



A Tradition of Stewardship  
A Commitment to Service

# **NAPA COUNTY GRAND JURY**

**2010-2011**

**Final Report on**

**PESTICIDE USE IN NAPA  
COUNTY**

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**NAPA COUNTY GRAND JURY**  
**P.O. BOX 5397**  
**NAPA, CALIFORNIA 94581**

April 27, 2011

The Honorable Stephen T. Kroyer  
Presiding Judge  
Superior Court of the State of California  
County of Napa  
825 Brown Street  
Napa, CA 94459

Re: 2010-2011 Napa County Grand Jury Final Report: Pesticide Use in Napa County

Dear Judge Kroyer,

Pursuant to Sections 933 (a) of the California Penal Code, the 2010 -2011 Napa County Grand Jury submits to you its final report on Pesticide Use in Napa County. Our investigation of this subject was conducted in a manner consistent with the California Penal Code, this Court's Charge, and the historic role of the Grand Jury, to protect the interests of the residents of Napa County.

This is the second in a series of final reports we will be issuing before the term ends. I would like to acknowledge the hard work and dedication of the Grand Jurors, which our report reflects. It is a privilege and pleasure to work with them.

Respectfully submitted,

A handwritten signature in cursive script that reads "Judith Bernat".

Judith Bernat  
Forewoman  
2010-2011 Napa County Grand Jury



A Tradition of Stewardship  
A Commitment to Service

## NAPA COUNTY GRAND JURY

P.O. BOX 5397

NAPA, CALIFORNIA 94581

To the Residents of Napa County:

In order to fulfill the Grand Jury's mandate to investigate all local government agencies, to assure they are being administered efficiently, honestly, and in the best interest of Napa County residents, the 2010-2011 Grand Jury investigated pesticide use in Napa County.

In 2009, 1,542,059 pounds of pesticides were used in Napa County. Because of the significant amount of pesticide use, this Grand Jury investigated the Agricultural Commissioner's Office (ACO) and interviewed a grape grower, a soil specialist, a representative from a pesticide company, a farmer committed to sustainable farming practices and ACO personnel.

After careful investigation and research this Grand Jury found that the ACO successfully monitors pesticide use throughout the County and that pesticide use in the County has declined steadily over the last decade. This decline is, in part, attributed to integrated pest management and increasing trends towards more organic and sustainable farming practices.

The Grand Jury found that although the ACO interfaces extensively with vineyard management, the general public has limited access to information about pesticide use, violations, restrictions and related fines. One key recommendation is that the ACO prepare an annual notice to be posted on the County website and also send it to the local newspapers, to inform the general public about these issues.

The Napa County Office of County Counsel has reviewed this final report. The Napa County Superior Court Presiding Judge, pursuant to California Penal Code Section 933 (a), has found that this report complies with California Penal Code Part 2 Title 4. This report has been accepted and filed as a public document by the County Clerk.

Copies of this report are available for review in the Napa City-County Library and online at [www.napa.courts.ca.gov](http://www.napa.courts.ca.gov). Follow the link to Grand Jury.

We hope you find this report informative.

It is an honor and privilege to serve on the 2010-2011 Grand Jury.

Respectfully submitted,

The 2010-2011 Napa County Grand Jury

# **PESTICIDE USE IN NAPA COUNTY**

## **SUMMARY**

In order to fulfill the Grand Jury's mandate to investigate all Napa County government agencies to assure they are being administered efficiently, honestly and in the best interest of Napa County's residents, the 2010-2011 Grand Jury investigated the Agricultural Commissioner's Office (ACO) to determine if pesticide use is being managed effectively and regulations are being adequately enforced.

In 2009 1,542,059 pounds of pesticides were used in Napa County. Because of the significant amount of pesticide use, the Grand Jury investigated the ACO and interviewed a grape grower, a soil specialist, a representative from a pesticide company, a farmer committed to sustainable farming practices and ACO personnel. After conducting interviews and research, the Grand Jury found that pesticide use in the County has declined steadily over the last decade. This decline is, in part, attributed to integrated pest management (IPM) and increasing trends towards more organic and sustainable farming practices.

Overall, the Grand Jury found that the ACO successfully manages and monitors pesticide use. The ACO also offers effective educational programs for the use and application of pesticides.

Although the ACO interfaces extensively with vineyard management, the general public has limited access to information about pesticide use, violations, restrictions and related fines. The Grand Jury recommends that the ACO prepare a notice to be posted on the County website and also send it to the local newspapers, to inform the general public about these issues.

## **BACKGROUND**

There are currently 33 people employed in the ACO. The 2010-2011 annual budget for the ACO is \$4,175,885. This amount includes an additional \$600,000 increase due primarily to a State-funded initiative to deal with the eradication of the European Grapevine Moth infestation recently discovered in Napa County. The 2009-2010 budget was \$3,581,609 and the 2008-2009 budget was \$3,435,824.

The ACO enforces agricultural laws and regulations. This agency has not been reviewed by the Grand Jury since 2001-2002. No complaints have been received by the Grand Jury, but because of the quantity of pesticides used every year in vineyards and the possible impacts on the environment and residents' health, the Grand Jury's investigation was conducted to determine if pesticide use is being managed effectively and regulations are being properly enforced.

In 2009, 1,542,059 pounds of pesticides were used in Napa County vineyards (See Appendix I). Pesticide use is reported by active ingredients and is reported every other year as indicated in Appendix I.

The Director of the California Department of Pesticide Regulation (CDPR) as well as the County Agricultural Commissioner are responsible for regulating pesticide use, sales, and protecting public health and the environment from any adverse effects that may occur from the legal use of pesticides. The Napa County ACO acts under the direction and authority of the CDPR.

Other state and federal agencies involved in cooperative enforcement with the CDPR and the county agricultural commissioners include:

- California Department of Consumer Affairs, Structural Pest Control Board (SPCB)
- U. S. Environmental Protection Agency (EPA)
- U. S. Food and Drug Administration (FDA)

The principle users of pesticides in the County are:

- public agencies - for road and street defoliation
- vineyard
- residential
- other non-vineyard crops

By definition, a pesticide is any substance which is intended to be used for defoliating plants, regulating plant growth, or for preventing, destroying, repelling, or mitigating any pest. A program that is in place to help manage pesticide use in Napa County is the Pesticide Use Enforcement (PUE) program. This program is one of many that the ACO has the authority to enforce. Under the guidance and direction of the CDPR, the ACO administers the PUE program with jurisdiction over the use of pesticides in all settings in the County. These settings include production agriculture, structural pest control, landscape maintenance, golf courses and applications by public agencies. Through training and outreach, the ACO strives to educate pesticide users about their legal responsibilities.

Through a process of inspections and investigations, levels of compliance are determined. Compliance and enforcement actions are taken when corrective measures are necessary.

## **DISCUSSION**

Pesticide use has changed over the last few decades. Historically, pesticides were broad-spectrum applications used to kill the intended pest as well as most other beneficial insects. With no beneficial insects present, the targeted pest would rebound and the broad-spectrum pesticide would need to be reapplied. This cycle was repeated throughout the growing season.

With the introduction of narrow-spectrum, or selective pesticides, the intended pest is eliminated without disruption of the beneficial insects. An example is the pesticide that targets the mite population. This category of pesticides kills the destructive mites, but leaves the beneficial mites and all the other beneficial insects that keep the insect balance in the vineyard. Once the destructive mites are eliminated, or significantly reduced with the narrow-spectrum application, the beneficial population that was not eliminated is strong enough to keep the destructive mites under control. This results in a balanced environment.

The use of selective pesticides has resulted in a major reduction in the volume of pesticides applied per acre, less volume per application, and fewer applications.

### **Pesticide Control and Application**

The ACO performs a number of activities throughout the year to ensure that growers, pest control businesses, government agencies and others are meeting health and safety guidelines. These activities include: inspections, investigations, compliance and enforcement actions, operator identification numbers and restricted materials permits, pesticide use reports, business registrations, and private applicator certifications which are essential in protecting our health and environment. The Grand Jury investigated how these activities and practices ensure that pesticides are managed safely to protect our health and environment. Summaries of these activities appear below.

### **Inspections**

The ACO conducts a variety of inspections to assure that pesticide users are meeting legal requirements. The primary goal during inspections is to ensure that workers and the environment are appropriately protected from any possible adverse impacts from pesticides. Proper licensing and registration of pest control



businesses, pest control advisors, pest control dealers and farm labor contractors are also assessed during inspections. If non-compliance issues are discovered during inspections, appropriate follow-up steps are taken.

## Investigations

The ACO performs various types of pesticide-related investigations. When there is the possibility that someone has become ill or injured due to an exposure to a pesticide, an investigation is conducted to determine if any violations have occurred. Other types of investigations include cases where pesticides are suspected to have caused environmental and/or property damage. All pesticide-related complaints from the public are investigated and documented.

## Compliance and Enforcement Actions

Various levels of follow-up actions are employed when non-compliance matters are discovered during inspections and investigations. The ACO encourages compliance by educating the regulated community on its responsibilities under the laws and regulations. If a case involves serious worker safety violations or environmental or property damage, an enforcement action may be warranted. Under civil law when an enforcement action is initiated, a Notice of Proposed Action (NOPA) is drafted that outlines the violations, and a fine is proposed. Those who are issued a NOPA are afforded due process rights.

## Operator Identification Numbers and Restricted Materials Permits

Each year, prior to the purchase or use of pesticides, growers, businesses and others must obtain or renew an operator identification number (OP ID) or restricted materials permit (RMP). Contact information, sites, and pesticide usage are reviewed and updated on OP IDs and RMPs. Maps are checked for accuracy and crop statistics are reviewed. Prior to renewing their permit, growers and businesses are informed about changes in regulations and current issues.

## Pesticide Use Reports

Pesticide use reports are required to be submitted to the ACO by the tenth day of the month following the month in which the pesticide was applied.

## Business Registrations

The Commissioner's office registers different types of pest control businesses and farm labor contractors.

## Applicators

Federally restricted-use pesticides or California restricted materials can only be used by, or under the supervision of, a certified commercial or private applicator, unless the label specifies otherwise. The certified applicator responsible for this supervision must be aware of the conditions at the site of application and be available to direct and control the manner in which applications are made by noncertified applicators.

## Other Measures to Enforce and Manage Regulations

In addition to the above activities, there are other U.S. and California laws and regulations that the ACO monitors and regulates. The California Department of Pesticide Regulation specifies the following:

- Pesticide registration, wherein manufacturers must register pesticides with the EPA and CDPR before anyone can buy or use them in California. These agencies register individual pesticide products, not generic pesticides. The registration procedure protects people and the environment from ineffective or harmful chemicals. The sale of unregistered pesticides is illegal. To complete registration, manufacturers supply labels meeting all federal and state requirements. These labels become legal documents and contain important information for users.
- Licensing of the Product (Certificate of Registration), which is required for each pesticide product. When CDPR issues the Certificate of Registration, the accepted label becomes the registered label. The pesticide must be used according to the registered label and according to any regulatory restrictions. The pesticide label on the product sold must match the registered label, or the sale is illegal.
- If the product's registration lapses, the registrant can no longer sell the product in California. There are two ways that a product's registration may expire: (1) if the manufacturer does not renew the registration and allows it to lapse, or (2) if a suspension or cancellation has occurred for the product by CDPR or EPA.
- Pesticide applicators must be certified. Uncertified applicators may buy, possess, use, or supervise the use of general use pesticides that have not been designated by CDPR as "restricted materials." However, only

certified pesticide applicators can buy, possess, use, or supervise the use of California restricted materials, and with few exceptions, they must obtain a permit from the ACO to do so.

- Regulations set the format for pesticide labels and prescribe the information they must contain. The labels contain mandatory and permissive statements for requirements and information. Mandatory statements must be followed. Also, any document referred to on the label becomes part of the label. The pesticide label or labels, including the documents referred to, must be at the use site at the time of use.

## Training and Outreach

Prior to handling any pesticides by California certified commercial or private applicators, all employees must be trained annually. The training must be documented and cover specific topics listed in Title 3, California Code of Regulations, Section 6724. The program used to train employees must be in writing and describe the materials and information used. Fieldworkers must be trained every five years.

In order to meet the State training regulations, the ACO sponsors three continuing education classes annually. The training sessions provide credits for private applicator certificate holders. In January 2005 the ACO began offering Spanish language sessions. State licensees can also earn credits at continuing education sessions.

The ACO writes and publishes the *Ag Rag*, an annual newsletter, containing articles on various PUE issues as well as information on pests and diseases of concern in Napa County. In order to keep growers and other pesticide users informed, trainings and informative mailings are provided when new regulations are implemented.

## OTHER CURRENT PRACTICES

### Trends in Pesticide Use

For the last two decades, growers have been under pressure from constantly changing and ever tightening regulatory policies. Many pesticides have been phased out over the years. The top five most used pesticides in Napa County in 2009 were sulfur, refined petroleum distillates, mineral oil, glyphosate/isopropylamine salt and lime-sulfur. Pesticide use in Napa County has been declining steadily over the last several years. Other trends that have

contributed to the decrease in pesticide use are IPM and increased organic and sustainable farming practices.

## Organic Farming

Organic farming refers to agricultural production systems used to produce food and fiber. Organic farming management relies on developing biological diversity in the field to disrupt habitat for pest organisms, and the purposeful maintenance and replenishment of soil fertility. Organic farmers are allowed to use certain botanical or non-synthetic pesticides.

The objective and motivations for shifting from chemical farming to organic farming include:

- concern for protecting soil, human, and animal health from the potential hazards of pesticides
- the desire for lower production inputs (e.g. composting, water conservation, use of natural resources)
- concern for the environment
- protection of soil resources

As a result, pesticide use is lower because many organic farmers have developed innovative methods of organic recycling and pest control in their crop production sequences.

Organic farming does not prevent the use of pesticides. Under the National Organic Program Rule, growers are required to use sanitation and cultural practices first before they can resort to applying a material to control a weed, pest or disease problem. Use of these materials in organic production is regulated, strictly monitored, and documented. As a last resort, certain botanical or other non-synthetic pesticides may be applied.

## Sustainable Agriculture

The objective of sustainable agriculture is to integrate three main goals:

- environmental health
- economic profitability
- economic equity

A variety of philosophies, policies and practices have contributed to these goals. In the practice of sustainable agriculture, stewardship of both natural and human

resources is of prime importance. Stewardship of human resources includes consideration of social responsibilities such as working and living conditions of laborers, the needs of rural communities, and consumer health and safety both now and in the future. Stewardship of land and natural resources involves maintaining or enhancing these resources.

Sustainable production practices involve a variety of approaches. Specific strategies must take into account topography, soil characteristics, climate, pests, local availability of resources and the individual grower's goals. Despite the site-specific and individual nature of sustainable agriculture, several general principles can be applied to help growers select appropriate management practices:

- selection of species and varieties that are well suited to the site and to conditions on the land
- diversification of crops (including livestock) and cultural practices to enhance the biological and economic stability of the land
- management of the soil to enhance and protect soil quality
- efficient use of resources (such as water)
- consideration of farmers' goals and lifestyle choices

These practices all result in a net reduction of pesticide use.

## Integrated Pest Management

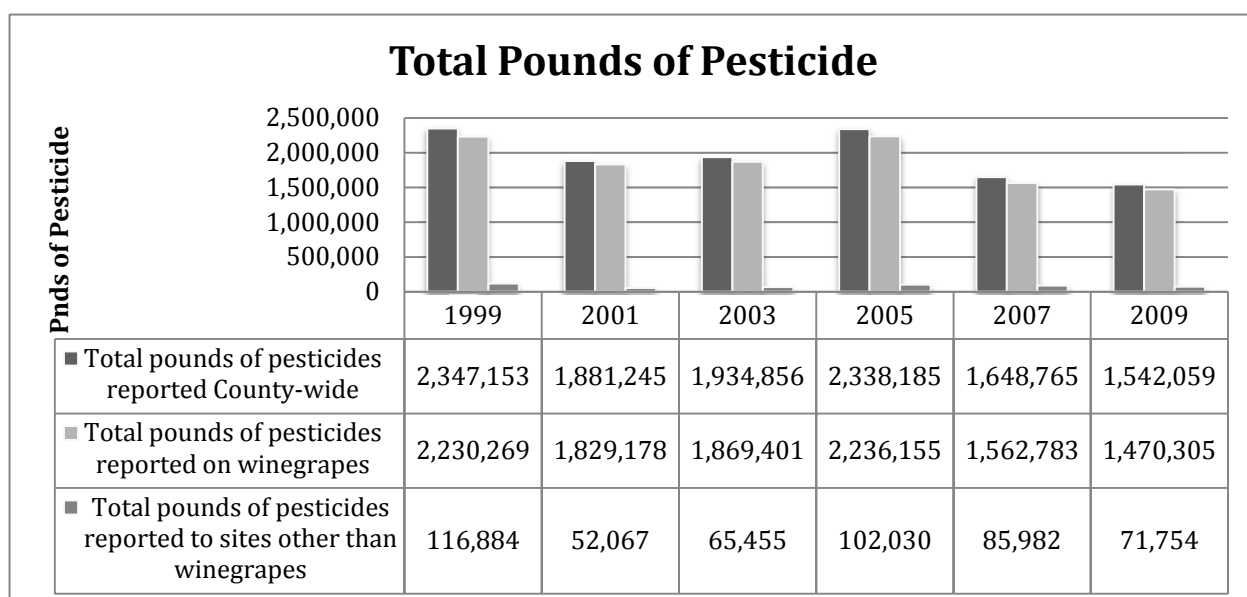
Integrated Pest Management (IPM) is another trend. IPM provides an effective and environmentally sensitive approach to pest management that relies on a combination of common-sense practices. IPM programs use current, comprehensive information on the life cycles of pests and their interaction with the environment. This information, in combination with available pest control methods, is used to manage pest damage by the most economical means, and with the least possible hazard to people, property, and the environment.

The IPM approach can be applied to both agricultural and non-agricultural settings, such as the home, garden, and workplace. IPM takes advantage of all appropriate pest management options including, but not limited to, the judicious use of pesticides. In contrast, organic food production applies many of the same concepts as IPM but limits the use of pesticides to those that are produced from natural sources, as opposed to synthetic chemicals.

Napa County ACO's diligent efforts to prevent and eradicate harmful species, such as the Glassy Wing Sharpshooter and the European Grapevine Moth before they become established, are prime examples of IPM and how it can help protect crops while still reducing pesticide use.

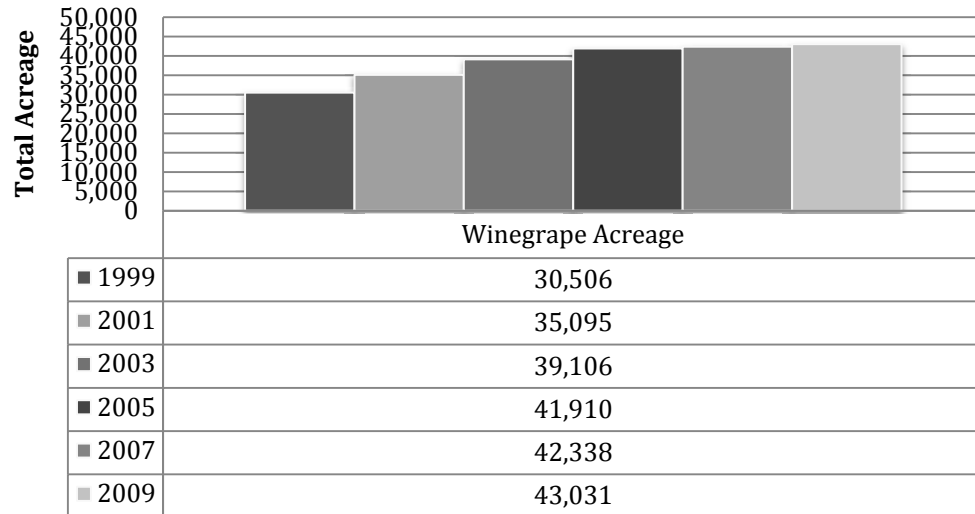
The tables below detail 10 years of trends for pesticide use and winegrape acreage in Napa County (See Appendix I). The tables were derived from the latest available statistics provided by the ACO. Pesticides are used primarily on winegrapes in Napa County. As depicted in Appendix I, overall pesticide use has decreased over the past 10 years. The use of some specific pesticides increased, but the overall total pounds used has decreased.

### Napa County Pesticide Use Reported in Pounds of Active Ingredient



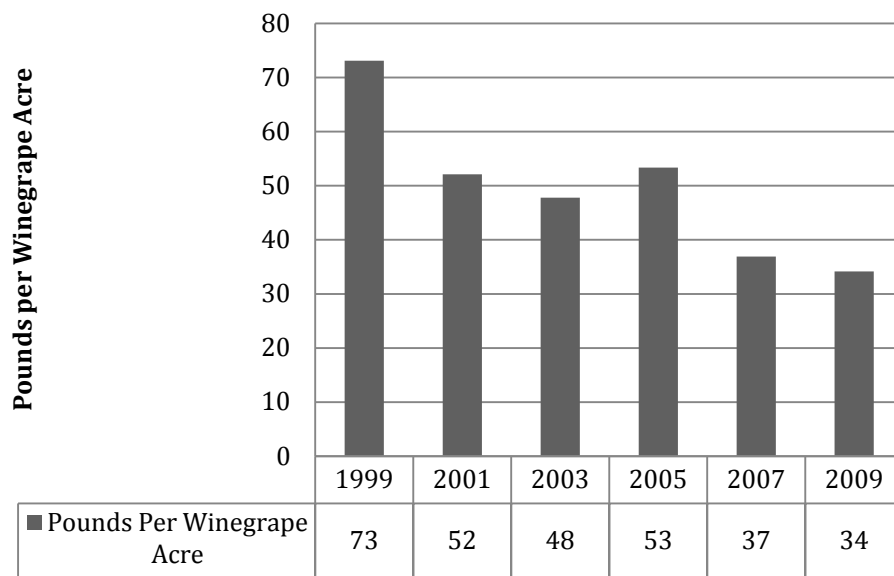
**Table 1: Total pesticide use in Napa County in pounds of active ingredient**

## Napa County Total Winegrape Acreage



**Table 2: Napa County Total Winegrape Acreage**

## Pounds Per Winegrape Acre



**Table 3: Pounds of pesticide use per winegrape acre in Napa County**

The above three tables show a declining trend in pesticide use in winegrape acreage over a 10 year period. Pounds per winegrape acre of pesticides used went from 73 pounds per acre in 1999 to 34 pounds per acre in 2009 which is a decline of more than 50%. This decline can be attributed to a number of factors such as variability in rainfall, climate, weather, pest and disease cycles, economics and newly identified invasive species. These factors, combined with increasing trends in IPM, organic and sustainable agriculture practices have all contributed to the decrease in pesticide use in Napa County.

The ACO's website ([countyofnapa.org/AgCom/](http://countyofnapa.org/AgCom/)) has comprehensive information about farming in Napa County. Pesticide use, regulations, forms and general information for all residents is available. Growers, vineyard managers, and vineyard owners have access to current pest threats and current regulations. Licensing requirements, forms and newsletters, are posted.

The website also lists upcoming ACO sponsored training events for pesticide application safety procedures and pesticide use. The *Ag Rag*, a yearly newsletter discusses new regulations, restricted pesticides and other grower related information relevant to the everyday business of farming in Napa County.

The Grand Jury requested five years of statistical information from the ACO regarding pesticide use violations, violators, warnings, and fines in Napa County. This information was provided promptly and completely (See Appendix II). The charts in the appendix support and parallel the decrease in pesticide use over the last five years as depicted in Tables one to three. Integrated Pest Management, increasing trends toward more organic and sustainable farming, along with better and fewer pesticides used are evidenced by the reduction in the number of violators and violations for pesticide use. In 2006 the ACO assessed ten fines for pesticide use violations. However, in 2009 and 2010 there were only two fines issued each year.

While the ACO staff was forthcoming and the statistical information was useful, the Grand Jury found it is only available to the general public upon request. The information regarding pesticide use, restrictions, violations and related fines should be available on the ACO website and updated annually. In addition, an annual notice with the same information could be prepared and sent to the local newspapers.



## **FINDINGS**

The 2010-2011 Grand Jury finds that the:

F1. Ongoing ACO efforts and industry trends (IPM, organic and sustainable farming) have resulted in a substantial and steady reduction in pounds of active ingredients in pesticides applied.

F2. ACO does not adequately inform the general public about pesticide violation enforcement statistics.

## **RECOMMENDATION**

The 2010-2011 Grand Jury recommends that:

R1. By January 2012, the Agricultural Commissioner post for the general public, on the County website, statistics on pesticide use, violations, fines and restrictions and update the information on an annual basis.

R2. By January 2012, the Agricultural Commissioner annually prepare and send a notice, to the local newspapers for them to publish, which will give the general public the statistics on pesticide use, violations, fines and restrictions.

## **REQUEST FOR RESPONSES**

Pursuant to Penal Code Section 933.05, the Grand Jury requests responses from the following individual:

- The Agricultural Commissioner of Napa County: F1, F2; R1, R2

## **COMMENDATION**

The Agricultural Commissioner's enthusiastic and consistent efforts in managing pesticide use in Napa County have resulted in a better quality of life in our community.

## **GLOSSARY**

Active ingredient – is the part of the product that kills or inhibits the target pest.

ACO – Agricultural Commissioner’s Office

Applicator – anyone who applies a pesticide

Chemical – the elements or ingredients used to formulate a pesticide.

CDPR - California Department of Pesticide Regulation

EPA – Environmental Protection Agency

IPM – Integrated Pest Management

OP ID – Operator Identification

Pesticide - a pesticide is any substance that is intended for defoliating plants, regulating plant growth, or for preventing, destroying, repelling, or mitigating any pest.

PUE – Pesticide Use Enforcement

RMP – Restricted Materials Permit

Signal words – See Appendix I. Labels use three signal words: caution, warning or danger, to show a product’s potential for making you sick if it is not used correctly. “Caution” appears on products that are least harmful to you. “Warning” means a product is more harmful than the one with a “Caution” label. “Danger” means a product is poisonous or corrosive and should be used with extreme care.

SPCB – Structural Pest Control Board

## **METHODOLOGY**

Information for this investigation was gathered through numerous interviews, document analyses and Internet research.

### **Interviews Conducted:**

- Agricultural Commissioner's Office personnel
- Experts from sustainable farming, organic farming, soil science and pesticide sales.

### **Documents and Websites Reviewed:**

- Annual Pesticide Use Reports Data: Napa County Indexed by Chemical
- Napa County Community Health Needs Assessment, "Identifying Priority Health Needs," Barbara Aved Associates, 2010
- Various articles from the Napa Register
- [www.cdpr.ca.gov](http://www.cdpr.ca.gov)
- [www.epa.gov/pesticides](http://www.epa.gov/pesticides)
- [www.imp.ucdavis.edu](http://www.imp.ucdavis.edu)
- [www.ofrf.org](http://www.ofrf.org)
- [www.pw.ucr.edu](http://www.pw.ucr.edu)
- [www.sarep.ucdavis.edu/concept.htm](http://www.sarep.ucdavis.edu/concept.htm)

## **APPENDIX**

- I. Pesticide Use Reported in Pounds of Active Ingredients – Napa County
- II. County of Napa Pesticide Violation Enforcement Statistics 2006-201

APPENDIX I: PESTICIDE USE REPORTED IN POUNDS OF ACTIVE INGREDIENT-NAPA COUNTY

Active Ingredient	Common Name <sup>1</sup>	Pesticide Type	Signal Word	1999	2001	2003	2005	2007	2009
<b>Benomyl</b>	Benlate	Fungicide	Warning	1,659	1,500	846	35	2	0
<b>Chlorpyrifos<sup>2</sup></b>	Lorsban	Insecticide	Warning	679	207	368	4,002	2,507	4,925
<b>Glyphosate</b>	Roundup	Herbicide	Caution	32,350	30,052	45,352	19,646	21,048	31,360
<b>Lime Sulfur<sup>3</sup></b>	Lime sulfur	Fungicide	Danger	5,239	3,861	7,255	10,405	39,192	21,403
<b>Methyl bromide</b>	Terr-O-Gas	Fumigant	Danger	180,900	14,947	7,134	23,020	11,936	3,410
<b>Myclobutanil</b>	Rally	Fungicide	Caution	2,832	2,640	2,430	2,948	2,539	1,185
<b>Oryzalin<sup>4</sup></b>	Surflan	Herbicide	Caution	10,020	1,127	9,408	7,927	4,122	2,349
<b>Oxyfluorfen</b>	Goal	Herbicide	Warning	8,286	6,250	9,667	8,588	4,788	6,482
<b>Paraquat</b>	Gramoxone	Herbicide	Danger	777	318	855	1,163	58	31
<b>Petroleum distillates (refined)<sup>5</sup></b>	various	Adjuvants Fungicides Insecticides	various	7,472	2,738	24,932	97,965	144,335	115,296
<b>Potassium bicarbonate</b>	Kaligreen	Fungicide	Caution	9,230	13,787	38,955	32,906	9,078	12,673
<b>Simazine<sup>6</sup></b>	Princep	Herbicide	Caution	10,969	6,114	7,799	5,078	1,783	2,259
<b>Sodium tetrathiocarbonate</b>	Enzone	Nematicide	Danger	17,228	1,170	553	1,303	2,838	1,691
<b>Sulfur</b>	Sulfur Dust	Fungicide	Caution	1,973,323	1,633,323	1,600,672	1,864,577	1,162,160	1,051,267
<b>Total pounds of pesticides reported County-wide</b>				2,347,153	1,881,245	1,934,856	2,338,185	1,648,765	1,542,059
<b>Total pounds of pesticides reported on winegrapes</b>				2,230,269	1,829,178	1,869,401	2,236,155	1,562,783	1,470,305
<b>Total pounds of pesticides reported to sites other than winegrapes<sup>7</sup></b>				116,884	52,067	65,455	102,030	85,982	71,754
<b>Winegrape acreage<sup>8</sup></b>				30,506	35,095	39,106	41,910	42,338	43,031

## Footnotes

- 1 There may be more than one formulated (common name) for any one active ingredient.
- 2 Chlorpyrifos use in vineyards increased due to the discovery of a new invasive mealybug specie, Vine mealybug. A prevention program has been established to minimize the spread to new vineyards and a control program developed to reduce the need for this insecticide.
- 3 University of California scientists have recommended the application of this dormant season fungicide to knock back the powdery mildew spores prior to bud break.
- 4 Use of preemergent herbicides such as Oryzalin have been decreasing as growers rely more on contact herbicides that are only active in plant tissues such as Glyphosate.
- 5 University of California scientists have recommended the application of Stylet Oil (petroleum distillate-based) for powdery mildew control. Growers have substituted Stylet Oil for some of their sulfur dust applications which may account for the slight trend of reduction in sulfur use.
- 6 Same comment as footnote number 4.
- 7 Applications associated with minor crops, structural pest control, landscape maintenance, rights-of-way, etc.
- 8 While there has been an increase of 12,500 acres of winegrape plantings from 1999 to 2009, the pounds of pesticide reported used has decreased substantially over that same time period.

**APPENDIX II: COUNTY OF NAPA  
PESTICIDE VIOLATION ENFORCEMENT STATISTICS  
2006-2010**

<b>Number of Compliance and Enforcement Actions by Type</b>					
<i>Action Type</i>	<i>2010</i>	<i>2009</i>	<i>2008</i>	<i>2007</i>	<i>2006</i>
I. Letter of Warning / Notice of Violation	32	43	39	65	77
II. Documented Compliance Interview	0	0	1	4	1
III. Stop Work Order	3	2	0	3	0
IV. Administrative Civil Penalty	2	2	6	7	10

<b>I. Letter Of Warnings / Notice Of Violation Numbers by Violation Type</b>					
<i>Violation Type</i>	<i>2010</i>	<i>2009</i>	<i>2008</i>	<i>2007</i>	<i>2006</i>
Late pesticide use report submittal	17	15	15	21	30
Decontamination facilities	2	1	3	9	13
Applying pesticides before renewing	5	5	5	12	10
Personal protective equipment	1	1	0	5	5
Worker training	1	2	1	3	3
Business license and registration	1	4	7	9	8
Hazard communication	1	1	0	3	3
Pesticide label violation	1	1	2	3	2
Emergency medical care planning	0	2	0	1	3
Equipment issues	0	0	0	1	2
Pesticide container issues	0	2	0	2	4
Respiratory protection program	2	2	0	0	0
General standards of care	0	0	0	1	1
Restricted material permit violation	0	0	0	1	1

<b>II. Documented Compliance Interviews</b>		
<i>Year</i>	<i>Business Type</i>	<i>Violation Type</i>
2010	-----	
2009	-----	
2008	Vineyard Company	Safety training and personal protective equipment
2007	Vineyard Company	Pesticide use report submittal
	Vineyard Company	Supervision and record keeping related to field fumigation
	Ag Pest Control Bus.	Improper soil preparation prior to field fumigation
	Vineyard Mgt. Co.	Pesticide label availability, emergency medical care plan, decontamination facility
2006	Vineyard Company	Pesticide drift, general standards of care

**COUNTY OF NAPA  
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2006-2010**

<b>III. Stop Work Orders</b>		
<i>Year</i>	<i>Business Type</i>	<i>Violation Type</i>
2010	Unlicensed Maintenance Gardener	Licensing, personal protective equipment, training
	Unlicensed Maintenance Gardener	Licensing
	Unlicensed Maintenance Gardener	Licensing
2009	Unlicensed Maintenance Gardener	Licensing
	Unlicensed Maintenance Gardener	Licensing
2007	Unlicensed Maintenance Gardener	Licensing, pesticide label
	Unlicensed Maintenance Gardener.	Licensing
	Unlicensed Ag Pest Control Business	Licensing

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<b>IV. Administrative Civil Penalties</b>			
<i>Year</i>	<i>Business Type</i>	<i>Violation Type</i>	<i>Fine Amount</i>
2010	Vineyard Management Co.	Improper storage of pesticides	\$400
	Vineyard Management Co.	Personal protective equipment	\$400
2009	Vineyard Company	Respiratory protection program	\$250
	Vineyard Management Co.	Pesticide use reporting	\$300
2008	Vineyard Company	Training, personal protective equipment	\$1,000
	Restaurant / Inn	Pesticide label violation	\$700
	Vineyard Company	General standards of care	\$2,200
	Vineyard Company	Improper storage of pesticides	\$250
	Vineyard Company	Pesticides stored / dispensed from food containers	\$500
	Vineyard Management Co.	Decontamination facilities	\$700
2007	Vineyard Company	Pesticide use reporting	\$150
	Vineyard Management Co.	Pesticide use reporting	\$150
	Vineyard Management Co.	Decontamination facilities	\$500
	Vineyard Company	Decontamination facilities	\$500
	Vineyard Management Co.	Decontamination facilities	\$500
	Vineyard Management Co.	Decontamination facilities	\$500
	Vineyard Management Co.	Pesticide use reporting	\$150
2006	Restaurant / Inn	Pesticide label violation	\$2,000
	Vineyard Management Co.	Pesticide use reporting, decon. facilities	\$700
	Vineyard Management Co.	Decontamination facilities	\$500
	Pesticide dealer	Sale of pesticide without proper permit	\$400
	Vineyard Management Co.	Closed mixing system	\$400
	Vineyard Management Co.	Decontamination facilities	\$500
	Unlicensed Maintenance Gardener	Violation of cease and desist order, licensing, PPE, pesticide use reporting,	\$2,200
	Unlicensed Maintenance Gardener	Licensing, PPE, pesticide use reporting	\$1,150
	Vineyard Company	Failure to submit notice of intent for restricted material use, pesticide use report	\$400
	Vineyard Management Co.	Worker training	\$250