funds to agricultural producers for conservation practices that address locally important natural resource concerns. The primary resource concerns being addressed in Lake County this year include irrigation water management (including nutrient management and pest management for organic certification), gully erosion, grazing land management, wildlife habitat, and streambank erosion.

Applications are screened, scored, and ranked based on a locally modified scoring system striving to get the best environmental benefits for limited funds that are available to the county.

Last year, Lake County farmers and ranchers were awarded EQIP program contracts totaling \$378,447 to address the priority resource concerns.

Landowners wanting more information about EQIP and how it can be used to install conservation measures on their property should contact their local NRCS office. In Lake County, the NRCS office is located at 889 Lakeport Blvd, Lakeport. Specific information about EQIP in Lake County will also be available on the internet at www.ca.nrcs.usda.gov, under programs, then EQIP.

Vine Mealybug Update – November 2006

(Submitted by the Lake County Department of Agriculture)

Another year of trapping for the Vine Mealybug (VMB) has come to a conclusion. No male VMB's were trapped countywide (again) during this year's summer and fall trapping season. The increased trapping we had in the vicinity of the finds from two years ago also came up negative for VMB. This is very encouraging, as it tends to indicate that an active infestation has not been established.

The response from the grape grower community, as far as deploying and returning VMB traps that are made available by the Department of Agriculture, was down compared to last year. There were 13 growers, representing 2400 + acres, who had 91 traps deployed at any given time during the season. We sincerely hope that grape growers will continue to participate in this program next year (or start next year if you didn't participate this past season). **The traps, pheromone, and reading of the traps are all free and it serves as a valuable tool to detect a potentially devastating pest early, thereby increasing the chances of control and possible eradication.** The Department of Agriculture also deployed an additional 93 traps into roughly 73 different blocks for 49 more growers. This program covered 3200 + acres of vineyards.

The Dept. of Agriculture will continue to run a county-wide detection program and a focused delimitation program around the previous find site for this pest in 2007. If there are no finds in the delimitation area in 2007, that portion of the program will be ended. It is critical for each grower to participate in this program. Continued trapping for the VMB is very important, as there is a time lag between the initial introduction and our ability to detect its presence using the pheromone traps. The presence of VMB in Napa and Sonoma counties should be additional encouragement for growers to run some traps in their vineyards to check for this pest.

The Lake County UCCE office maintains a good resource of information about VMB on their website. Visit them at <http://celake.ucdavis.edu> and click on the Viticulture icon.

We look forward to working with the wine grape industry and the UCCE Viticulture Advisor next year to continue to improve our education, trapping, and detection efforts for this serious vineyard pest. Please contact Chuck Morse at the Department of Agriculture at (707) 263-0217 with any questions, suggestions, or comments.

Grower Viticulture Survey Results

By Erica Lundquist, Ph.D., LCWC Viticulturist

To make sure that the Lake County Winegrape Commission's Education and Research Program is serving grower's interests a survey was carried out in August this year. This is a short summary of the results, and complete results will be posted on the Commission website.

To encourage participation and make the process more fun, those who returned surveys were entered in a raffle for seven cases of Lake County wine. LCWC Board Chair, Clay Shannon, showed his support by donating 3 cases of Shannon Ridge wine, to the project. The response was very good with 43 surveys returned, representing almost half of Lake County's winegrape acreage. The lucky growers winning a case of wine were Don Fiora, Bob Johnson, Mike Noggle, Dana O'Gorman, John Roumiguere, Dan Springer, and Tom & Ruth Stewart.

Table 1 below the 12 topics rated most interesting by growers as potential education and research topics. (A low score indicates greater interest.) The left section of the table shows rank based on the average scores of all respondents. The right section shows the rank when the scores were weighted by acreage. Complete results of the survey will be posted on the LCWC website in the Lake County Winegrowing page of the Grower Section.

When growers were asked to list additional topics they would like to see covered in viticulture and production, the greatest number of suggestions was in the areas of sales and marketing. These suggestions will help to inform a LCWC grower marketing meeting that is planned for April of 2007.

The survey also asked general questions about the education program. Respondents were satisfied with the amount of meetings offered by the LCWC education program and most were satisfied with the amount of pest management continuing education credit and Spanish language education offered. About 2/3's of respondents use the weather forecasting sponsored by the LCWC.

Table 1. Rankings of Education and Research topics by growers.

Average of Grower Scores			Average of Grower Scores after Weighting by Acreage		
Rank	Topic	Score	Rank	Topic	Score
1	Vine nutrients, fertilization	1.63	1	Influence of viticulture on wine	1.48
2	Influence of viticulture on wine	1.74	2	Mechanization	1.68
3	Organic amendments	1.83	3	Irrigation scheduling, deficit irr.	1.76
4	Marketing tools	1.95	4	Yield estimation	1.83
5	Mechanization	1.95	5	Armillaria	1.83
6	Winemaker preferences	1.96	6	Site characterization, terroir	1.87
7	Petiole sampling, interpretation	1.98	7	Vertebrate pests	1.97
8	Cover crops	1.98	8	Spider mites	2.05
9	Vertebrate pests	1.98	9	Organic amendments	2.05
10	Yield estimation	2.00	10	Environmental regulations	2.05
11	Plant, soil water monitoring	2.02	11	Winemaker preferences	2.08
12	Insects, mites	2.02	12	Vine nutrients, fertilization	2.09

The survey will provide a valuable tool for improving the effectiveness of the LCWC education and research program. Thank you to all of you who participated!

Grower Profile- Lars Crail and Maile Field- Experiences Going Organic



Lars and Maile with their sons Chance (left) and Seth.

Lars Crail and Maile Field planted the first 20 acres of their Big Valley vineyard in 1996. In 2001 they began the transition to organic management, and now they have a total of 30 acres of organic Sauvignon blanc. They also have 25 acres of organic pears, and Lars manages about 250 acres of winegrapes and pears for other owners.

Making the transition to organic presented some challenges. With a depleted soil, Lars has been applying gypsum, sulfate of potash, compost, and chicken manure. While this program is reaping the dividends of healthy vines and good winegrape quality, using chicken manure, in particular, has been a learning process. “We had a lot of neighbors calling the first year that we used chicken manure,” says Lars, “and this year we didn’t get any complaints.” He jokes, “We apply it quickly and get out of

town.” More seriously he explains the process. They make sure to buy the manure as dry as possible. Then they complete the process of spreading, applying water, and disking quickly.

Weed control has also been a challenge. For young vines, hand hoeing has been necessary to reduce competition with weeds. For older vines Lars first tried a flamer but found it to be too slow and expensive. A hoe plow has been effective, although also slow. Lars uses it to pull weeds out of the vine row. Then he pushes soil back into the vine row when he disks in the cover crop in the spring. Lars has tried a Pellenc sunflower in-row cultivator and with its speed and ease of use he thinks it would give him more flexibility to make an additional pass for weed control.

Lars has found that organic farming requires him to be very aware of what goes on in the vineyard. He monitors for pests and disease frequently in order to head off problems before they become serious. His powdery mildew program relies on sulfur and occasionally oil. Spider mites have not been an issue and he has been able to tolerate leafhopper levels.

The vineyard’s soil type is Clear Lake Clay, and Lars has found that fairly heavy water applications are needed in this cracking clay to keep vines from shutting down. He also applies potassium all season long with the irrigation water. While Lars will readily admit that the soil amendment program to farm organically is costly, he expects to cut back on these costs as soil health improves.

More important for the bottom line, farming the grapes organically has helped to find buyers. "Since we've been certified organic, we have always sold the entire crop," says Maile. Lars and Maile feel that the organic certification allows them to get into wineries that otherwise wouldn't consider them. Although most of these wineries don't put organic on the label, they often use organic grapes as a selling point on their websites. Lars and Maile have been able to keep their customers and negotiate price increases for their grapes based on consistent high winegrape quality, customer service, and the organic certification.

Customer service for Lars and Maile includes some standard approaches such as sampling grapes and sending numbers to wineries that can't make it to the

vineyard, tasting wines with the wineries, and offering the option of hand or machine harvest. Maile has also come up with some fun and unconventional approaches such as giving out awards to wineries for the best wine label or for the most complicated contract.

Lars and Maile are clear about why they farm organically. "Organic is a marketing term, but for me the real issue is sustainability", says Lars. He goes beyond organic certification requirements using biodiesel for his pump and putting up owl nesting boxes. Maile is quick to point out the advantages. "I like to walk through the vineyard with my kids and find frogs, bird's nests and quail patches." And "Organic wine really does taste better."

Calendar of Local Events

2006 Pest Management Seminar, November 16, 2006, Seventh Day Adventist Building, 1111 Hill Rd. East, Lakeport. Co-sponsored by Mendocino College, LCWC and UC Cooperative Extension. Seminar runs from 8 a.m. to 4 p.m. Earn 7 hours of pest management CE credit. \$26, lunch included. Registration starts at 7 a.m.

UC Cooperative Extension Winegrowing Day, February 2007. Date and location TBA.

Lake County Pruning Contest, February 8, 2007. Location TBA

LCWC Grower Marketing Meeting, April 2007. Date and location TBA.



Lake County Winegrape Commission
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