



2014  
Marin County  
Livestock & Crop Report

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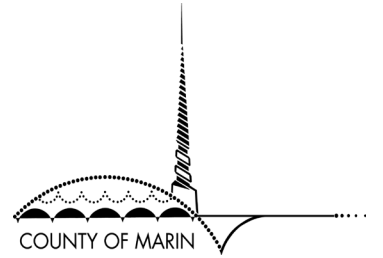
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In accordance with the provisions of Section 2279 of the California Food and Agricultural Code, I am pleased to submit the annual Livestock and Crop Report for 2014. This report is a summary of counts, acreage, yields, and gross value of agricultural production in Marin County. The 2014 gross value of all production is estimated to be the highest value ever recorded at \$100,953,000. This represents an increase of approximately \$15,900,000, which is 19 percent higher than the reported 2013 total agricultural production value of \$85,053,000. The report represents gross returns to the producer and does not indicate actual net profit.

Milk is the long-standing premier commodity for Marin, accounting for 39 percent of the crop report's total value. The average Market Milk Price was up for both organic and conventional milk in 2014. While overall production was slightly lower than in 2013, organic production increased by approximately 30 percent, leading to an increase in overall value of approximately \$5,073,000.

In April 2013, the California Department of Food and Agriculture launched an internet based system that allows all organic producers in California to register with their department. The database created by this system provides a more complete dataset of agricultural production in Marin County and all other California Counties.

The accuracy of the data for the Livestock & Crop Report was further increased this year by accessing aquaculture reports provided by the California Department of Fish and Wildlife. Aquaculture revenue increased by \$5,068,000, or 91 percent over recorded figures for 2013. This should be viewed as an increase in data accuracy, not necessarily an increase in production.

My appreciation goes to the many growers, producers, individuals and organizations for their cooperation in providing the information necessary for this report. I would like to extend special thanks to members of my staff, especially Kyle Lindstrom and Jeff Stiles, for their help in producing this report.

Respectfully submitted,

Director of Weights & Measures

## Fiscal Statement

(Fiscal year 2013-2014)

<b>REVENUE</b>	<b>\$2,521,083</b>
County Funds	\$1,326,225
State Funds	\$808,097
Collected Fees	\$366,692
Collected Fines	\$20,069
<b>EXPENDITURES</b>	<b>\$2,521,083</b>
Salaries and benefits	\$1,673,820
Services & Supplies	\$213,182
Overhead	\$634,081

Cover photo: Silage sprouting by Johanna Good

# A BUZZ ABOUT TOWN:

## Beekeeping in Marin



California's 2014 honey production of 12.48 million pounds was nearly 15 percent higher than the previous year. Marin County beekeepers are not among the state's large commercial producers but they have become a vital part of a growing movement across the country to revitalize the honey bee.

beekeepers or selling relatively small batches of honey. Commonly known as "estate honey", the finished honey can be found in a wide variety of flavors and colors largely due to the numerous micro-climates within the county.

Honey bees are not native to the United States but were brought here by the first immigrant settlers. The prolific and generally easy to manage insects are

The Marin County Beekeeping club has grown rapidly in size in the past decade and now has nearly 400 members on its roster, most of whom have one or

### ***"Marin is in the midst of a great experiment now"***

responsible for required pollination of many of the nation's crops. The almond industry in California is completely dependent on bees requiring the use of 1.4 million colonies of honey bees, approximately 60 percent of all the managed bee colonies in the United States.

two hives. And although the majority of them are not making a living from bees or bee products, many are making a significant contribution to the lives of the bees.

Most Marin County beekeepers fall into the "hobbyist" category working part-time providing services to novice

In recent years, bees have been hit hard with a variety of diseases, not least among them is the varroa mite. These external parasites reproduce inside the bee colony weakening the bees and making them susceptible to RNA viruses such as deformed wing virus. The destruction caused by these parasites has wreaked havoc on the national bee industry.

In 2009, Marin beekeepers saw an opportunity to help and a coordinated community effort was launched to saturate areas of the county with stock that demonstrated traits capable of keeping varroa mites and other diseases in check. Bees frequently travel distances between 3-5 miles to collect nectar and pollen from flowers so it was clear that any effort had to be a coordinated one. The Marin group rose to the challenge.

"Marin is in the midst of a great experiment now", said Bonnie Morse, co-owner of the Bonnie Bee Company based in San Rafael. It is this kind of ingenuity that sets Marin County apart and at the forefront of helping to solve challenging issues such as colony collapse disorder.

A few beekeepers offer a variety of services including direct care of the hives and consulting sustainably sourced products from the hive and perhaps most importantly local bees. These are not just any bees, but those that seemed to have developed natural methods of survival against the recently rampant diseases.

### ***"...a rapidly growing obsession..."***

Since 2011 they have been raising "locally adapted" stock by grafting queens from long-lived hives and mating them with hives in isolated areas of the County. This work, combined

with the annual bee census conducted by the club for the past six years, has helped to provide valuable data that may lead to a solution to the massive deaths of bees.

Marin beekeepers are leading the growing movement across the country for beekeepers to support local stock. The group often partners with UC Davis to bring top experts in the field to lecture and provide information to the growing number of backyard beekeepers in the County.

Photos of beekeepers, honeycomb, and honey provided by Bonnie Morse

Keeping bees today may not be as common as when America was primarily an agriculturally-based society and every farmer had a hive "out back". In Marin County, at least, it is a rapidly growing obsession with many residents interested in locally produced food and a healthy, sustainable lifestyle.



# Agricultural Production Summary

TEN  
YEAR  
SUMMARY

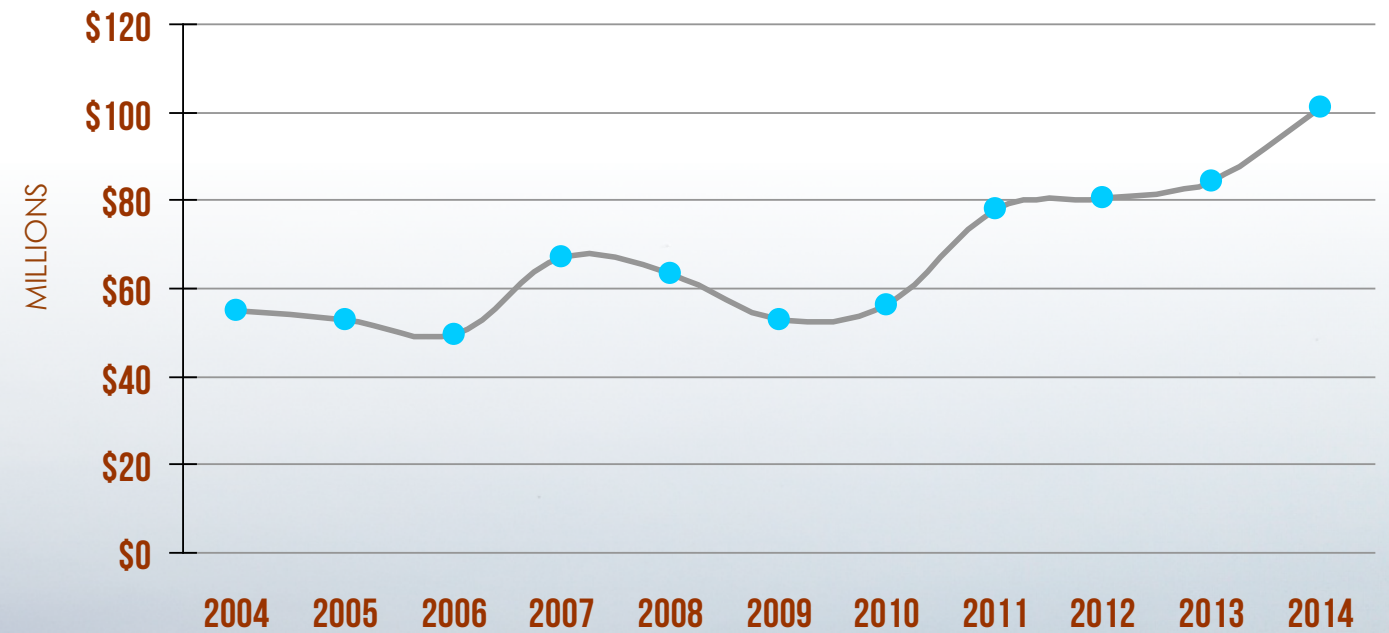
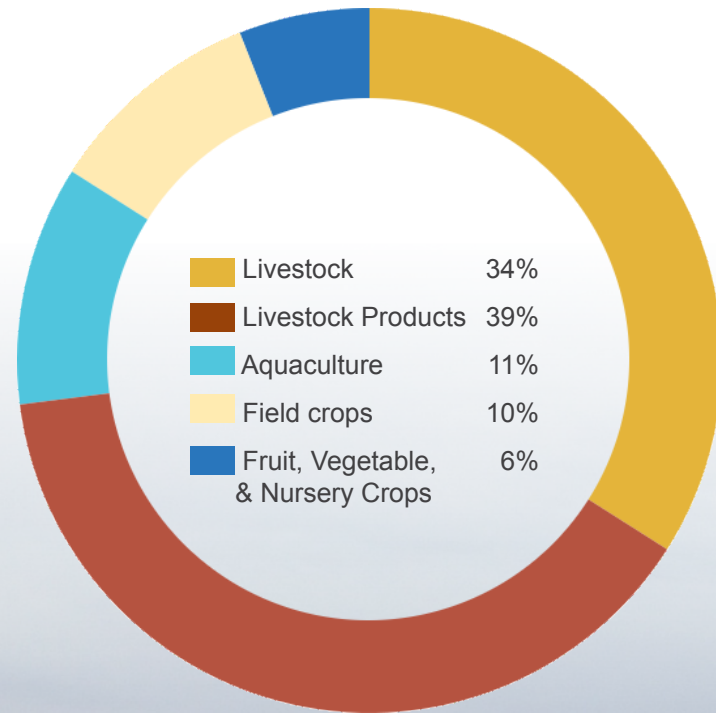
The gross value of all agricultural production in the County of Marin for 2014 is

# \$100,953,000

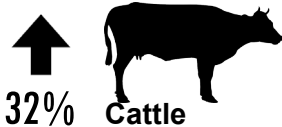
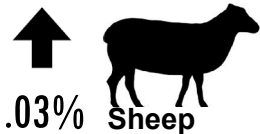
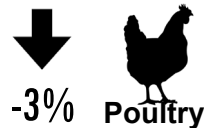

This represents an increase of approximately

# 19%

compared to the gross value of 2013, which was approximately \$85,053,000.

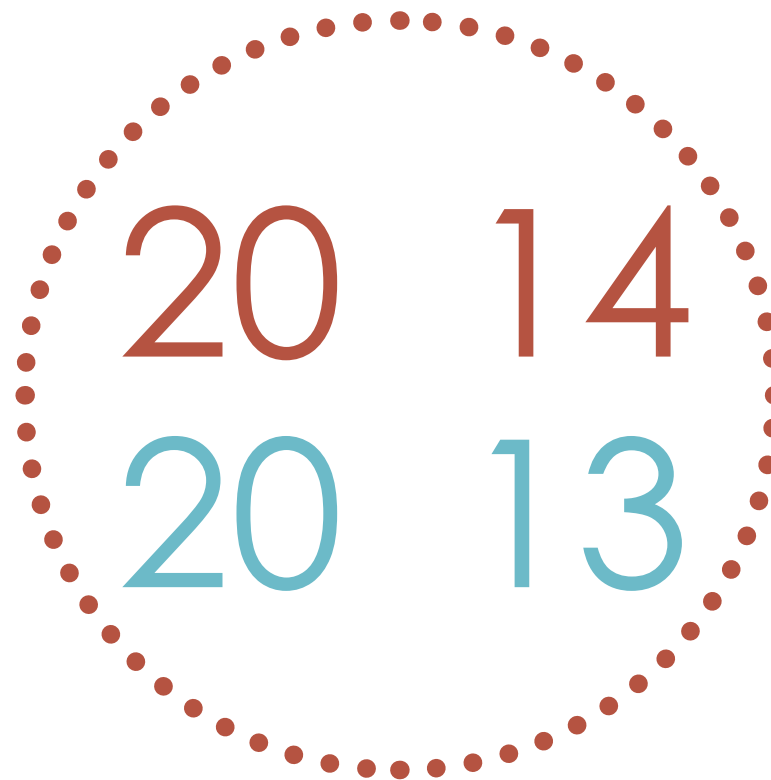


## Livestock & Aquaculture

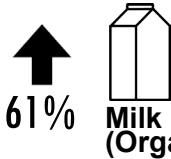
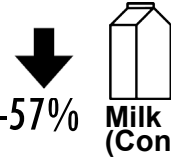
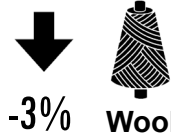
	Head	\$ / Head	Dollar Value
 ↑ 32% Cattle	13,757	\$1,483	\$20,402,000
	13,056	\$1,181	\$15,419,000
 ↑ .03% Sheep	10,111	\$196	\$1,982,000
	10,575	\$188	\$1,988,000
 ↓ -3% Poultry			\$11,926,000
			\$12,341,000
 ↑ 92% Aquaculture			\$10,600,000*
			\$5,532,000
<b>Total Value:</b>			\$44,910,000
			\$35,280,000

Poultry figures include poultry fryers and chicken eggs for consumption.

Aquaculture figures include oysters, mussels and clams.

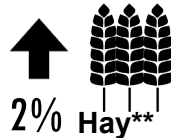



## Livestock Products

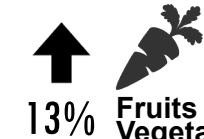
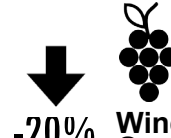
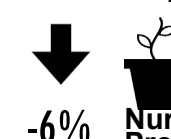
	Production	\$ / Unit	Unit	Dollar Value
 ↑ 61% Milk (Organic)	1,083,148	\$31.00	CWT	\$33,578,000
	693,444	\$30.00	CWT	\$20,803,000
 ↓ -57% Milk (Conv.)	270,787	\$21.06	CWT	\$5,703,000
	693,444	\$19.33	CWT	\$13,404,000
 ↓ -3% Wool	44,500	\$0.70	LBS	\$31,600
	46,500	\$0.71	LBS	\$32,600
<b>Total Value:</b>				\$39,312,600
				\$34,240,000

\*Aquaculture value based on report prepared by California Department of Fish and Wildlife. More complete dataset resulted in large growth.  
 2013 totals have been revised to reflect rounding conventions. All totals are rounded.  
 2014 data is presented in red, above the 2013 data which is in blue.

## Field Crops

	Harvested Acreage	Total Tons	\$ / Ton	Dollar Value
 ↑ 2% Hay**	1,712	3,923	\$192	\$753,000
	1,600	4,368	\$168	\$737,000
 ↑ 11% Silage	1,441	14,165	\$45	\$637,000
	1,213	14,432	\$38	\$576,000
<b>Total Value:</b>				\$10,663,000
				\$9,852,000

## Fruits, Vegetables & Nursery

	Harvested Acreage	Total Tons	Dollar Value
 ↑ 13% Fruits & Vegetables	424		\$4,990,000
	906		\$4,409,000
 ↓ -20% Wine Grapes	175	325	\$703,000
	175	306	\$874,000
 ↓ -6% Nursery Products	7.23		\$374,000
	8.02		\$398,000
<b>Total Value:</b>			\$6,067,000
			\$5,681,000

\*\*Values include Grass Hay, Oat Hay, Oat Seed, and Vetch Seed.  
 Following the National Agricultural Statistics Service for Acreage Harvested, acreage harvested and planted repeatedly during the year is counted each time.  
 Harvested acreage for 2014 Fruits & Vegetables represents 265 actual acres.

# Sustainable Agriculture Program Overview

## PEST PREVENTION & DETECTION

Pest prevention encompasses several activities aimed at preventing the introduction and spread of exotic pests in Marin County. Pest exclusion focuses on preventing the entry and establishment of exotic pests and limiting the intrastate movement of newly discovered pests. Marin County inspectors monitor all primary pathways of pest entry into the county including nurseries and points of entry such as UPS and FedEx package terminals.

Pest detection is the systematic search for exotic pests outside a known infested area. The goal is to find infestations of harmful exotic pests as early as possible and eradicate them before eradication becomes biologically or economically infeasible.

## INTEGRATED PEST MANAGEMENT

Integrated pest management (IPM) is a common-sense approach to pest management that uses a variety of methods and tools to control pests. IPM programs focus on preventing pest problems through cultural and biological measures, although pesticides may be part of an IPM program. The goal is to eliminate or reduce pesticide applications wherever possible and take reasonable measures to ensure that the long-term prevention or suppression of pests has minimal negative impact on human health, non-target organisms, and the environment.

## PROTECTION OF THE ENVIRONMENT

The Department operates a Pesticide Use Enforcement program that includes a permitting process for restricted pesticides as well as education and assistance for pesticide users. While reviewing, collecting and analyzing data and records associated with pesticide sales and use, our Department also monitors pesticide use applications, investigates pesticide-related citizen complaints, and conducts pesticide-related illness investigations. The ultimate goal of this program is to ensure the safe and effective use of pest control methods in order to protect public health and the environment, while strongly promoting the production of healthy, safe food and fiber through sustainable practices.

## PRODUCT QUALITY

Marin County inspectors protect consumers by inspecting agricultural products for compliance with laws, regulations, and standards. They also ensure that businesses are afforded a fair and equitable opportunity to market their products. Inspections are conducted at horticultural nurseries, farmers' markets, organic farms, and locations selling wholesale and retail eggs.

## LIVESTOCK PROTECTION PROGRAM

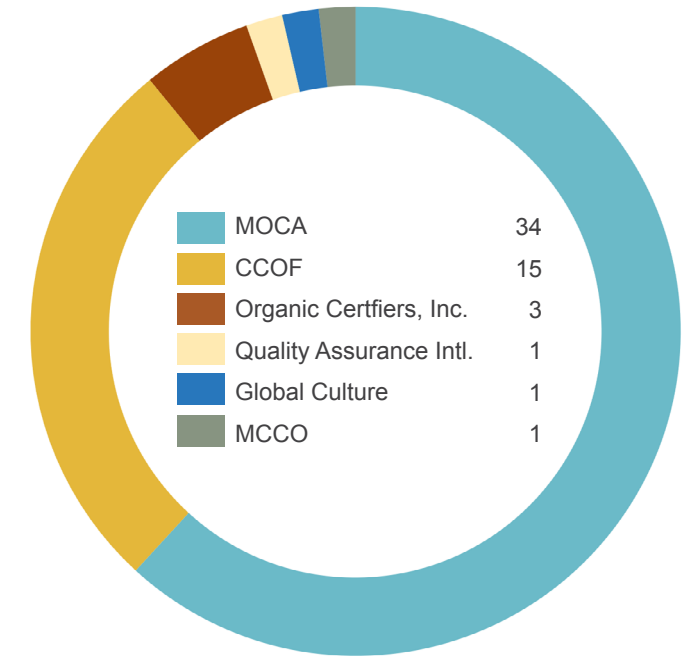
The Marin County Board of Supervisors has continued to support and appropriate funds for the Livestock Protection Program depredation prevention. Recognized non-lethal control methods such as protection animals (llamas, livestock guardian dogs, etc.), electric fencing, scare devices, and herd shepherding are initiated through cost share funds to livestock ranchers. The Department administers verification inspections for cost share funding for ranchers participating in this program.

# Marin Organic Certified Agriculture (MOCA)

The Marin County Agricultural Commissioner's Office is accredited by the United States Department of Agriculture (USDA) as an official organic certification agency. Marin Organic Certified Agriculture (MOCA) serves the local agricultural community growers who are employing organic farming practices. Organic production systems strive to achieve agro-ecosystems that are ecologically, socially, economically, and environmentally sustainable. Organic farming emphasizes a greater cooperation with nature without reliance on synthetic inputs.

Consumer demand for certified organic products is increasing, with an expectation by consumers that organic products are verifiable. MOCA was developed to provide a professional service to local individual and business operations engaged in the production and distribution of organically grown commodities. The primary responsibility of MOCA is to uphold the standards of the USDA National Organic Program, and document/verify operations' practices of sustainable agriculture. One of the most important benefits of the MOCA program is as a local service that promotes the production of organic value-added products by Marin's family farms. In 2014, the number of MOCA certified operations totaled 56, including 1 processor; 34 of the operations are located within Marin County. The remaining 21 operations are located in Sonoma County, with the exception of two in Riverside County (managed by Marin County operations to ensure a year-round supply of fresh produce in the off season).

## ORGANIC CERTIFIERS IN MARIN (BY NUMBER OF PRODUCERS CERTIFIED)



MOCA: Marin Organic Certified Agriculture  
 CCOF: California Certified Organic Farmers  
 MCCO: Monterey County Certified Organics

All organic producers in California must register in their principal county of operation. In 2014 there were 66 registered organic producers in Marin County, farming 40,632 acres, which includes 40,367 acres in pasture, producing a total gross value of approximately \$45,960,415.



# Pest Prevention Programs

## PEST EXCLUSION

In 2014, inspectors conducted 1,335 incoming plant quarantine inspections. Plant shipments were monitored at Federal Express, UPS, nurseries, ethnic markets, aquatic supply stores, and post entry quarantine sites. The Department performed 52 Gypsy Moth inspections of household goods from infested states, as well as 1,226 Glassy-Winged Sharpshooter inspections on plant material from infested California counties. One rejection of plant material was made to protect Marin's agriculture and environment.

## PEST DETECTION

In 2014, inspectors from the Marin County Department of Agriculture and the California Department of Food and Agriculture placed and serviced 842 traps for exotic insect pests. The targeted pests included: Mediterranean Fruit Fly, Oriental Fruit Fly, Melon Fly, Gypsy Moth, Japanese Beetle, Glassy-Winged Sharpshooter (GWSS), Light Brown Apple Moth, and False Codling Moth. Traps are strategically placed within the county on or near preferred hosts. For example, GWSS traps were placed in nurseries, vineyards, and urban areas; Mediterranean Fruit Fly traps were placed in fruit trees; Gypsy Moth traps were placed on hardwood trees; and Japanese Beetle traps were placed in urban landscaped areas.

## BIOLOGICAL CONTROL

Biological pest control is the use of pests' natural enemies to help suppress pest populations to economically and environmentally acceptable levels. Once the agent becomes established, control is generally self-perpetuating, potentially eliminating or reducing the need to use pesticides.

The following are pests found in Marin and some of the methods that have been used to control them:

PEST	BIOLOGICAL AGENT
Gorse	Gorse Mite, Seed Weevil
Bull Thistle	Bull Thistle Gall Fly
Yellow Star Thistle	Peacock Fly
Scotch Broom	Stem Boring Moth
Ash White Fly	Parasitic Wasp
Italian Thistle	Seed Weevil
Purple Star Thistle	Seed Weevil
Klamath Weed	Beetle

## GLASSY-WINGED SHARPSHOOTER

The Glassy-Winged Sharpshooter (GWSS), *Homalodisca vitripennis*, is a very serious threat to California agriculture. First observed in the state around 1990 and now found throughout Southern California and portions of the San Joaquin Valley, GWSS is a particular threat to vineyards due to its ability to spread *Xylella fastidiosa*, the bacterium that causes Pierce's disease in grapevines. Pierce's disease is lethal to grapevines and significant resources are committed annually to find effective treatments. GWSS also spreads other diseases to a variety of agricultural and ornamental plants, having the potential to substantially impact California's agriculture and environment if left unchecked.

To prevent the introduction of this leafhopper into Marin County, Department staff inspect incoming nursery plant shipments containing GWSS hosts from infested California counties. In 2014, a total of 1,226 shipments were inspected for GWSS, with no finds. Detection traps are strategically placed throughout the county to monitor for this unwanted pest.

## LIGHT BROWN APPLE MOTH

In early 2007, Light Brown Apple Moth (LBAM), *Epiphyas postvittana*, was confirmed in Alameda County, California. This represented the first time LBAM had been detected in the contiguous 48 states. The infestation has affected coastal counties throughout central and southern California to varying degrees.

Other countries and states want to keep this pest out. Some foreign countries have enacted quarantines and restrictions on crops and plants grown in the counties infested with LBAM. LBAM is not established in the rest of the lower 48 states, many of these states have imposed restrictions on plant, fruit, and vegetable movement from California. Quarantines, and added restrictions, adversely impact the marketing and movement of California agricultural and horticultural products.

Marin County, working in cooperation with the CDFA/USDA LBAM Cooperative Program, continues to manage and control LBAM through detection traps, visual inspections of nurseries located in the quarantine boundary, and education of nursery owners and farmers. Production nurseries that ship plants out of the quarantine areas are required to follow "Best Management Practices", including regular monitoring for LBAM. More information on LBAM may be viewed at [www.cdca.ca.gov/lbam](http://www.cdca.ca.gov/lbam)

## SUDDEN OAK DEATH

Marin County continues to be infested with Sudden Oak Death (SOD), the disease caused by the pathogen *Phytophthora ramorum*. Increased infestations have been detected in West Marin. Tree mortality in wildland and urban/wild land interface areas causes dramatic changes in the landscape, affecting ecosystems, increasing fire and safety hazards, and decreasing property values.

*P. ramorum* hosts include native woodland trees and understory plants, and ornamental nursery plants. Currently there are over 100 native and ornamental hosts; new hosts continue to be found and added to the state and federal quarantines.

On oaks, *P. ramorum* causes potentially lethal trunk cankers; on other hosts it causes leaf or twig blight, which is rarely lethal. Tanoaks may have both trunk cankers and leaf dieback. Unlike oaks, some hosts (i.e., California Bay Laurel) are not killed by this pathogen; instead these hosts act as a vector, allowing inoculum to spread through natural or artificial means (i.e., rainwater, soil, infested nursery stock) under moist conditions.

Prevention is the only treatment to protect trees from *P. ramorum*. Best preventative practices include keeping trees healthy so they maintain their natural defenses, pruning overstory California Bay Laurels, and strategically utilizing phosphonate treatment products.

The following pests were intercepted in Marin County in 2014:

SCIENTIFIC NAME	COMMON NAME	RATING
<i>Bagrada hilarus</i>	Bagrada bug	B
<i>Epiphyas postvittana</i>	Light brown apple moth	A
<i>Diapridae lantaniae</i>	lantania scale	C
<i>Diaspis coccois</i>	Armored scale	C
<i>Pseudococcus viburni</i>	Obscure mealy bug	C
<i>Coccus hesperidum</i>	Brown soft scale	C
<i>Saissetia coffeae</i>	Hemispherical scale	C
<i>Diaspis boisduvalii</i>	Citrus mealybug	C
<i>Plantynota stultana</i>	Omnivorous leafroller	C
<i>Siphanta acuta</i>	Torpedo bug	B
<i>Pseudococcus longispinus</i>	Long tailed mealy bug	C
<i>Phyllocnistis citrella</i>	citrus leaf miner	C
<i>Aleurodicus dispersus</i>	spiraling white fly	C

# Invasive Weed Management

## PROPOSED 10-YEAR INVASIVE WEED MANAGEMENT PLAN

Over the past two decades, noxious and invasive weeds have become an extremely serious, challenging, and widespread issue in Marin County. Several different species of injurious weeds have become established in Marin County and have rendered thousands of acres of pastureland, rangeland, and natural areas unusable, increased the risk of wildfires, and successfully outcompeted numerous native plant species. It will take the combined effort, cooperation, and collaboration of numerous organizations, ranchers, and private landowners to successfully manage (and hopefully eradicate many of) these damaging weeds from Marin County. In preparing this draft plan, the Department has worked diligently to forge productive partnerships and build confidence with industry, community groups, and various other interested stakeholders through a collaborative and inclusive approach.

The centerpiece of this proposed plan will be education and outreach to landowners about best land management practices (e.g., grazing, soil health, native forage restoration, early detection and rapid response to invasive weeds, carbon sequestration, etc.). These land management practices will help protect productive land that is currently free of invasive weeds and will also fortify soil health, increase soil water retention capabilities, and encourage biodiversity. Landowners will be provided practical, proven IPM solutions to control existing invasive weed populations through effective land management practices, and a significant emphasis will be placed on early detection and rapid response. Education and outreach will also be provided to the general public, as well as to other organizations and agencies. The proposed management plan can be viewed at <http://www.marincounty.org/depts/ag/weed-plan>.

## MARIN/SONOMA WEED MANAGEMENT AREA (MSWMA)

The Marin/Sonoma Weed Management Area (MSWMA) group includes representatives from federal, state, county and city agencies, private industry, and landowners. MSWMA's goals include improving the effectiveness of local weed management efforts, increasing public awareness of invasive weeds, advancing responsible land stewardship practices, and working collaboratively with partner organizations by sharing resources and knowledge to manage and/or eradicate invasive weed populations. The MSWMA helps control weeds across land ownership boundaries by uniting landowners with public agencies and providing an opportunity to share resources in mapping and planning. Visit the Marin/Sonoma Weed Management Area website at <http://marinsonomawma.blogspot.com/>

Some high priority invasive weeds are found on private lands. The Rapid Response/Bay Area Early Detection Network (<http://baedn.org/>) connects MSWMA with ranchers, farmers, and private landowners to help address these infestations, with the goal of eradicating them before they become too large.

# Farmers' Markets

The purpose of farmers' markets is to allow local producers to sell their certified commodities directly to the public. Marin County certificates were issued to 31 producers in 2014. The following 12 farmers' markets were certified by the Agricultural Commissioner to market local and regional produce in Marin County. Check our website at [marincounty.org/depts/ag](http://marincounty.org/depts/ag) to stay up to date with current market schedules.

### CIVIC CENTER

Thursdays 8:00 pm -1:00 pm  
Sundays 8:00 pm -1:00 pm  
Open all year

### FAIRFAX

Peri Park  
Wednesdays 4:00 pm - 8:00 pm  
May - September

### MILL VALLEY

E. Blithedale Ave @Ashford Dr.  
Fridays 9:30 am - 2:30 pm  
Open all year

### ROSS VALLEY

Marin Art & Garden Center, Ross  
Thursdays 3:00 pm - 7:00 pm  
May - September

### CORTE MADERA

Corte Madera Town Center  
Wednesdays 12:00 pm - 5:00 pm  
Open all year

### MARINWOOD COMMUNITY

Marinwood Plaza  
Saturdays 9:00 am - 1:00 pm  
Open all year

### NOVATO

Grant Avenue, Novato  
Tuesdays 4:00 pm - 8:00 pm  
May - September

### SAUSALITO

Dunphy Park  
Sundays 10:00 am - 2:00 pm  
Open all year

### DOWNTOWN SAN RAFAEL

Fourth Street, San Rafael  
Thursdays 6:00 pm - 9:30 pm  
April - September

### MARIN COUNTRY MART

Larkspur Landing Circle, Larkspur  
Saturdays 9:00 am - 2:00 pm  
Open all year

### POINT REYES

Toby's Feed Barn (11250 Hwy 1)  
Saturdays 9:00 am - 1:00 pm  
June - November

### TAM VALLEY

219 Shoreline Hwy, Mill Valley  
Tuesdays 3:00 pm - 7:00 pm  
May - November

