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California Department of Food and Agriculture

Agricultural Commissioners' Crop Reports

Marin County

2010-2014

Marin County

Livestock & Agricultural Crop Report 2010



MARIN COUNTY DEPARTMENT OF AGRICULTURE • WEIGHTS AND MEASURES



STACY K. CARLSEN
COMMISSIONER/DIRECTOR

STEFAN PARNAY
DEPUTY COMMISSIONER/DIRECTOR

May 2011

Karen Ross, Secretary
California Department of Food and Agriculture

And

Marin County Board of Supervisors
Susan L. Adams, President, District 1

Harold C. Brown Jr., District 2
Charles McGlashan, District 3

Steven Kinsey, District 4
Judy Arnold, District 5

In accordance with the provisions of Section 2279 of the California Food and Agricultural Code, I am pleased to submit the Annual Livestock and Agricultural Crop Report for 2010. This report is a summary of counts, acreage, yields, and gross value of agricultural production in Marin County. The 2010 gross value of all production was \$56,181,338. This represents an increase of \$3,465,963, 6.5% from the 2009 total agricultural production value. The report represents gross returns to the producer and does not indicate actual net profit.

Milk is the long standing, premier commodity for Marin, and this year accounts for 47.1% of the crop report's total value. The average Market Milk Price for 2010 was higher than 2009, contributing to an increase in overall milk value of \$4,123,000, 18.4%. 2010 was the second year milk value was not at least 50% of Marin County's total agricultural production value; the only other year being 2009.

Field Crop values for 2010 decreased by 38.2% when compared to 2009, this decrease was a result of the reported value of pasture decreasing. Participation in the annual Livestock & Crop Report survey is voluntary for agricultural producers; this decrease in value may reflect an actual decrease in pasture value, and/or a lack of participation.

Aquacultures value increased 30.4%, as production in the industry as a whole was increased following a ten year trend.

Wine grape value increased 35.3%, even though tons harvested decreased by 15.8%.

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.

Respectfully submitted,

A handwritten signature in cursive script that reads "Stacy K. Carlsen".

Stacy K. Carlsen
Agricultural Commissioner

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Cover photo:

View of Mt. Tamalpais rising up behind a young man and boy resting against the hay stacks in Kentfield, circa 1929. Photo by Ralph Young. Courtesy: [Anne T. Kent California Room Collection](#), Marin County Free Library.

History of Agriculture in Marin County

By Elena Carter, Intern

Agriculture has been a vital industry for Marin County since the mid 19th century when pioneers first arrived to homestead. According to The Regents of California Agriculture and Natural Resources, agriculture in Marin contributes close to \$50 million annually for the local economy and 50 percent of the land in Marin is used for farms and ranches. Marin's distinctive topography, characterized by mild climate, sheltered hillsides, grasslands, and breezy, coastal summers, has created ample grazing land suited to dairy and cattle ranching. Marin dairies provide the Bay Area with 20 percent of its milk production with livestock production representing the second largest agricultural industry in the county. In addition to dairy and livestock products, Marin growers have produced significant numbers of shellfish and smaller farming operations that supply Bay Area restaurants and farmers' markets with organic vegetables.

By the 1820s, Marin had been settled by "Californios," a term used to refer to Californians of Latin American descent. The Californios used the San Rafael Mission as their home base and raised thousands of longhorn cattle for their tallow and hides. These cattle ranged as far west as Point Reyes and displaced the deer and tule elk that had once grazed there. After the secularization of the California missions in 1834 by the Mexican government, which stripped the church of land ownership, placing it in the hands of the Californios, the land and cattle were divided up into gigantic ranchos. According to Marin County historian Dewey Livingston, at this time the first Mexican rancho granted in present day Marin County was given to John Reed, an Irishman and a naturalized Mexican citizen. He was the first of twenty applicants who received land in Marin before the American take-over in 1846. As American demand for land in California grew in response to the Gold Rush, the United States Congress passed the land act of 1851, which created a Board of Land Commissioners to examine the validity of Spanish and Mexican land grants; however, U.S. attorneys filed appeals, tying up the land in litigation. It took an average of seventeen years for land claims to be approved. In the process most Spanish and Mexican claimants, paying excessive legal fees, went broke and sold off their land. The result was the acquisition of land by San Francisco attorneys. The Californios were dispossessed of their land and American livestock replaced Mexican cattle.

The Gold Rush helped start Marin's successful dairy industry in the 1850s, but Marin also benefited from another type of gold: the golden butter and cheese produced by its early dairymen. Successful tenant dairy ranches were established in Point Reyes and Sausalito. Before transportation by wagons and schooners developed, early dairy farmers in Point Reyes did not produce butter because it did not stay fresh long enough to be transported to the Bay Area. For a time, San Franciscans relied on butter imported from the East Coast or Chile, but by 1854 Sonoma and Santa Clara became the city's main suppliers of butter and cheese; by 1862 Marin had passed its neighboring counties in production of these commodities and was producing a quarter of California's butter. During the Gold Rush, Point Reyes was particularly famous for its butter, with the Point Reyes Peninsula recognized as the starting place for the West Marin dairy empire.

Back then most dairy operations were small, consisting of a dwelling, milking corral, dairy house, horse barn, calf shed, pig pens, and 10 to 15 cows that were milked by hand twice a day. Olema Valley dairymen built larger milking barns in contrast to Point Reyes dairymen who went without large barns until the 1880s. The first Marin dairies hired family, transients, and those who had come during the Gold Rush. In the 1860s a wave of immigrants, particularly Italian-speaking Swiss, came to Marin, becoming active in Olema Valley dairies and establishing family farms. In the early 1900s regulatory agencies established sanitary standards for ranches and creameries, introduced construction specifications for milking barns, and tested for milk purity and butterfat content. California began certifying dairies in the 1920s, which resulted in the A and B grading system.

Whereas Tomales, Olema, and Nicasio were important trading centers for dairy products, the coastal towns of Bolinas and Tomales served as shipping ports; potatoes, grains, and clams were shipped to San Francisco. Shallow draft schooners provided the most reliable form of transportation, carrying passengers and cargo to and from San Francisco. In 1870, the North Pacific Coast Railroad was completed and towns along the railroad including Fairfax, Mill Valley and San Rafael flourished, replacing Olema in importance.

As the oldest aquaculture in Marin, oyster culture also formed a vital part of Marin agriculture. From as early as 1851, entrepreneurs in San Francisco established businesses marketing oysters. In 1880 the United States was the largest producer of shellfish worldwide with the Bay Area ranking as the sixth largest harvester in the country. The Tomales Bay Oyster Company, California's oldest continuously-run shellfish farm, was founded in 1909. Today Marin is second only to Humboldt Bay in shellfish production.

The 20th century saw many changes for Marin agriculture. The San Francisco Bay area pushed for the creation of the Muir Woods National Monument in 1908 and various county and state parks in the 30s and 40s. Point Reyes National Seashore was authorized by President John F. Kennedy in 1962 followed by the authorization of the Golden Gate National Recreation area. Later acts of Congress added acreage to Point Reyes National Seashore including the Inverness Ridge and Bear Valley areas in 1974.

However, on the whole, from 1949 to 1982, 783,000 acres, approximately one-quarter of Marin's farmland, was lost to development. Today there are approximately 276 ranches in Marin compared to 1,800 shown in the 1944 census. In 1967, the Marin County Planning Department proposed an extension of California State Highway 17, the damming of Walker Creek, and the reservation of 100 acres of land, including the wetlands of Point Reyes and Olema, to be turned into shopping centers and car dealerships. Citizens elected anti-development supervisors, halting the development plans. In 1965 state legislature enacted the Williamson act, which called for contracts between local governments and landowners to restrict development on land parcels for up to ten years. In 1998, the Williamson Act was amended to create the establishment of the Farmland Security Zones (FSZ). FSZ contracts allowed farmers to receive a 35 percent reduction in land value for tax purposes on the condition that the farmer keep the land enrolled in the program for 20 years. In 1973 Marin County created three environmental corridors: a Coastal Recreation Center for open space, recreation and agricultural land; an Inland Rural Corridor for agriculture, resource and habitat protection; and a City Center for Marin's eleven cities. In 1980, the Marin Agricultural Land Trust (MALT) was formed, which fought developmental proposals and helped to preserve agricultural land through obtaining conservation easements on 33,000 acres. Conservation easements prohibit non-agricultural development and subdivision, keeping the land in agriculture forever.

According to MALT, in 2008 Marin animal and pasture products were valued at \$49 million. Other crops added another \$14 million in value. Dairy, beef and sheep ranching continue to form an important part of Marin agriculture. Today many dairy ranches are computerized; cows are milked by machine and thousands of gallons of milk are pumped into tanks. But, according to MALT, not much has changed; many of these Marin ranches have been passed down through the same family for generations as farmers continue to honor the tradition of family farming started by their grandparents and great-grandparents.

The following resources were used for this report:

Historical Roots of Marin Agriculture. Grown in Marin. The Regents of the University of California, 2010.

Web. 5 Aug 2010. (<http://groups.ucanr.org/GIM>)

Livingston, Dewey. *A Good Life: Dairy Farming in the Olema Valley*.

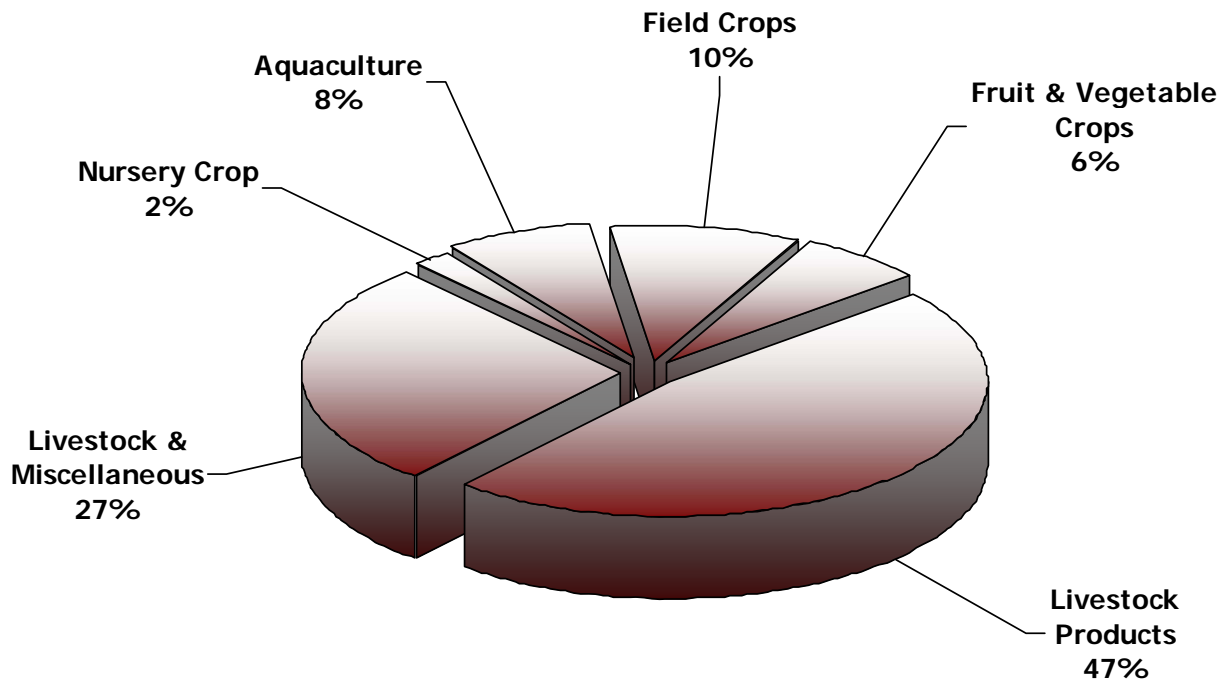
Marin Agricultural Land Trust website (www.malt.org)

Dell, Shari-Faye. "Established in 1909, Tomales Bay Oyster Company, California's oldest continuously run shellfish farm." (<http://tomalesbayoysters.com/>)

Agricultural Production Summary

Type of Agricultural Production	2010	2009
Livestock Products	\$26,533,463	\$22,405,683
Livestock & Miscellaneous	\$15,339,444	\$14,336,421
Field Crops	\$5,507,574	\$8,917,552
Fruit, Grape, & Vegetable Crops	\$3,549,337	\$2,789,367
Aquaculture	\$4,259,537	\$3,265,951
Nursery Crops	\$991,983	\$1,000,401
AGRICULTURAL GROSS VALUE	\$56,181,338	\$52,715,375

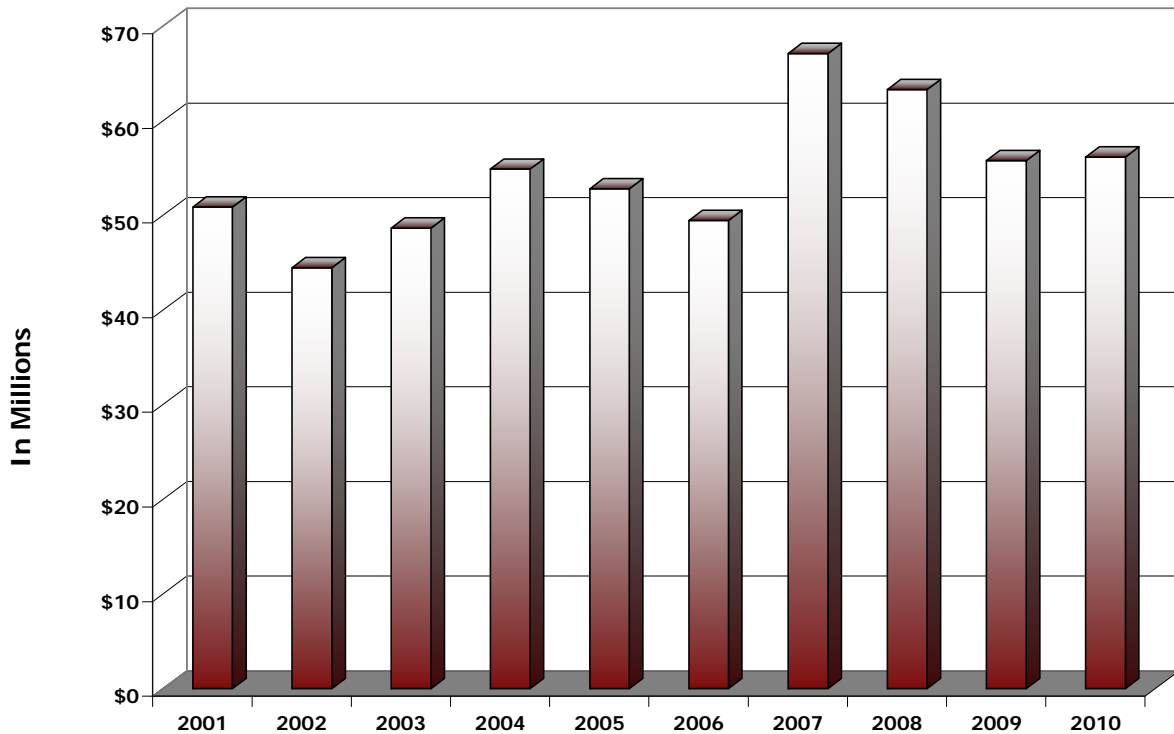
The 2010 gross value of all agricultural production was \$56,181,338. This represents an increase of approximately \$3,465,963 (6.5%) from the 2009 agricultural production gross value.



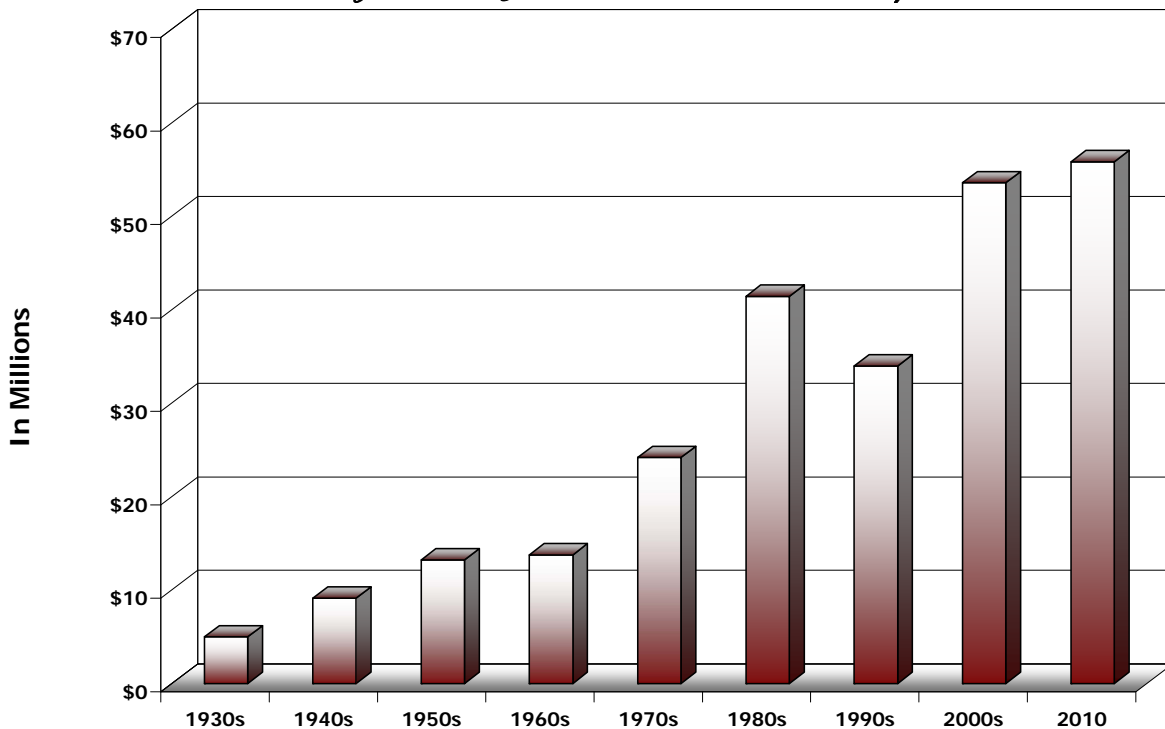
This graph illustrates how the 2010 agricultural gross value breaks down across the various types of agricultural production.

Agricultural Production Gross Value

Ten Year Summary



Seventy-Five Year Historical Retrospective



The Historical Retrospective graph shows the averaged Marin County Agricultural Gross Values for each decade since 1935. Notes: These values are not adjusted for inflation. The 1930s value is the average of 1935 – 1939 and the value for 2010 is not an averaged value but is presented simply to show how this year's gross value compares to the decade averages.

Livestock and Aquaculture

Item	Year	Number of head	Live Weight	Unit	\$/Unit	Dollar Value Total
Cattle & Calves~	2010	14,563	85,174	cwt	\$88.17	\$7,509,739
	2009	13,792	81,404	cwt	\$76.37	\$6,216,789
Sheep & Lambs~	2010	15,326	16,552	cwt	\$92.02	\$1,523,155
	2009	12,133	13,103	cwt	\$75.37	\$987,585
Miscellaneous [†]	2010	6,604				\$412,250
	2009	3,893				\$315,468
Poultry*	2010	278,833				\$6,254,300
	2009	245,127				\$6,816,579
Aquaculture	2010	Oysters, Mussels, & Clams				\$4,259,537
	2009	Oysters, Mussels, & Clams				\$3,265,951
Total	2010					\$19,598,981
	2009					\$17,602,372

[†] Miscellaneous figures include goats, hogs, and rabbits.

* Poultry 2009 figures include poultry fryers and chicken eggs for consumption.

~ Due to unavoidable computational rounding, the Dollar Value Total is overestimated by less than 0.01%.



Dr. Henry Orton Howitt and Ms. K. Hooper catch starfish in Bolinas Bay, Bolinas, May 1914.

[*Anne T. Kent California Room Collection*](#), Marin County Free Library.

Livestock Products

Item	Year	Production	Unit	\$ / Unit	Dollar Value Total
Milk~ (Market)	2010	1,701,328	cwt	\$15.57	\$26,492,000
	2009	1,821,788	cwt	\$12.28	\$22,370,000
Milk~ (Manufacturing)	2010	65	cwt	\$15.38	\$1,000
	2009	0	cwt	\$0	\$0
Wool~	2010	82,652		\$0.49	\$40,463
	2009	74,341	lbs	\$0.48	\$35,683
Total	2010				\$26,533,463
	2009				\$22,405,683

~ Due to unavoidable computational rounding, the Dollar Value Total value is overestimated by less than 0.01%.



Shops on Throckmorton Ave. at Lytton Square, Mill Valley. On the corner building, the following signs read, "Marin County Milk Co," "Milk-Cream-Butter-Eggs," "E.L. Egger Co. Real Estate," and "J.M. Jones Tailors - Cleaning & Dyeing - Altering, Pressing." Two women are conversing on the sidewalk outside the milk store. Circa 1920 – 1924. Photographer: Unknown. Mill Valley Public Library History Room Collection. [Mill Valley Public Library](http://millvalleypubliclibrary.org).

Inventories of Livestock and Poultry

Commodity		Head	Number
Cattle [†]	Total*	31,251	
	Milk cows & heifers (2 years and over)	9,000	
	Beef cows & heifers (2 years and over)	8,000	
Sheep and Lambs, all [†]		10,293	
Poultry			278,833
Miscellaneous**			6,604

[†] Number of Head as of January 1, 2011.

* Includes cows, heifers, calves, and bulls.

** Miscellaneous 2010 figures include goats, hogs, and rabbits.



Cows grazing at the Bear Valley Ranch, Marin County, California, circa 1945.

Photographer: Wood, Seth. [Anne T. Kent California Room Collection](#), Marin County Free Library.

Field, Fruit and Vegetable Crops

Commodity	Year	Harvested Acreage	Ton / Acre	Total Tons	Unit	\$ / Unit	Dollar Value Total
Hay ^{†~}	2010	2,215	2.27	5,024	ton	\$93.72	\$470,879
	2009	1,850	2.05	3,793	ton	\$97.96	\$371,562
Silage [~]	2010	2,123	13.40	28,448	ton	\$47.36	\$1,347,297
	2009	2,278	12.00	27,336	ton	\$33.90	\$926,690
Pasture, Irrigated	2010	810				\$100.00	\$81,000
	2009	810				\$100.00	\$81,000
Pasture, Other [~]	2010	154,000				\$23.43	\$3,608,398
	2009	154,000				\$48.95	\$7,538,300
Fruits & Vegetables	2010	300					\$2,488,000
	2009	384					\$2,005,426
Grapes, Wine ^{*~}	2010	186		207.4	ton		\$1,061,337
	2009	182		246.4	ton		\$783,941
Total	2010				ton		\$9,056,911
	2009				ton		\$11,706,919

[†] Values include Grass Hay, Oat Hay, Oat Seed, and Vetch Seed

^{*} Varieties: Cabernet Sauvignon, Chardonnay, Merlot, Pinot Noir, Shiraz, and Riesling. Acreage values include 16 acres of Non-fruit bearing plantings. 2009 acreage has been revised.

[~] Due to unavoidable computational rounding, the Dollar Value Total is overestimated by less than 0.01%.



Panoramic view of the proposed Santa Venetia neighborhood, San Rafael, 1914. Note the orchard on the hillside. What is now the Santa Margarita Island Preserve is on the far left side of the picture. Creator: Venetia Company, San Francisco. [Anne T. Kent California Room Collection](#), Marin County Free Library.

Nursery Products

Commodity	Year	Production Acreage	Dollar Value Total
Nursery Stock, All	2010	6.25	\$991,983
	2009	6.62	\$1,000,401
	2008	6.68	\$921,975

Phytosanitary Certificates were issued for Marin-grown nursery products shipped internationally to: Nepal, Fiji, Canada, and. Algeria.



Exterior of the "Garden Beautiful Nursery" with a seated individual tending to a potted plant. The wall of San Quentin prison is visible in the background, circa 1919. Creator: Lothers & Young Studios, San Francisco. [Anne T. Kent California Room Collection](#), Marin County Free Library.

Marin County

Department of Agriculture

Departmental Mission Statement

Our mission is to serve the public's interest by ensuring equity in the market place as well as promoting and protecting agriculture, environmental quality, and the overall health and welfare of Marin County's citizens.

Following is a description of the Department's Agricultural activities:

Pest Prevention

Pest prevention encompasses several activities aimed to prevent 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 avenues of pest entry into the county. Pest detection is the systematic search for exotic pests outside of 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.

Protection of the Environment

Marin County has developed a program of Pesticide Use Enforcement that includes a permitting process for restricted materials 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 illness investigations. The ultimate goal of this program is to ensure the safe and efficient use of pest control methods in order to protect public health and the environment while strongly promoting the production of food and fiber.

Integrated Pest Management

Integrated pest management (IPM) is a common-sense approach to pest management that uses a variety of methods to control pests. Pesticides may be part of an IPM program, however, effort is focused towards preventing pest problems by controlling conditions which may attract and support pests. Marin County's IPM program is designed to ensure that County departments and everyone applying pesticides to property owned and/or managed by the County of Marin utilize IPM practices, eliminate or reduce pesticide applications wherever possible and take reasonable measures to ensure that long-term prevention or suppression of pest problems has minimal negative impact on human health, non-target organisms, and the environment.

Product Quality

Marin County inspectors are protecting consumers by inspecting agricultural products for compliance with laws, regulations, and standards and ensuring 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.

Summary of Our Sustainable Agricultural Activities

Sustainability is a method of balancing resource use in such a manner that it provides for current needs while ensuring such resources will be available to meet the needs of future generations.

Organic Food Production, Registration, and Certification

Organic production systems strive to achieve agro-ecosystems that are ecologically, socially, and economically sustainable. Organic farming emphasizes a greater cooperation with nature without reliance on synthetic inputs. All California organic producers register in their principal county of operation. There are 68 registered organic producers in Marin County, farming 19,609 acres, which includes 19,203 acres in pasture, producing a total gross value of \$17,788,776.

Marin Organic Certified Agriculture (MOCA)

The Marin County Agricultural Commissioner's Office is accredited by the USDA as an official organic certification agency. Marin Organic Certified Organic Agriculture (MOCA) serves the local community who are promoting sustainable farming practices.

Local and worldwide 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 main duty 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 productions of organic value-added products by Marin's family farms. In 2010 the number of MOCA certified operations in Marin and Sonoma Counties was 48 operators including 1 processor.

Biological Control

Biological pest control is the use of natural enemies to help suppress pest populations to economically and environmentally acceptable levels. Once the agent becomes established, control is 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

Gorse
Bull Thistle
Yellow Star Thistle

Scotch Broom
Ash White Fly
Italian Thistle
Purple Star Thistle
Klamath Weed
Eucalyptus Red Gum Lerp Psyllid

Biological Agent/Mechanism

Gorse Mite, Seed Weevil
Bull Thistle Gall Fly
Seed Head Weevil, Gall Fly, Hairy Weevil, Peacock Fly,
Rust – Puccinia jaceae var. solstitialis
Seed Weevil, Stem Boring Moth
Parasitic Wasp
Seed Weevil
Seed Weevil
Beetle
Parasitic Wasp

Livestock Protection Program

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

Pest Prevention Programs

Pest Detection

1,222 traps were serviced for exotic insect pests (including Mediterranean Fruit Fly and Oriental Fruit Fly, Mexican Fruit Fly, Olive Fruit Fly, Melon fly, Gypsy Moth, Japanese Beetle, Vine Mealy Bug, Asian Longhorn Beetle, Glassy-Winged Sharpshooter, Light Brown Apple Moth (LBAM) and European Grapevine Moth (EGVM)). Of the 1,222 traps, 211 traps were placed for the Glassy-Winged Sharpshooter in nurseries and vineyards, 251 Mediterranean Fruit Fly traps were placed in fruit trees, 229 Gypsy Moth traps were placed on hardwood trees, 35 LBAM traps were placed throughout the county, and 25 European Grapevine Moth traps were placed in vineyards.

Pest Exclusion

In 2010, Marin County personnel conducted 1,971 incoming plant quarantine inspections. Plant shipments were monitored at Federal Express, UPS, nurseries, ethnic markets, aquatic supply stores, and post entry quarantine. 59 gypsy moth inspections of household goods from infested states were conducted, as well as 1,274 Glassy-Winged Sharpshooter inspections on plant material from infested California counties. Three rejections of plant material were made and the material was either reconditioned and released or destroyed.

Marin/Sonoma Weed Management Area

The Marin Sonoma Weed Management Area (MSWMA) is a cooperative effort of federal, state, county and city agencies, private industry, and private landowners. Formed in 1999, MSWMA's goals include improving the effectiveness of local weed management efforts, increasing public awareness of invasive weeds, and advancing responsible land stewardship practices. The MSWMA unites landowners and public agencies, provides an opportunity to share resources in mapping, planning information, and helps control weeds across land ownership boundaries.

A Rapid Response Program is under development to address early infestations of invasive weeds before they spread to larger areas and require costly control methods, or become completely uncontrollable. Additionally, a website has been developed to allow Weed Management Area (WMA) partners, landowners, and the general public to: report early invaders, stay informed about WMA activities, and follow links about invasive weeds and control methods. Please visit the MSWMA [website](#) for more information.

Some priority weed occurrences arise on private lands. The Rapid Response/Bay Area Early Detection Network ensures that these habitats are not left out of the solution, and also connects the MSWMA with ranchers, farmers, and private landowners. For example, the Department has been working closely with the ranchers in the Chileno Valley to help coordinate efforts and provide resources to manage and eradicate woolly distaff thistle. Over the past several years distaff has rendered hundreds of acres of pasture and rangeland unusable. Many different methods are available to manage and eradicate distaff, including mowing, burning, hand pulling, over seeding, fertilizing, herbicide applications, etc.

Meetings on Distaff Thistle have been held with many different stakeholders, including ranchers, Marin County Farm Bureau, Marin Agricultural Land Trust (MALT), Marin Resource Conservation District (MRCD), Marin County Department of Agriculture, and others.

Information about the larger Bay Area Early Detection Network can be found at: <http://baedn.org/>

The Marin County Board of Supervisors has adopted a weed policy to discourage the import, sale or cultivation of non-native invasive plants. For a list of these plants, please visit our [website](#).

Glassy-Winged Sharpshooter

The Glassy-Winged Sharpshooter (GWSS) name was changed from *Homalodisca coagulata* to *Homalodisca vitripennis*. This serious pest to California agriculture was first observed in the state in 1990, and is now found throughout Southern California and portions of the San Joaquin Valley. It is a particular threat to vineyards due to its ability to spread *Xylella fastidiosa*, the bacterium that causes Pierce's disease. Pierce's disease kills grapevines and there are no effective treatments for it. The Glassy-Winged Sharpshooter 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, staff inspects all incoming nursery plant shipments from infested California counties. In 2010 a total of 1,274 shipments were inspected for GWSS, with no finds. Detection traps placed throughout the county are also monitored.

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 a rarely lethal leaf or twig blight. 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 are a vector, allowing inoculum to spread through natural or artificial means (rainwater, soil, infested nursery stock) under moist conditions.

The phosphonate product Agri-Fos® continues to be the only registered product for control of *P. ramorum* on oaks. It works best as a preventative by stimulating the tree's natural defense system to fight the disease.

The California Oak Mortality Task Force (COMTF) was established in 2000 to research and understand SOD. More information, including diagnostic guides and management recommendations may be found at www.suddenoakdeath.org.

Ghost Oak
by

Jesse Harrington Au, 2011
jesselegend@gmail.com

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. Currently the infestation occupies 15 counties, compared to 18 counties in 2009 and 14 counties in 2008.

A mature LBAM female can deposit 300 – 1,500 eggs before in their lifetime. Each generation lives approximately 6 – 7 weeks. The eggs of LBAM are white to pale green, flat and oval, and are laid in mass with eggs slightly overlapping other eggs (resembling fish scales), and are laid on the upper leaf surface. The larvae may be found inside furled leaves. LBAM constructs leaf rolls (nests) by webbing together leaves, a bud and one or more leaves, leaves and fruit, or by folding individual mature leaves. Fully grown larvae are about 0.2 to 0.4 inch long, light green in color with a light brown head. Pupae are red-brown in color, or may appear greenish when newly developed, and ½ inch long. Adult LBAM is light brown in color, yellowish with varying amounts of darker brown. Female wingspan is up to 3/4 inch; color may include a darker brown spot on the wing. Males have a smaller wingspan of 1/4 - 3/8 inch, color may include a darker red-brown band across the folded wings. Male moth wings fold upward on the front edge (magnification may be required to see fold).

This moth species is not native to the United States and therefore has no known predators or parasites here to naturally reduce populations.

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 15 counties infested with LBAM. LBAM is not established in the rest of the lower 48 states, these states could impose restrictions on plant, fruit, and vegetable movement from California. Quarantines, and added restrictions, adversely impact the marketing of California agricultural and horticultural products.

Marin County, working in cooperation with the CDFA/USDA LBAM Cooperative Program, continued management and control of LBAM through servicing of traps, education of nursery owners and farmers, and visual inspections of nurseries, vineyards and farms located in the quarantine boundary.

There were several larval finds at regulated establishments in 2010; regulatory procedures were followed to prevent the spread of the larvae. Nurseries are establishing “Best Management Practices” as a preventative measure against further larval finds.

As of this writing, approximately 11,200 male Light Brown Apple Moths had been captured in traps placed throughout Marin County. More information may be found at CDFA's LBAM [website](#).



Note: this is not the light brown apple moth.

Farmers' Markets of Marin County

The purpose of farmers' markets is to allow local producers to sell their certified commodities directly to the public. There are 33 certified producers that have been issued certificates in Marin County. The following nine Farmers' Markets (two located at the Marin Civic Center) have been certified by the Agricultural Commissioner to market local and regional produce in Marin County.

Civic Center San Rafael Thursdays 8:00 am – 1:00 pm Sundays 8:00 am – 1:00 pm Open All Year	Corte Madera Corte Madera Town Center Wednesdays 12:00 – 5:00 pm Open All Year	Downtown San Rafael Fourth Street, San Rafael Thursdays 6:00 – 9:00 pm April – September
Fairfax Bollinas Park, Downtown Fairfax Wednesdays 4:00– 8:00 pm May – September		Marinwood Community Marinwood Avenue. Saturdays 9:00 am - 2:00 pm Open All Year
Mill Valley E. Blithedale Ave. @ Lomita Dr. Fridays 9:00 am – 2:00 pm Open All Year	Old Town Novato Downtown, Novato Tuesdays 4:00 pm – 8:00 pm May – September	Point Reyes Toby's Feed Barn (11250 Hwy1) Point Reyes Station Saturdays 9:00 am – 1 pm June – November



Gentlemen trading goods in Sausalito, circa 1888. Photographer: George Reed. Courtesy of The Bancroft Library. University of California, Berkeley.

Weights & Measures

The Weights and Measures program ensures honesty and integrity in commercial transactions when products are sold by weight, measure, count or time. This is accomplished through the continuous and systematic inspection of all equipment used to weigh or measure commodities. Weights and Measures inspectors test: taximeters, stores scales, gasoline pumps, fabric and cordage meters, electric meters, livestock and animal scales, vehicle scales, packaged products for stated net contents and also conducts barcode scanner inspections to ensure accurate product pricing. Overall, every transaction involving the exchange of goods by volume, count, or weight is affected in a vital way by some form of weights and measures.

Price Verification

The emergence and application of scanner/point-of-sale systems technology at retail check out stands has provided retailers substantial benefits concerning the tracking of sales and inventory; however, the remote location of the price database and its maintenance has increased price discrepancies between an item's advertised price on the store shelf and what the consumer is charged when checking out at the register. It is unlawful to charge at the time of sale a price that is more than the price that is advertised or posted. Pursuant to California Business and Professions Code sections 12103.5, 12024.2, and 12024.6, the purpose of this Chapter is to ensure that the advertised or posted price of a commodity is the price charged for that commodity. Business and Professions Code Section 13350 mandates that county weights and measures departments perform price verification inspections to regulate pricing and price representation. Beginning in January 2007 Marin County Department of Agriculture/Weights and Measures began routinely inspecting the approximately 455 different locations that use the estimated 1,943 scanner/point-of-sale devices in Marin County. Previously these inspections were only done as a result of a complaint.

Consumer Tip: By law, the shelf or item price is the "correct" price and that is the price you are entitled to when you pay at the register. Please check your receipt: if you have been overcharged at the register, please call our Department.



Department Staff

**Agricultural Commissioner
Director of Weights & Measures**

Stacy K. Carlsen



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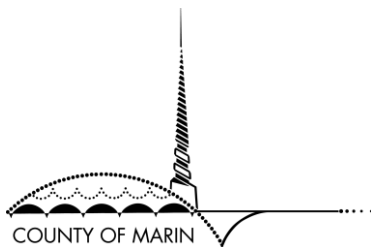
Intern

Elena Carter

Marin County

Livestock & Agricultural
Crop Report 2011





STACY K. CARLSEN
COMMISSIONER/DIRECTOR
STEFAN PARNAY
DEPUTY COMMISSIONER/DIRECTOR

May 2012

Karen Ross, Secretary
California Department of Food and Agriculture
and
Marin County Board of Supervisors
Steve Kinsey, President, District 4

Susan L. Adams, District 1
Katie Rice, District 2

Kathrin Sears, District 3
Judy Arnold, District 5

In accordance with the provisions of Section 2279 of the California Food and Agricultural Code, I am pleased to submit the Annual Livestock and Agricultural Crop Report for 2011. This report is a summary of counts, acreage, yields, and gross value of agricultural production in Marin County. The 2011 gross value of all production was \$70,076,404, which is the highest value ever recorded. This represents an increase of \$13,895,066, 24.7 percent from the 2010 total agricultural production value. The report represents gross returns to the producer and does not indicate actual net profit.

Milk is the long standing, premier commodity for Marin, and this year accounts for 44.7 percent of the crop report's total value. The average Market Milk Price for 2011 was higher than 2010, contributing to an 18 percent increase in the overall milk value of \$4,835,000. 2011 was the third year milk values were not at least 50 percent of Marin County's total agricultural production value; the only other years being 2009 and 2010.

Field Crop values for 2011 increased by \$4,082,157, representing a 74.1 percent increase when compared to 2010. This increase was a result of increased pasture values and greater survey participation. It is postulated that the 74.1 percent increase in value is a correction to 2010's 38.2 percent decrease, and pasture production value being realized by livestock producers as purchased livestock feed costs increase.

The value of aquaculture increased 9.3 percent or \$398,566, as production in the industry as a whole expanded following a ten year trend. Wine grape value decreased 16.7 percent compared to 2010. Participation in the annual Livestock & Crop Report is voluntary for agricultural producers.

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.

Respectfully submitted,

Stacy K. Carlsen
Agricultural Commissioner/Director of Weights and Measures

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Cover photo:

Oysters of Marin, By: William Quirt Courtesy: UC Cooperative Extension, Farm Advisor

This crop report is available on our web site:

<http://www.marincounty.org/depts/AG/Main/cropreports.cfm>

Marin County Aquaculture

The Marin aquaculture industry is an interesting example of people fostering a natural system for agricultural production. For over one hundred years, aquaculture operations have relied on Marin's bays for protection from the Pacific Ocean's overwhelming force and eroding effects, while still maintaining access to the cold, clean, nutrient rich salt water. Oysters are the major aquaculture commodity being produced in Marin's coast; though operations in Tomales Bay also produce mussels and clams commercially.

Tomales Bay is a 15 mile-long, mile-wide drowned rift valley on the San Andreas Fault, a trough between the Point Reyes Peninsula and the undulating hills that are mostly used for grazing cattle to the east. Another major growing location is in Drakes Estero located on the west side of Point Reyes Peninsula. This area is used for cattle grazing and is part of the National Seashore Park system.

Oysters were first planted in Tomales Bay in 1875; the year the Northwestern Pacific Railroad was linked with Sausalito which provided a good ferry service to San Francisco. Daily communication was maintained between Tomales Bay and San Francisco from 1875 to 1930, the period during which the railroad operated. Road development and advancement of the trucking industry have made San Francisco one of the biggest seafood markets, due to its close proximity to Marin. Restaurants' preference for fresh local food has created a strong, sustained demand for Marin's oysters.

Marin is California's second-largest shellfish producer and growers are gearing up to expand production of oysters, clams, and mussels. While the oyster industry elsewhere in the nation and in the state is struggling, Tomales growers have managed to carve out a niche for themselves. Only because local residents have successfully worked to protect the bay's water and restore their watershed is the Tomales Bay shellfish industry alive and well today. The 223-square-mile watershed drains into one of the least despoiled major coastal bays in California. Today, two-thirds of the Tomales Bay watershed remains in agricultural use. There are more cattle residing in this region than people.

Tomales Bay and Drakes Estero oyster companies sell directly to the consumer and to various Bay Area wholesale seafood dealers. The fresh packed oysters are trucked to San Francisco by the producer and delivered to the wholesalers, who in turn distribute them to retailers and restaurants in the San Francisco Bay area. People from all parts of the Bay area drive many miles over a narrow winding road to buy oysters harvested directly from the beds. Weekend tourists and sportsmen are also customers. The strong consumer desire for fresh shellfish is the principal reason for the success of this marketing aquaculture market arrangement.



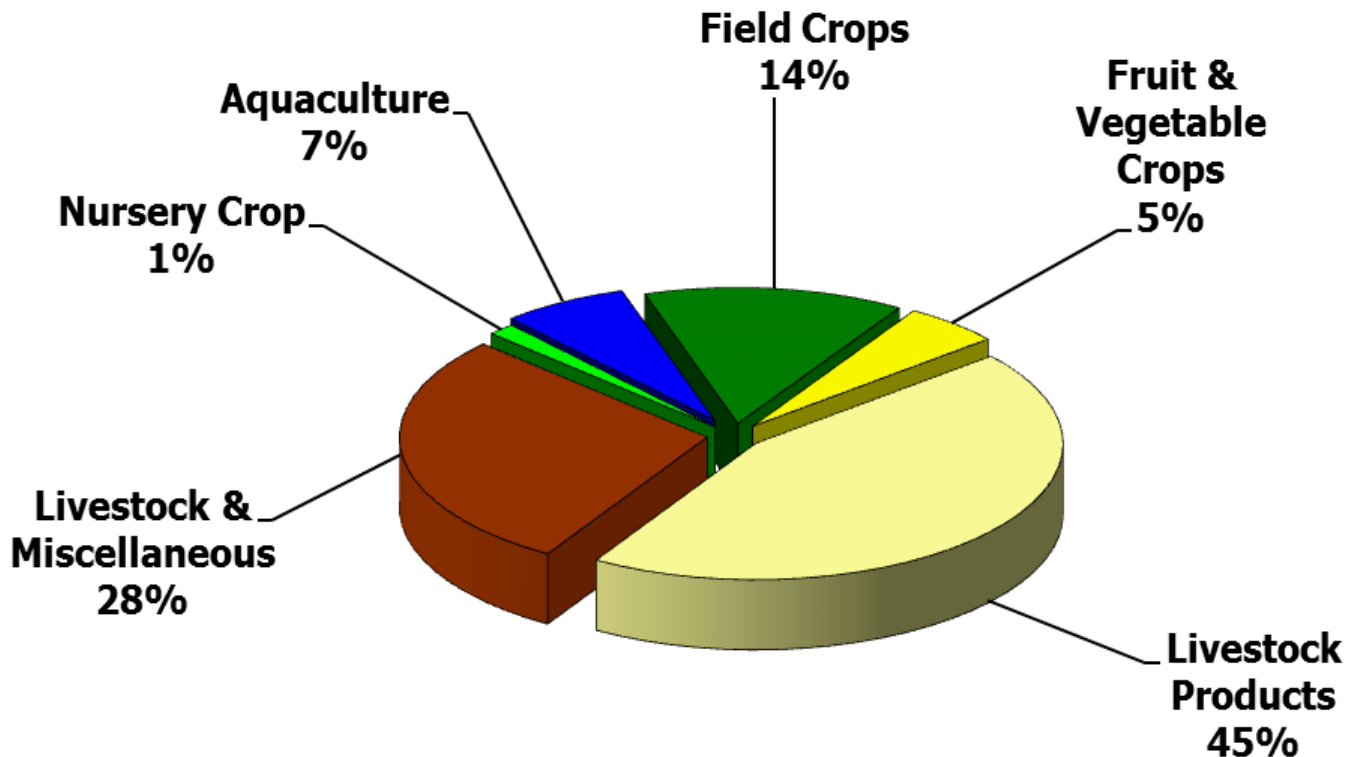
Oyster of Plenty
by
Jesse Harrington Au, 2012
jesselegend@gmail.com

Agricultural Production Summary

Type of Agricultural Production	2011	2010
Livestock Products	\$31,369,320	\$26,533,463
Livestock & Miscellaneous	\$19,883,814	\$15,339,407
Field Crops	\$9,589,461	\$5,507,574
Fruit, Grape, & Vegetable Crops	\$3,570,942	\$3,549,337
Aquaculture	\$4,658,103	\$4,259,537
Nursery Crops	\$1,004,764	\$991,983
AGRICULTURAL GROSS VALUE	\$70,076,404	\$56,181,301

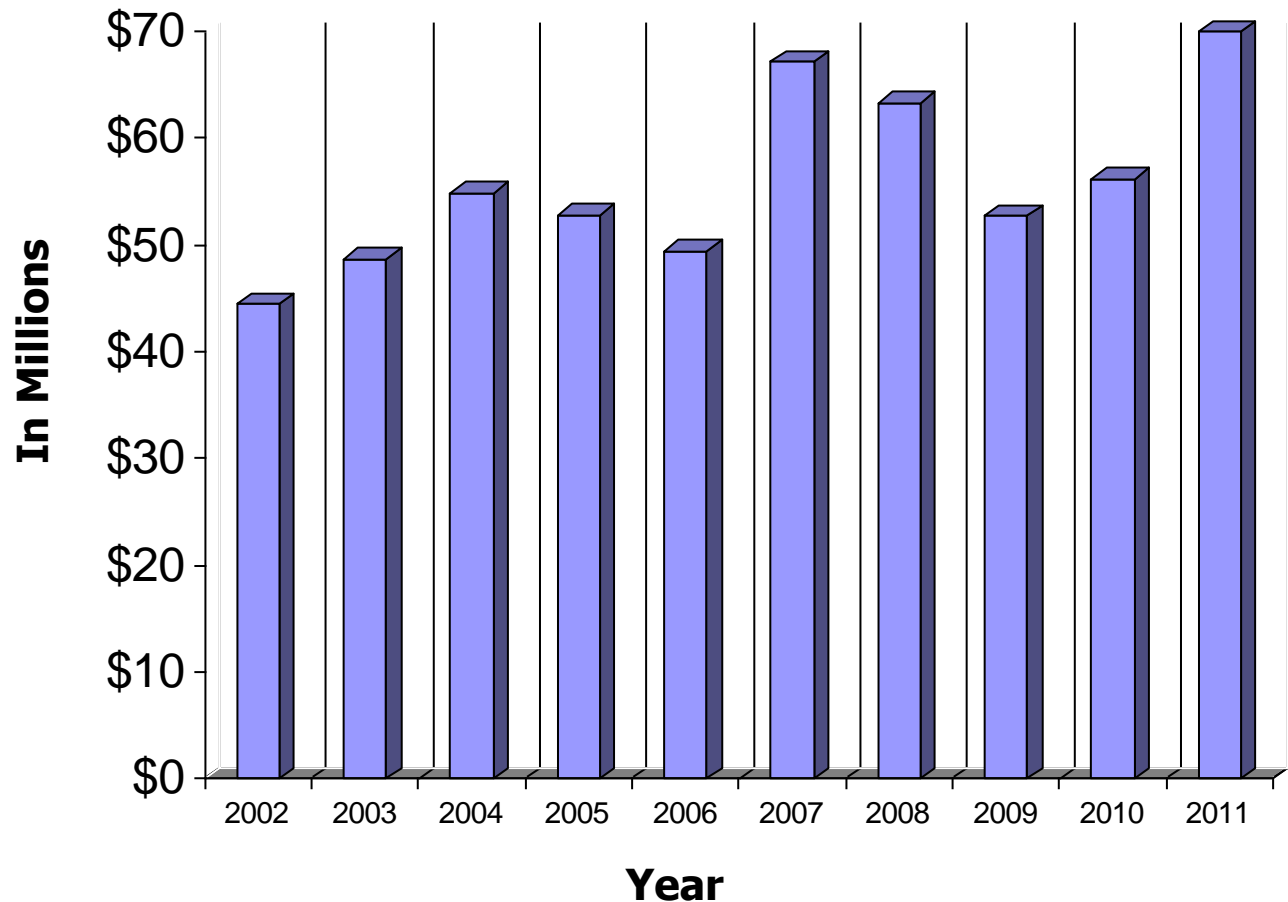
The 2011 gross value of all agricultural production was \$70,076,404. This represents an increase of approximately \$13,895,066 (24.7%) from the 2010 agricultural production gross value.

This graph illustrates how the 2011 agricultural gross value breaks down across the various types of agricultural production.



Agricultural Production Gross Value

Ten Year Summary



Comparison of 2010 Agricultural Production Values for Select North Coast Counties

	Marin	Napa	Sonoma*	Solano
Livestock, Livestock Products, & Misc	\$41,872,907	\$3,832,782	\$155,939,700	\$46,011,100
Field Crops	\$5,507,574	\$145,529	\$9,054,700	\$57,071,600
Fruit, Grape, and Vegetable Crops	\$3,549,337	\$455,034,896	\$404,522,100	\$132,963,500
Aquaculture	\$4,259,537	\$0	\$1,605,343	\$0
Nursery Crops	\$991,983	\$2,466,899	\$18,501,600	\$23,352,000

* Aquaculture figure is based on 2009 data.

Livestock and Aquaculture

Item	Year	Number of head	Live Weight	Unit	\$/Unit	Dollar Value Total
Cattle & Calves~	2011	12,861	-	Head	\$984.89	\$12,666,703
	2010	14,563	-	Head	\$515.67	\$7,509,702
Sheep & Lambs~	2011	10,912	11,785	cwt	\$92.02	\$1,084,479
	2010	15,326	16,552	cwt	\$92.02	\$1,523,155
Miscellaneous [†]	2011	6,604				\$207,640
	2010	6,604				\$412,250
Poultry [*]	2011	253,888				\$5,924,992
	2010	278,833				\$6,254,300
Aquaculture	2011	Oysters, Mussels, & Clams				\$4,658,103
	2010	Oysters, Mussels, & Clams				\$4,259,537
Total	2011					\$24,541,917
	2010					\$19,598,944

[†] Miscellaneous figures include goats, hogs, and rabbits.

^{*} Poultry 2010 figures include poultry fryers and chicken eggs for consumption.

~ Values provided by USDA switched units of measure from CWT (hundredweight) to HEAD for 2011. 2010 values have been revised to match the change in units.



Tomales Bay Clams

By: William Quirt Courtesy: Marin County UC Cooperative Extension, Farm Advisor

Livestock Products

Item	Year	Production	Unit	\$ / Unit	Dollar Value Total
Milk~ (Market)	2011	1,622,137	cwt	\$19.31	\$31,325,000
	2010	1,701,328	cwt	\$15.57	\$26,492,000
Milk~ (Manufacturing)	2011	178	cwt	\$16.85	\$3,000
	2010	65	cwt	\$15.38	\$1,000
Wool~	2011	71,241		\$0.58	\$41,320
	2010	82,652	lbs	\$0.49	\$40,463
Total	2011				\$31,369,320
	2010				\$26,533,463

~ Due to unavoidable computational rounding, the Dollar Value Total value is overestimated by less than 0.01%.



Holsteins by Tomales Bay

By: William Quirt Courtesy: Marin County UC Cooperative Extension, Farm Advisor

Inventories of Livestock and Poultry

Commodity		Head	Number
Cattle [†]	Total Cattle*	27,506	-
	Milk cows & heifers (2 years and over)	9,766	-
	Beef cows & heifers (2 years and over)	6,128	-
Sheep and Lambs, all [†]		8,905	-
Poultry		-	253,888
Miscellaneous**		-	6,240

[†] Number of Head as of January 1, 2011.

* Includes cows, heifers, calves, and bulls.

** Miscellaneous 2011 figures include goats, hogs, and rabbits.



Marin County Free Range Chickens!

By: William Quirt Courtesy: Marin County UC Cooperative Extension, Farm Advisor

Field, Fruit and Vegetable Crops

Commodity	Year	Harvested Acreage	Ton / Acre	Total Tons	Unit	\$ / Unit	Dollar Value Total
Hay ^{†~}	2011	1,852	2.76	5,111	ton	\$90.21	\$461,063
	2010	2,215	2.27	5,024	ton	\$93.72	\$470,879
Silage [~]	2011	2,119	14.47	30,671	ton	\$51.22	\$1,570,968
	2010	2,123	13.40	28,448	ton	\$47.36	\$1,347,297
Pasture, Irrigated	2011	810				\$100.00	\$81,000
	2010	810				\$100.00	\$81,000
Pasture, Other [~]	2011	154,000				\$48.55	\$7,476,700
	2010	154,000				\$23.43	\$3,608,398
Fruits & Vegetables	2011	310					\$2,687,630
	2010	300					\$2,488,000
Grapes, Wine [*]	2011	186		191	ton		\$883,312
	2010	186		207.4	ton		\$1,061,337
Total	2011						\$13,160,403
	2010						\$9,056,911

[†] Values include Grass Hay, Oat Hay, Oat Seed, and Vetch Seed.

^{*} Varieties: Cabernet Sauvignon, Chardonnay, Merlot, Pinot Noir, Shiraz, and Riesling. Acreage values include 16 acres of non-fruit bearing plantings.

[~] Due to unavoidable computational rounding, the Dollar Value Total is overestimated by less than 0.03%.



Silage Harvested Awaiting Collection

By: William Quirt Courtesy: Marin County UC Cooperative Extension, Farm Advisor

Nursery Products

Commodity	Year	Production Acreage	Dollar Value Total
Nursery Stock, All	2011	6.1	1,004,764
	2010	6.25	\$991,983
	2009	6.62	\$1,000,401

Phytosanitary Certificates were issued for Marin-grown nursery products shipped internationally to: Canada, Fiji, and Japan.



Exterior of the "Garden Beautiful Nursery" with a seated individual tending to a potted plant. The wall of San Quentin prison is visible in the background, circa 1919. Creator: Lothers & Young Studios, San Francisco. Anne T. Kent California Room Collection, Marin County Free Library.

Department of Agriculture Program Overview

Departmental Mission Statement

Our mission is to serve the public's interest by ensuring equity in the market place as well as promoting and protecting agriculture, environmental quality, and the overall health and welfare of Marin County's citizens.

Following is a description of the Department's agricultural activities:

Pest Prevention

Pest prevention encompasses several activities aimed to prevent 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 avenues of pest entry into the county including nurseries and point of entry like UPS and FedEx. 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.

Protection of the Environment

The Department operates a Pesticide Use Enforcement program that includes a permitting process for restricted materials 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 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 and safe food and fiber.

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. 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 long-term prevention or suppression of pest problems has minimal negative impact on human health, non-target organisms, and the environment.

Product Quality

Marin County inspectors protect consumers by inspecting agricultural products for compliance with laws, regulations, and standards and ensure 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.

Summary of Our Sustainable Agricultural Activities

Marin Organic Certified Agriculture (MOCA) and Registered Organic Farms

The Marin County Agricultural Commissioner's Office is accredited by the United State Department of Agriculture (USDA) as an official organic certification agency. Marin Organic Certified Organic Agriculture (MOCA) serves the local agricultural community who are promoting sustainable 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. All California organic producers register in their principal county of operation.

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 main duty 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 productions of organic value-added products by Marin's family farms. In 2011, the number of MOCA certified operations in Marin and Sonoma Counties was 73 operators, including 1 processor. There are 73 registered organic producers in Marin County, farming 21,960 acres, which includes 21,650 acres in pasture, producing a total gross value of \$22,197,538.

Biological Control

Biological pest control is the use of natural enemies to help suppress pest populations to economically and environmentally acceptable levels. Once the agent becomes established, control is 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

Gorse
Bull Thistle
Yellow Star Thistle

Scotch Broom
Ash White Fly
Italian Thistle
Purple Star Thistle
Klamath Weed
Eucalyptus Red Gum Lerp Psyllid

Biological Agent/Mechanism

Gorse Mite, Seed Weevil
Bull Thistle Gall Fly
Seed Head Weevil, Gall Fly, Hairy Weevil, Peacock Fly,
Rust – Puccinia jaceae var. solstitialis
Seed Weevil, Stem Boring Moth
Parasitic Wasp
Seed Weevil
Seed Weevil
Beetle
Parasitic Wasp

Livestock Protection Program

The Marin County Board of Supervisors has continued to support and appropriate funds to the Livestock Protection Program. Recognized non-lethal control methods such as protection animals (llamas, guard dogs, etc.), electric fencing, scare devices, and herd shepherding are initiated through cost share funds to livestock ranchers. The Department administers verification inspections, cost share funding, and indemnification reimbursement for verified livestock losses for ranchers participating in this program. At this time, 19 livestock producers participate in the program, which includes a total of 10,302 acres.

Pest Prevention Programs

Pest Detection

Inspectors serviced 1,172 traps for exotic insect pests (including Mediterranean Fruit Fly and Oriental Fruit Fly, Mexican Fruit Fly, Olive Fruit Fly, Melon fly, Gypsy Moth, Japanese Beetle, Glassy-Winged Sharpshooter, Light Brown Apple Moth (LBAM) and European Grapevine Moth (EGVM)). Of the 1,172 traps, 273 traps were placed for the Glassy-Winged Sharpshooter in nurseries and vineyards, 250 Mediterranean Fruit Fly traps were placed in fruit trees, 227 Gypsy Moth traps were placed on hardwood trees, 11 LBAM traps were placed throughout the county, and 25 European Grapevine Moth traps were placed in vineyards.

Pest Exclusion

In 2011, inspectors conducted 1,623 incoming plant quarantine inspections. Plant shipments were monitored at Federal Express, UPS, nurseries, ethnic markets, aquatic supply stores, and post entry quarantine. The Department performed 77 gypsy moth inspections of household goods from infested states, as well as 1,276 Glassy-Winged Sharpshooter inspections on plant material from infested California counties. One rejection of plant material was made and the plants were inspected and released.

Marin/Sonoma Weed Management Area

The Marin Sonoma Weed Management Area (MSWMA) group is a cooperative effort of federal, state, county and city agencies, private industry, and private landowners. Formed in 1999, MSWMA's goals include improving the effectiveness of local weed management efforts, increasing public awareness of invasive weeds, and advancing responsible land stewardship practices. The MSWMA unites landowners and public agencies, provides an opportunity to share resources in mapping planning information, and helps control weeds across land ownership boundaries.

A Rapid Response Program is under development to address early infestations of invasive weeds before they spread to larger areas and require costly control methods, or become completely uncontrollable. Additionally, a website has been developed to allow Weed Management Area (WMA) partners, landowners, and the general public to: report early invaders, stay informed about WMA activities, and follow links about invasive weeds and control methods. Please visit www.marinsonomaweedmanagement.org for more information.

Some priority weed occurrences arise on private lands. The Rapid Response/Bay Area Early Detection Network (<http://baedn.org/>) ensures these habitats are not left out of the solution, and also connects the MSWMA with ranchers, farmers, and private landowners. For example, the Department has been working closely with the ranchers in the Chileno Valley to help coordinate efforts and provide resources to manage and eradicate woolly distaff thistle. Over the past several years distaff has rendered hundreds of acres of pasture and rangeland unusable. Many different methods are available to manage and eradicate distaff, including mowing, burning, hand pulling, over seeding, fertilizing, herbicide applications, etc.

Meetings on Distaff Thistle have been held with many different stakeholders, including ranchers, Marin County Farm Bureau, Marin Agricultural Land Trust (MALT), Marin Resource Conservation District (MRCD), Marin County Department of Agriculture, and others.

The Marin County Board of Supervisors has adopted a weed policy to discourage the import, sale or cultivation of non-native invasive plants. For a list of these plants, please visit our website at: www.marincounty.org/ag.

Pest Prevention Programs – continued

Glassy-Winged Sharpshooter

The Glassy-Winged Sharpshooter (GWSS), *Homalodisca vitripennis*, is a very serious pest 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, staff inspects incoming nursery plant shipments containing GWSS hosts from infested California counties. In 2011, a total of 1,276 shipments were inspected for GWSS, with no finds. Detection traps are strategically placed throughout the county to monitor for this unwanted pest.

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 a rarely lethal leaf or twig blight. 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 are a vector, allowing inoculum to spread through natural or artificial means (i.e., rainwater, soil, infested nursery stock) under moist conditions.

The phosphonate product Agri-Fos® continues to be the only registered product for control of *P. ramorum* on oaks. It works best as a preventative by stimulating the tree's natural defense system to prevent the disease from infecting the tree.

The California Oak Mortality Task Force (COMTF) was established in 2000 to conduct research and understand SOD. More information, including diagnostic guides and management recommendations may be found at www.suddenoakdeath.org.

Ghost Oak
by
Jesse Harrington Au, 2011
jesselegend@gmail.com

Pest Prevention Programs – continued

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. Currently the infestation occupies 17 counties, compared to 15 counties in 2010 and 18 counties in 2009.

A mature LBAM female can deposit 300 – 1,500 eggs in their lifetime. Each generation lives approximately 6 – 7 weeks. The larvae may be found inside furled leaves. LBAM constructs leaf rolls (nests) by webbing together leaves, a bud and one or more leaves, leaves and fruit, or by folding individual mature leaves.

This moth species is not native to the United States and therefore has few known predators or parasites here to naturally reduce populations. Evaluation of biological control of LBAM by parasites is making progress and having positive results.

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 17 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 found at: www.cdfa.ca.gov/lbam



LBAM Egg Mass



LBAM Larva



LBAM Pupa



LBAM Adult

Farmers' Markets of Marin County

The purpose of farmers' markets is to allow local producers to sell their certified commodities directly to the public. There are 32 certified producers that have been issued Marin County certificates. The following 13 Farmers' Markets have been certified by the Agricultural Commissioner to market local and regional produce in Marin County.

Civic Center (San Rafael) Thursdays 8:00 am – 1:00 pm Sundays 8:00 am – 1:00 pm Open All Year	Corte Madera Corte Madera Town Center Wednesdays 12:00 – 5:00 pm Open All Year	Downtown San Rafael Fourth Street, San Rafael Thursdays 6:00 – 9:00 pm April – September
Fairfax Perry Park, Downtown Fairfax Wednesdays 4:00– 8:00 pm May – September	Marinwood Community Marinwood Plaza Saturdays 9:00 am - 2:00 pm Open All Year	Marin Country Mart Larkspur Landing Cir., Larkspur Saturdays 9:00 am – 2:00 PM Open All Year
Mill Valley E. Blithedale Ave. @ Ashford Dr. Fridays 9:00 am – 2:00 pm Open All Year	Old Town Novato Downtown, Novato Tuesdays 4:00 – 8:00 pm May – September	Point Reyes Toby's Feed Barn (11250 Hwy1) Point Reyes Station Saturdays 9:00 am – 1:00 pm June – November
Ross Valley Marin Art & Garden Center, Ross Thursdays 3:00 – 7:00 pm May – October	Sausalito Dunphy Park, Sausalito Sundays 10:00 am – 2:00 pm Open All Year	Tam Valley Tennessee Vly. Rd. @ Marin Ave. Tuesdays 3:00 – 7:00 pm May - October



*Gentlemen trading goods in Sausalito, circa 1888. Photographer: George Reed.
Courtesy of The Bancroft Library, University of California, Berkeley.*

Weights and Measures Program Overview

The Weights and Measures programs ensure honesty and integrity in commercial transactions when products are sold by weight, measure, count or time. This is accomplished through the continuous and systematic inspection of all equipment used to weigh or measure commodities. Weights and Measures inspectors test: taximeters, stores scales, gasoline pumps, fabric and cordage meters, electric meters, livestock and animal scales, vehicle scales, packaged products for stated net contents and also conducts barcode scanner inspections to ensure accurate product pricing. Overall, every transaction involving the exchange of goods by volume, count, or weight is affected in a vital way by some form of weights and measures.

Point-of-Sale and Price Verification

The emergence and application of scanner/point-of-sale systems technology at retail check out stands has provided retailers substantial benefits concerning the tracking of sales and inventory; however, the remote location of the price database and its maintenance has increased price discrepancies between an item's advertised price on the store shelf and what the consumer is charged when checking out at the register. It is unlawful to charge at the time of sale a price that is more than the price that is advertised or posted. Pursuant to California Business and Professions Code sections 12103.5, 12024.2, and 12024.6, the purpose of this Chapter is to ensure that the advertised or posted price of a commodity is the price charged for that commodity. Business and Professions Code Section 13350 mandates that county weights and measures departments perform price verification inspections to regulate pricing and price representation. Beginning in January 2007, Marin County Department of Agriculture/Weights and Measures began routinely inspecting the approximately 419 different locations that use the estimated 1,910 scanner/point-of-sale devices in Marin County. Previously, these inspections were only done as a result of a complaint.

In 2011, Marin Weights and Measures worked with the Board of Supervisors on revising the Point-of-Sale Registration ordinance to allow our department to display these consumer protection stickers at any grocery or retail store that uses a barcode scanner or price lookup system to show a price at the checkout stand. Starting in 2012, department staff will start posting these stickers in stores.



Department Staff

Agricultural Commissioner Director of Weights and Measures

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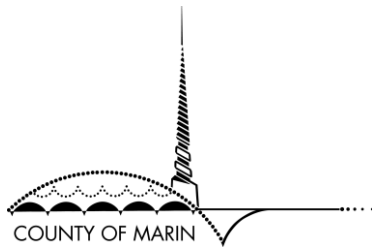
Office Assistant

Mary Wahlberg

Marin County

Livestock & Agricultural Crop Report 2012





STACY K. CARLSEN
COMMISSIONER/DIRECTOR

STEFAN PARNAY
DEPUTY COMMISSIONER/DIRECTOR

June 2013

Karen Ross, Secretary
California Department of Food and Agriculture
and
Marin County Board of Supervisors
Judy Arnold, President, District 5

Susan L. Adams, District 1
Katie Rice, District 2

Kathrin Sears, District 3
Steve Kinsey, District 4

In accordance with the provisions of Section 2279 of the California Food and Agricultural Code, I am pleased to submit the Annual Livestock and Agricultural Crop Report for 2012. This report is a summary of counts, acreage, yields, and gross value of agricultural production in Marin County. The 2012 gross value of all production was the highest value ever recorded \$80,365,289. This represents an increase of \$2,520,009, which is 3.2 percent higher than the 2011 total agricultural production value of \$77,845,280 (revised). The report represents gross returns to the producer and does not indicate actual net profit.

Milk is the long standing, premier commodity for Marin, and this year accounts for 42.4 percent of the crop report's total value. The average Market Milk Price for 2012 was higher than 2011, contributing to a 9 percent increase in the overall milk value of \$2,819,204. 2012 was the fourth year since agricultural statics began being recorded that milk values did not constitute at least 50 percent of Marin County's total agricultural production value; the first year was 2009.

Livestock values greatly increased for 2011 and 2012 when compared to previous years. This increase was a result of a change in the method the USDA uses to value livestock production. Historically, cattle values have been measured using the unit "Hundredweight" (CWT), where one unit is equal to 100 pounds. The new unit used by the USDA to value cattle is "Head", where one unit is equal to an individual animal. An accurate value for each unit of livestock production is provided by the USDA to Marin County and is not collected at the local level.

Wine grape value increased 38.9 percent from 2011. Much of this increase is attributed to increased participation in the 2012 survey; just as the 2011 16.7 percent decrease was attributed to decreased participation. Participation in the annual Livestock & Crop Report is voluntary for agricultural producers.

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 Jeffrey Stiles.

Respectfully submitted,

Stacy K. Carlsen
Agricultural Commissioner/Director of Weights and Measures

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Cover photo:

Local Cheese Trio, By: Jeffrey Stiles

Marin Artisan Cheese: *Much of this information is from, Coming of Age: The Status of North Bay Artisan Cheesemaking, University of California Cooperative Extension, January 2011, Ellie Rilla.*

This crop report is available on our web site:

<http://www.marincounty.org/depts/AG/Main/cropreports.cfm>

Marin Artisan Cheese

While artisan cheeses have been a part of European culture dating back to the first century, artisan cheesemaking is a relatively new tradition in the United States and California that is only 150 years old. In Marin County, Spanish priests made cheeses from their mission herds while European immigrants working on dairies brought cheesemaking skills with them from the “old” country. Swiss-Italians, Azoreans, Portuguese, Irish and Mexicans as well as other immigrants, craved their own foods, including traditional cheeses.

The California Gold Rush of 1848-1855 created a demand for local products including butter and cheese in the newly-established Bay Area. The Steele family, who arrived on the Point Reyes peninsula in 1857, built a dairy in what they called “cow heaven” and soon operated three ranches shipping butter and cheese by schooner to the City. In 1859 they produced 55,000 pounds of cheese. By 1870, the Shafters, who were the prominent landholder on the peninsula, ran a “butter rancho” acclaimed as the largest butter dairy estate in the world (Livingston 2009).

From the 1850s on, dairy ranches sprung up not only on the Point Reyes peninsula but everywhere in Marin making the county the top major dairy producer in California for several decades. The Marin French Cheese Company has produced an artisan cheese in the same location outside of Novato since 1865, and is the oldest continually operating cheese factory in the United States. The Thompson family began making and selling fresh cheese to the saloons, where it was served to primarily European dockworkers at Yerba Buena Cove as a substitute for pickled eggs in short supply at the time. The cheese was transported by horse and wagon to the Petaluma River and then taken by steamer across the bay to San Francisco. Thompson Bros. Cheese Company was able to supply more varieties of cheese to the fledgling San Francisco marketplace as the demand for fresh cheeses quickly grew. The 1860 Agricultural Census reports 161,350 pounds of cheese produced in five townships in Marin valued at \$39,576 (State Archives). Around 1915, the Western Cheese & Butter Company made cheese and butter with milk from Nicasio dairies until a fire destroyed the warehouse and cheese inside (Livingston 2008).

Cooperative creameries operated in Fallon (near Tomales), in Point Reyes, and in Petaluma from the 1920s to 1940s. With the advent of WWII and the need to further gear up the country’s food supply, small-scale production of unique and diverse cheese virtually disappeared, especially in the West.

In the North Bay, several pioneers led the artisan cheese renaissance in the 1970s and early 1980s by making unique cheeses. An article in the Marin Independent Journal (Rogers 2009) describes how cheese made in Marin has its origins in Europe.

"Cowgirl Creamery uses Dutch techniques; the new Nicasio Valley Cheese Company draws on the Swiss-Italian heritage of the Lafranchi family; and the Barinaga Ranch specializes in Basque sheep cheeses. However, Marin's conditions and techniques have given those cheeses a distinctly American interpretation. That's particularly true at Point Reyes Station's Cowgirl Creamery, where local air and soil conditions helped create one of the company's best-known cheeses by accident. 'Our Red Hawk cheese initially has a fluffy white mold growing on it,' said, Michael Zilber of Cowgirl Creamery. 'In the process of washing our cheese with brine, we introduced some naturally occurring bacteria that's in the air here, and that bacteria gives the cheese its pungent, stinky quality. We can't produce Red Hawk in our new facility in Petaluma, because it exists in the air in that concentration only in Point Reyes' ".

While cows, goats and sheep have been raised in Marin for cheese production for around 150 years, 2012 welcomed a new species and type of cheese to Marin County. Water buffalo (*Bubalus bubalus*) are being raised in Tomales for the production of the cheese Mozzarella di Bufala, and other water buffalo cheeses.

Marin County artisan cheese producers continue to expand and fill a crucial niche, helping to continue Marin County’s diverse agricultural heritage.

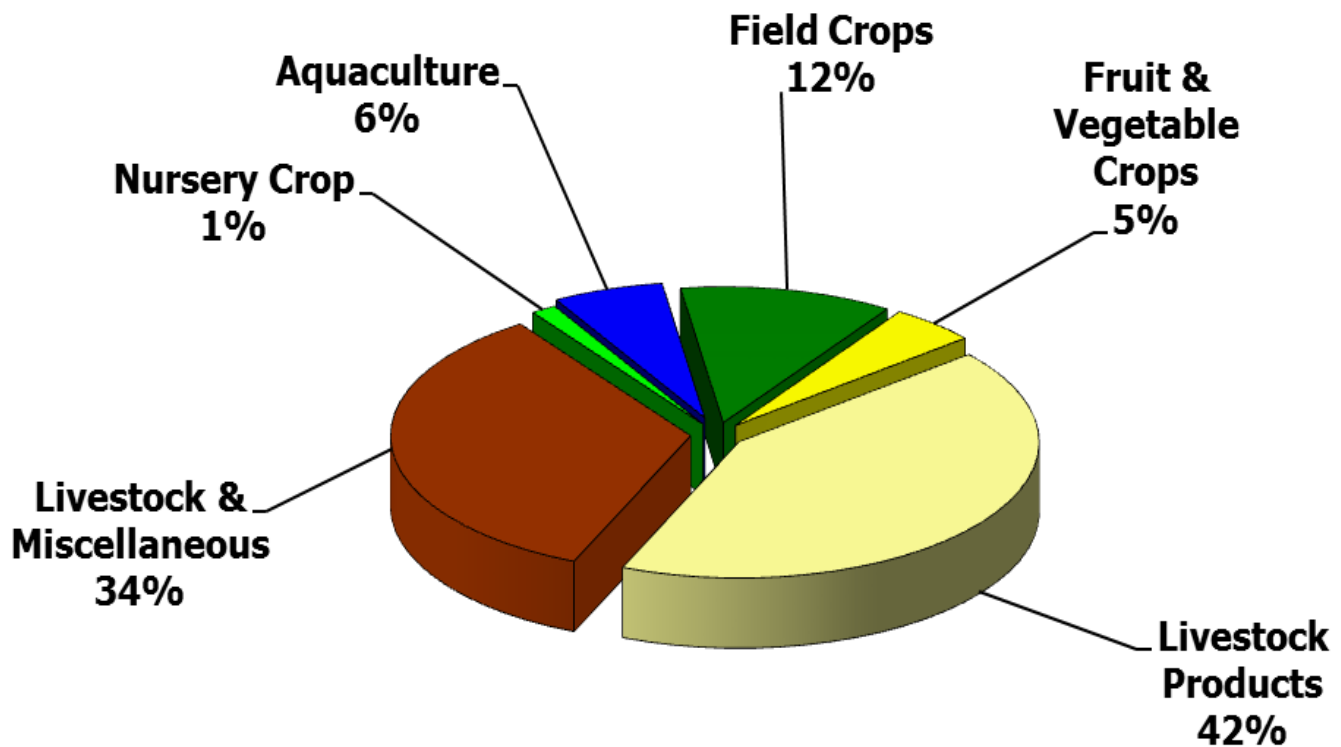
Agricultural Production Summary

Type of Agricultural Production	2012	2011
Livestock Products	\$34,114,074	\$31,369,320
Livestock & Miscellaneous	\$27,360,228	\$27,652,690~
Field Crops	\$9,240,375	\$9,589,461
Fruit, Grape, & Vegetable Crops	\$3,754,030	\$3,570,942
Aquaculture	\$4,800,137	\$4,658,103
Nursery Crops	\$1,096,445	\$1,004,764
AGRICULTURAL GROSS VALUE	\$80,365,289	\$77,845,280

~ Values provided by USDA switched units of measure from CWT (hundredweight) to HEAD for 2011. 2011 values have been revised to match the change in units.

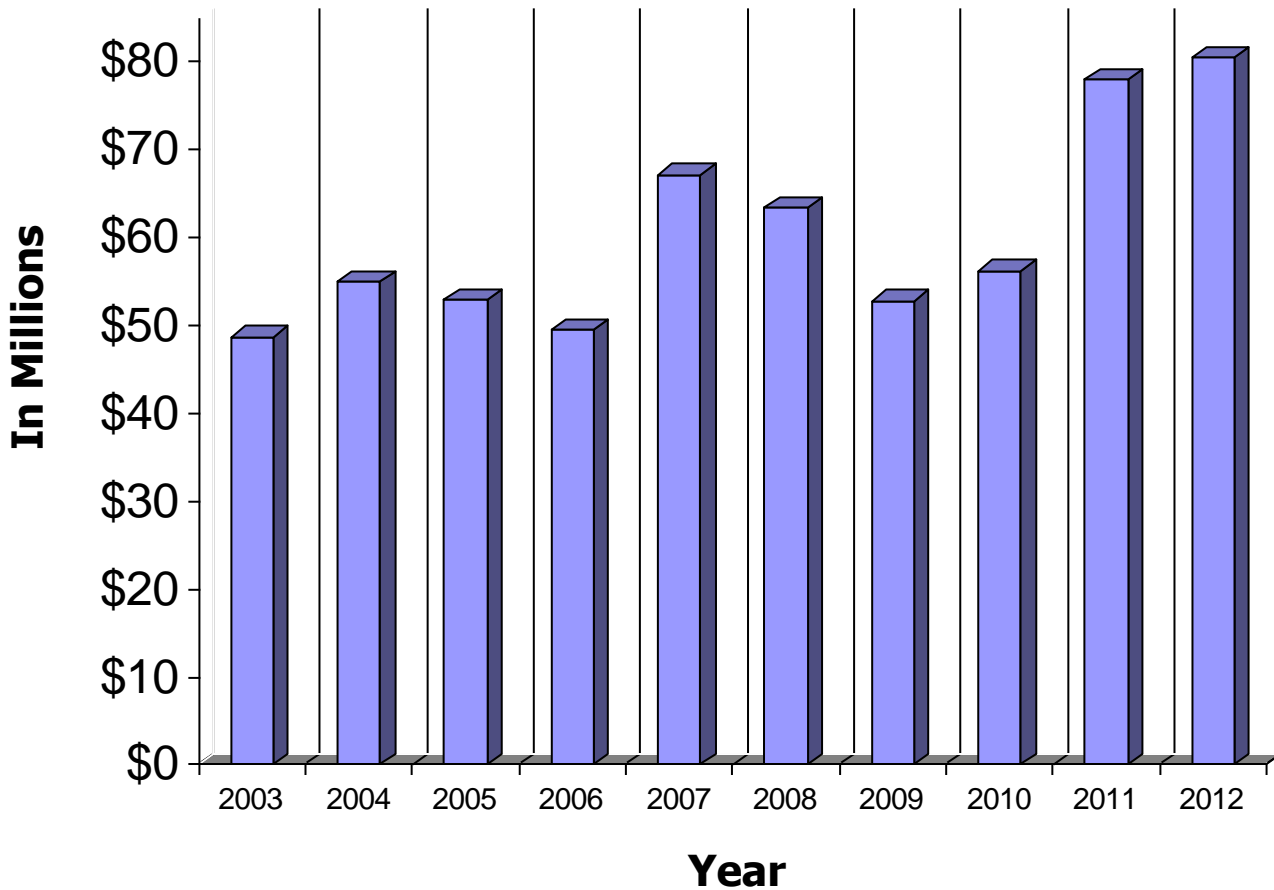
The 2012 gross value of all agricultural production was \$80,365,289. This represents an increase of approximately \$2,520,009 (3.2%) from the 2011 agricultural production gross value.

This graph illustrates how the 2012 agricultural gross value breaks down across the various types of agricultural production.



Agricultural Production Gross Value

Ten Year Summary



Comparison of 2011 Agricultural Production Values for Select North Coast Counties

	Marin	Napa	Sonoma*	Solano
Livestock, Livestock Products, & Misc	\$34,122,010	\$3,906,600	\$175,295,500	\$52,458,000
Field Crops	\$9,589,461	\$443,000	\$10,320,900	\$83,811,600
Fruit, Grape, and Vegetable Crops	\$3,570,942	\$423,625,500	\$355,637,200	\$131,758,500
Aquaculture	\$4,658,103	\$0	\$1,605,343	\$0
Nursery Crops	\$1,004,764	\$2,303,400	\$24,538,900	\$23,630,200

* Aquaculture figure is based on 2009 data.

Livestock and Aquaculture

Item	Year	Number of head	\$/Unit	Dollar Value Total
Cattle & Calves~	2012	15,144	\$1,253.07	\$18,976,492
	2011	15,894	\$984.89	\$18,994,283
Sheep & Lambs~	2012	9,121	\$176.00	\$1,605,320
	2011	10,912	\$231.00	\$2,520,775
Miscellaneous [†]	2012	8,350	-	\$282,000
	2011	6,604	-	\$207,640
Poultry [*]	2012	161,350	-	\$6,496,416
	2011	253,888	-	\$5,924,992
Aquaculture	2012	Oysters, Mussels, & Clams		\$4,800,387
	2011	Oysters, Mussels, & Clams		\$4,658,103
Total	2012		-	\$32,160,615
	2011		-	\$32,310,793

~ Values provided by USDA switched units of measure from CWT (hundredweight) to HEAD for 2011. 2011 values have been revised to match the change in units.

[†] Miscellaneous figures include goats, hogs, and rabbits.

^{*} Poultry 2010 figures include poultry fryers and chicken eggs for consumption.



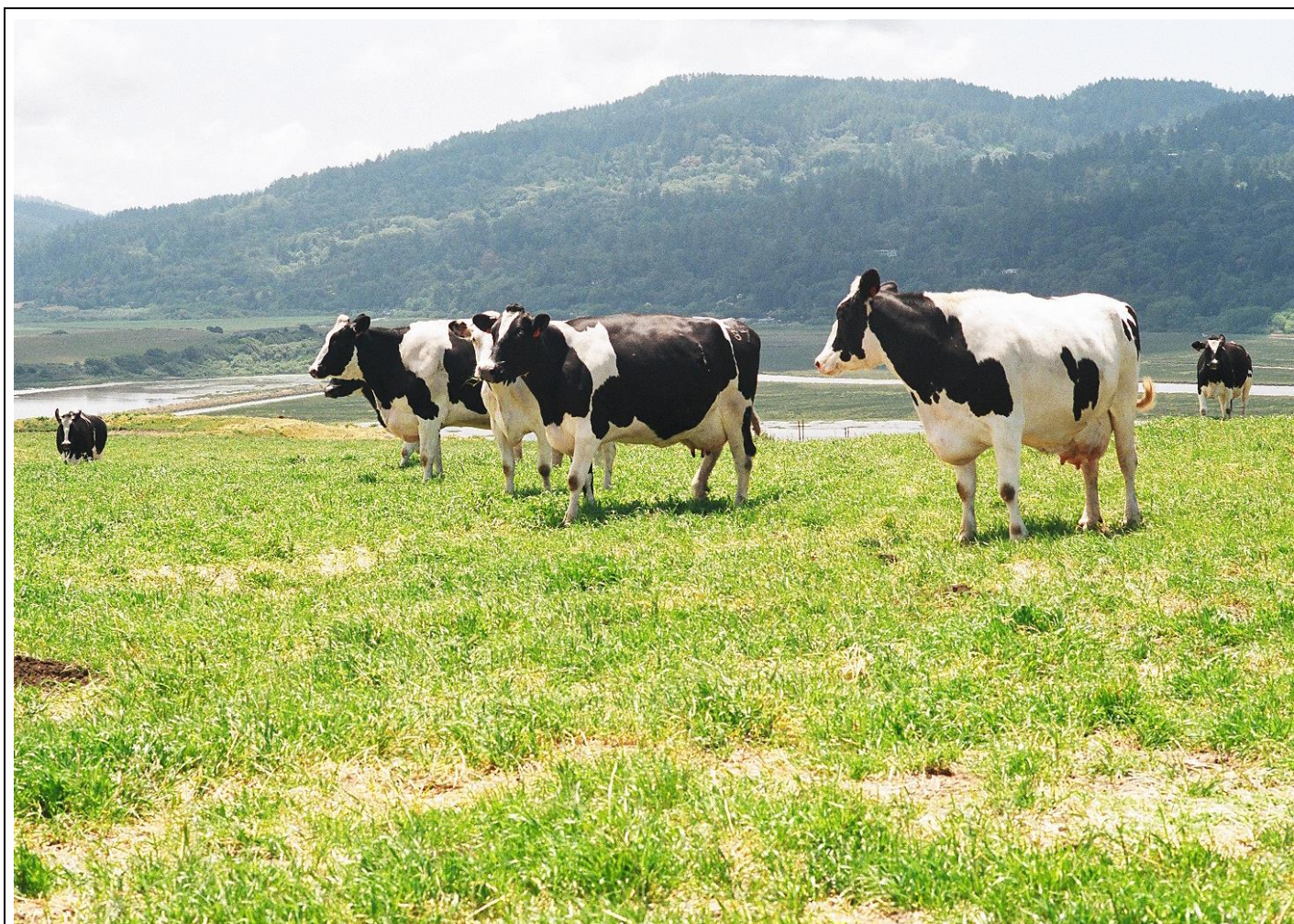
Tomales Bay Clams

By: William Quirt Courtesy: Marin County UC Cooperative Extension, Farm Advisor

Livestock Products

Item	Year	Production	Unit	\$ / Unit	Dollar Value Total
Milk~ (Market)	2012	1,522,529	cwt	\$22.38	\$34,074,204
	2011	1,622,137	cwt	\$19.31	\$31,325,000
Milk~ (Manufacturing)	2012	132	cwt	\$22.72	\$3,000
	2011	178	cwt	\$16.85	\$3,000
Wool~	2012	60,442		\$0.61	\$36,870
	2011	71,241		\$0.58	\$41,320
Total	2012				\$34,114,074
	2011				\$31,369,320

~ Due to unavoidable computational rounding, the Dollar Value Total value is overestimated by less than 0.01%.



Holsteins by Tomales Bay

By: William Quirt Courtesy: Marin County UC Cooperative Extension, Farm Advisor

Inventories of Livestock and Poultry

Commodity		Head	Number
Cattle [†]	Total Cattle*	26,253	-
	Milk cows & heifers (2 years and over)	9,012	-
	Beef cows & heifers (2 years and over)	6,132	-
Sheep and Lambs, all [†]		9,121	-
Poultry		-	161,350
Miscellaneous**		-	8,350

[†] Number of Head as of January 1, 2012.

* Includes cows, heifers, calves, and bulls.

** Miscellaneous 2012 figures include goats, hogs, and rabbits.



Marin County Free Range Chickens!

By: William Quirt Courtesy: Marin County UC Cooperative Extension, Farm Advisor

Field, Fruit and Vegetable Crops

Commodity	Year	Harvested Acreage	Ton / Acre	Total Tons	Unit	\$ / Unit	Dollar Value Total
Hay ^{†~}	2012	2,013	2.40	4,831	ton	\$114.40	\$552,670
	2011	1,852	2.76	5,111	ton	\$90.21	\$461,063
Silage [~]	2012	1,571	13.72	21,554	ton	\$43.71	\$942,125
	2011	2,119	14.47	30,671	ton	\$51.22	\$1,570,968
Pasture, Irrigated	2012	810				\$100.00	\$81,000
	2011	810				\$100.00	\$81,000
Pasture, Other	2012	154,000				\$49.77	\$7,664,580
	2011	154,000				\$48.55	\$7,476,700
Fruits & Vegetables	2012	330					\$2,527,166
	2011	310					\$2,687,630
Grapes, Wine [*]	2012	186		387	ton		\$1,226,864
	2011	186		191	ton		\$883,312
Total	2012						\$12,994,405
	2011						\$13,160,403

[†] Values include Grass Hay, Oat Hay, Oat Seed, and Vetch Seed.

[~] Due to unavoidable computational rounding, the Dollar Value Total is overestimated by less than 0.01%.

^{*} Varieties: Cabernet Sauvignon, Chardonnay, Merlot, Pinot Noir, Shiraz, and Riesling.



Silage Sprouting By: Johanna Good

Nursery Products

Commodity	Year	Production Acreage	Dollar Value Total
Nursery Stock, All	2012	5.06	1,096,743
	2011	6.1	1,004,764
	2010	6.25	\$991,983

Phytosanitary Certificates were issued for Marin-grown nursery products shipped internationally to: Canada, China, Fiji, and Japan.



Exterior of the "Garden Beautiful Nursery" with a seated individual tending to a potted plant. The wall of San Quentin prison is visible in the background, circa 1919. Creator: Lothers & Young Studios, San Francisco. Anne T. Kent California Room Collection, Marin County Free Library.

Department of Agriculture Program Overview

Departmental Mission Statement

Our mission is to serve the public's interest by ensuring equity in the market place as well as promoting and protecting agriculture, environmental quality, and the overall health and welfare of Marin County's citizens.

Following is a description of the Department's agricultural activities:

Pest Prevention

Pest prevention encompasses several activities aimed to prevent 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 avenues of pest entry into the county including nurseries and points of entry such as UPS and FedEx. 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.

Protection of the Environment

The Department operates a Pesticide Use Enforcement program that includes a permitting process for restricted materials 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.

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. 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.

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.

Summary of Our Sustainable Agricultural Activities

Marin Organic Certified Agriculture (MOCA) and Registered Organic Farms

The Marin County Agricultural Commissioner's Office is accredited by the United State 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 2012, the number of MOCA certified operations in Marin and Sonoma Counties was 84 operators, including 1 processor.

All organic producers in California must register in their principal county of operation. There are 71 registered organic producers in Marin County, farming 33,427 acres, which includes 33,097 acres in pasture, producing a total gross value of \$27,757,305.

Biological Control

Biological pest control is the use of natural enemies to help suppress pest populations to economically and environmentally acceptable levels. Once the agent becomes established, control is 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

Gorse
Bull Thistle
Yellow Star Thistle

Scotch Broom
Ash White Fly
Italian Thistle
Purple Star Thistle
Klamath Weed
Eucalyptus Red Gum Lerp Psyllid

Biological Agent/Mechanism

Gorse Mite, Seed Weevil
Bull Thistle Gall Fly
Seed Head Weevil, Gall Fly, Hairy Weevil, Peacock Fly,
Rust – Puccinia jaceae var. solstitialis
Seed Weevil, Stem Boring Moth
Parasitic Wasp
Seed Weevil
Seed Weevil
Beetle
Parasitic Wasp

Livestock Protection Program

The Marin County Board of Supervisors has continued to support and appropriate funds to the Livestock Protection Program. 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.

Pest Prevention Programs

Pest Detection

Inspectors serviced 1,335 traps for exotic insect pests. The targeted pests are: Mediterranean Fruit Fly, Oriental Fruit Fly, Mexican Fruit Fly, Olive Fruit Fly, Melon Fly, Gypsy Moth, Japanese Beetle, Glassy-Winged Sharpshooter, Light Brown Apple Moth, and European Grapevine Moth. Of the 1,335 traps, 276 traps were placed for the Glassy-Winged Sharpshooter in nurseries and vineyards; 251 Mediterranean Fruit Fly traps were placed in fruit trees; 220 Gypsy Moth traps were placed on hardwood trees; 13 Light Brown Apple Moth traps were placed throughout the county; and 10 European Grapevine Moth traps were placed in vineyards.

Pest Exclusion

In 2012, inspectors conducted 2,086 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 53 Gypsy Moth inspections of household goods from infested states, as well as 1,180 Glassy-Winged Sharpshooter inspections on plant material from infested California counties. Two rejections of plant material were made to protect Marin's agriculture and environment.

Marin/Sonoma Weed Management Area

The Marin Sonoma Weed Management Area (MSWMA) group is a cooperative effort of 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, and advancing responsible land stewardship practices. The MSWMA helps control weeds across land ownership boundaries by uniting landowners and public agencies and providing an opportunity to share resources in mapping and planning. Weed Management Area (WMA) partners, landowners, and any interested party can report early invaders, stay informed about WMA activities, and link to resources about invasive weeds by visiting www.marinsonomaweedmanagement.org.

Some priority weed occurrences arise on private lands. The Rapid Response/Bay Area Early Detection Network (<http://baedn.org/>) works connecting the MSWMA with ranchers, farmers, and private landowners to address these infestations.

One example of coordination revolves around Woolly Distaff Thistle. Over the past several years Woolly Distaff Thistle has rendered hundreds of acres of pasture and rangeland unusable. Meetings on Distaff Thistle have been held with many different stakeholders, including ranchers, Marin County Farm Bureau, Marin Agricultural Land Trust (MALT), Marin Resource Conservation District (MRCD), Marin County Department of Agriculture, and others. The Department has been working closely with the ranchers in Chileno Valley to help coordinate efforts and provide resources to manage and eradicate woolly distaff thistle. Many different methods are available to manage and eradicate Distaff, including mowing, burning, hand pulling, over seeding, fertilizing, herbicide applications, etc.

The Marin County Board of Supervisors has adopted a weed policy to discourage the import, sale or cultivation of non-native invasive plants. For a list of these plants, please visit our website at: www.marincounty.org/ag.

Pest Prevention Programs – continued

Glassy-Winged Sharpshooter

The Glassy-Winged Sharpshooter (GWSS), *Homalodisca vitripennis*, is a very serious pest 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 2012, a total of 1,180 shipments were inspected for GWSS, with no finds. Detection traps are strategically placed throughout the county to monitor for this unwanted pest.

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.

Dominican University has established a research center to mitigate the disease which may allow nursery stock to be shipped without quarantine restrictions.

On oaks, *P. ramorum* causes potentially lethal trunk cankers; on other hosts it causes a rarely lethal leaf or twig blight. 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 are 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 *Phytophthora ramorum*. Best preventative practices are keeping trees healthy so they maintain their natural defenses, pruning overstory California bay laurels, and phosphonate treatment products.

The California Oak Mortality Task Force (COMTF) was established in 2000 to conduct research and understand SOD. More information, including diagnostic guides and management recommendations may be found at www.suddenoakdeath.org.

Ghost Oak
by
Jesse Harrington Au, 2011
jesselegend@gmail.com

Farmers' Markets of Marin County

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Fairfax Perry Park, Downtown Fairfax Wednesdays 4:00– 8:00 pm May – December	Marinwood Community Marinwood Plaza Saturdays 9:00 am - 1:00 pm Open All Year	Marin Country Mart Larkspur Landing Cir., Larkspur Saturdays 9:00 am – 2:00 PM Open All Year
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*Gentlemen trading goods in Sausalito, circa 1888. Photographer: George Reed.
 Courtesy of The Bancroft Library, University of California, Berkeley.*

Weights and Measures Program Overview

The Weights and Measures programs ensure honesty and integrity in commercial transactions when products are sold by weight, measure, count or time. This is accomplished through the continuous and systematic inspection of all equipment used to weigh or measure commodities. Weights and Measures inspectors test: taximeters, stores scales, gasoline pumps, fabric and cordage meters, electric meters, livestock and animal scales, vehicle scales, packaged products (for stated net contents) and barcode scanners (to ensure accurate product pricing). Overall, every transaction involving the exchange of goods by volume, count, or weight is affected in a vital way by some form of weights and measures.

Point-of-Sale and Price Verification

Pursuant to California Business and Professions Code sections 12103.5, 12024.2, and 12024.6, the purpose of this Chapter is to ensure that the advertised or posted price of a commodity is the price charged for that commodity. The emergence and application of scanner/point-of-sale systems technology at retail check out stands has provided retailers substantial benefits concerning the tracking of sales and inventory; however, the remote location of the price database and its maintenance has increased price discrepancies between an item's advertised price on the store shelf and what the consumer is charged when checking out at the register. It is unlawful to charge a price at the time of sale that is higher than the price that is advertised or posted. Business and Professions Code Section 13350 mandates that county weights and measures departments perform price verification inspections to regulate pricing and price representation. Beginning in January 2007, Marin County Department of Agriculture/Weights and Measures began routinely inspecting the approximately 421 different locations that use the estimated 1,932 scanner/point-of-sale devices in Marin County. Previously, these inspections were only done as a result of a complaint.

In 2011, Marin Weights and Measures worked with the Board of Supervisors on revising the Point-of-Sale Registration ordinance to allow our department to display these consumer protection stickers at any grocery or retail store that uses a barcode scanner or price lookup system to show a price at the checkout stand. Starting in 2012, department staff have been posting these stickers in stores at each point of sale location and customer service counter.

ATTENTION CUSTOMERS	
BY LAW, YOU ARE ENTITLED TO THE LOWEST ADVERTISED OR POSTED PRICE FOR ANY ITEM(S) OFFERED FOR SALE BY THIS STORE.	
For information or to file a pricing complaint, contact Marin Weights & Measures: (415) 473-7888 www.marincounty.org/ag	
IT IS UNLAWFUL TO REMOVE OR OBSCURE THIS NOTICE COUNTY ORDINANCE §5.45.130	

Department Staff

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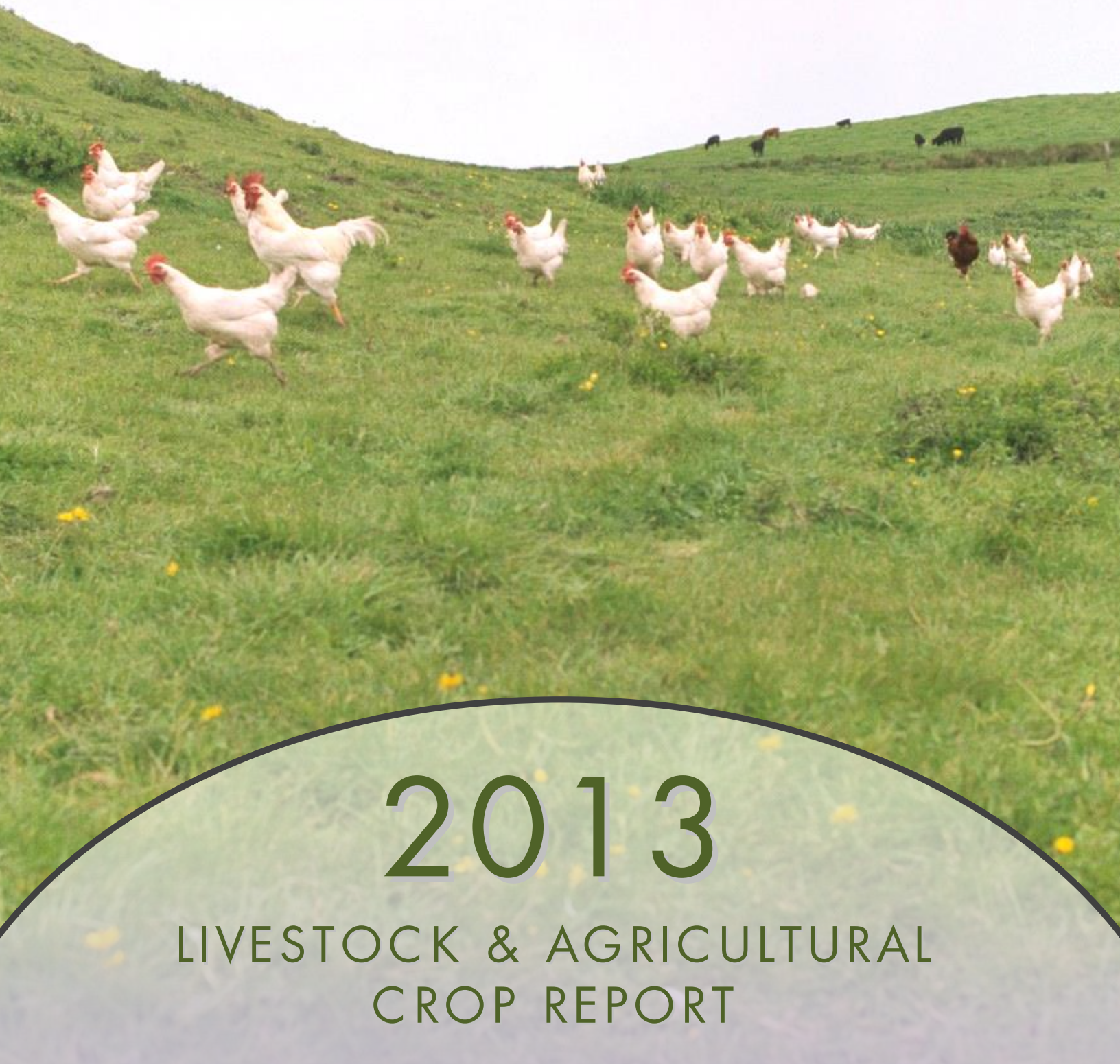
Office Assistant

Mary Wahlberg



COUNTY OF
MARIN

DEPARTMENT OF AGRICULTURE
WEIGHTS AND MEASURES



2013

LIVESTOCK & AGRICULTURAL
CROP REPORT

Karen Ross, Secretary

California Department of Food and Agriculture
and

Marin County Board of Supervisors

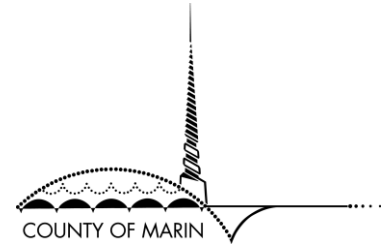
Kathrin Sears, President, District 3

Susan L. Adams, District 1

Katie Rice, District 2

Steve Kinsey, District 4

Judy Arnold, District 5



STACY K. CARLSEN

COMMISSIONER/DIRECTOR

STEFAN PARNAY

DEPUTY COMMISSIONER/DIRECTOR

In accordance with the provisions of Section 2279 of the California Food and Agricultural Code, I am pleased to submit the Annual Livestock and Agricultural Crop Report for 2013. This report is a summary of counts, acreage, yields, and gross value of agricultural production in Marin County. The 2013 gross value of all production was the highest value ever recorded \$84,300,087. This represents an increase of \$3,934,700, which is 4.9 percent higher than the 2012 total agricultural production value of \$80,365,280. The report represents gross returns to the producer and does not indicate actual net profit.

Milk is the long standing, premier commodity for Marin, and this year accounts for 40.4 percent of the crop report's total value. The average Market Milk Price for 2013 was higher than 2012, but a decrease in production contributed to a decrease in the overall milk value of \$705,665.

In April, 2013 the California Department of Food and Agriculture (CDFA) launched an internet based system for all organic producers in California to register with their department. A result of this new system is a database that provides a much more complete dataset of agricultural production in Marin County. Historically, nearly all of the data for the Crop and Livestock report was provided voluntarily

by producers and the level of participation potentially affected the data from year to year.

Poultry values greatly increased for 2013. The population increased by 96,656 individuals to over 258,000, making a 59 percent increase. The value of poultry production increased 89 percent or \$5,844,244. These increases are a result of increased poultry production in Marin County and more complete data extracted from the CDFA Organic Registration Database.

Fruit and Vegetable value increased 74.4 percent from 2012. Harvested Acreage increased by 576 Acres, or 174 percent. Many of these increases are attributed to more complete data extracted from the CDFA Organic Registration Database.

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 Jeff Stiles and Kyle Lindstrom for their help in producing this report.

Respectfully submitted,

A handwritten signature in cursive script, reading "Stacy K. Carlsen". The signature is written in dark ink and is positioned below the "Respectfully submitted," text.

Stacy K. Carlsen
Agricultural Commissioner
Director of Weights and Measures

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MARIN EGG PRODUCTION ON THE INCREASE

In recent years, the transition to organic agricultural production has been in the spotlight as the newest and most common trend in Marin County. Organic agriculture production has established itself as a key player in the practices and economics of farms and ranches in Marin County. As transition to organic agricultural production slows, partly due to many of the farms and ranches already receiving organic certification, a new trend in agricultural production is stealing the spotlight: egg production. The California Food and Agricultural Code requires any person engaged in business as an egg producer or handler in California to be registered, resulting in the number of these registrations in Marin County to double in 2013.

The majority of this new surge in egg production is from chickens raised on pasture. Chickens raised on pasture for the commercial production of eggs are typically kept in flocks associated with a mobile chicken coop. Mobile chicken coops are small buildings on wheels or skids that contain nesting boxes and perches. Each flock associated with a coop is kept near the coop by establishing a perimeter fence of portable mesh fencing. During the day, the birds are free to forage outside in the pasture. At night, the chickens take shelter in the mobile coop for protection and to nest and roost. Over time, the flock will consume the vegetation within the perimeter and, through natural foraging and dusting behaviors, scratch up the earth. Once this has occurred, the farmer will move the mobile coop, the flock associated with it, and the perimeter fence to the next pasture location. Allowing chickens access to pasture and the outdoors has been cited by producers to be beneficial for bird health. In addition, the foraging, scratching, and manure left by the birds improves pasture production quality and quantity.

Eggs from pasture raised chickens have different characteristics than eggs produced using conventional egg production methods. This, combined with the desire to purchase a local product, results in consumers who are willing to pay a premium price for these eggs. However, a premium price for eggs is only one of the multiple reasons egg producers have flocked to raising chickens on pasture. Some cattle - based ranches have stated they are looking to diversify farm production for economic stability. Also, adding egg production to existing cattle operations can increase agricultural production and allow for multiple family generations to derive an income from the ranch. Other producers see running pastured poultry in conjunction with cattle as part of an effort to make the farm function more like an ecological system.

The reasons for the sharp increase in Marin County's egg production are varied and as unique as each of the county's poultry operations. This new trend of resourcefulness and ingenuity by the farmers to continue to produce food products from Marin's pasture resources has become a part of Marin's continuing story of economic and environmental sustainability.

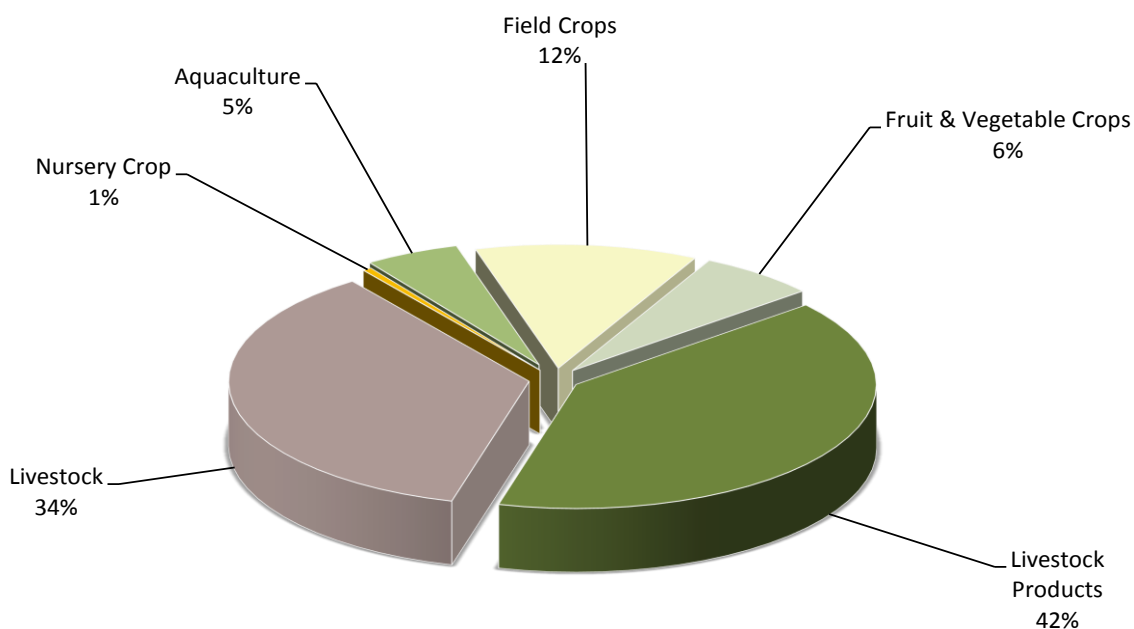


AGRICULTURAL PRODUCTION SUMMARY

TYPE OF PRODUCTION	2013	2012
Livestock Products	\$33,406,120	\$34,114,000
Livestock	\$29,747,943	\$27,360,200
Field Crops	\$9,933,381	\$9,240,400
Fruit, Grape, & Vegetable Crops	\$5,282,475	\$3,754,000
Aquaculture	\$5,532,431	\$4,800,387
Nursery Crops	\$397,737	\$1,096,400
AGRICULTURAL GROSS VALUE:	\$84,300,087	\$80,365,387

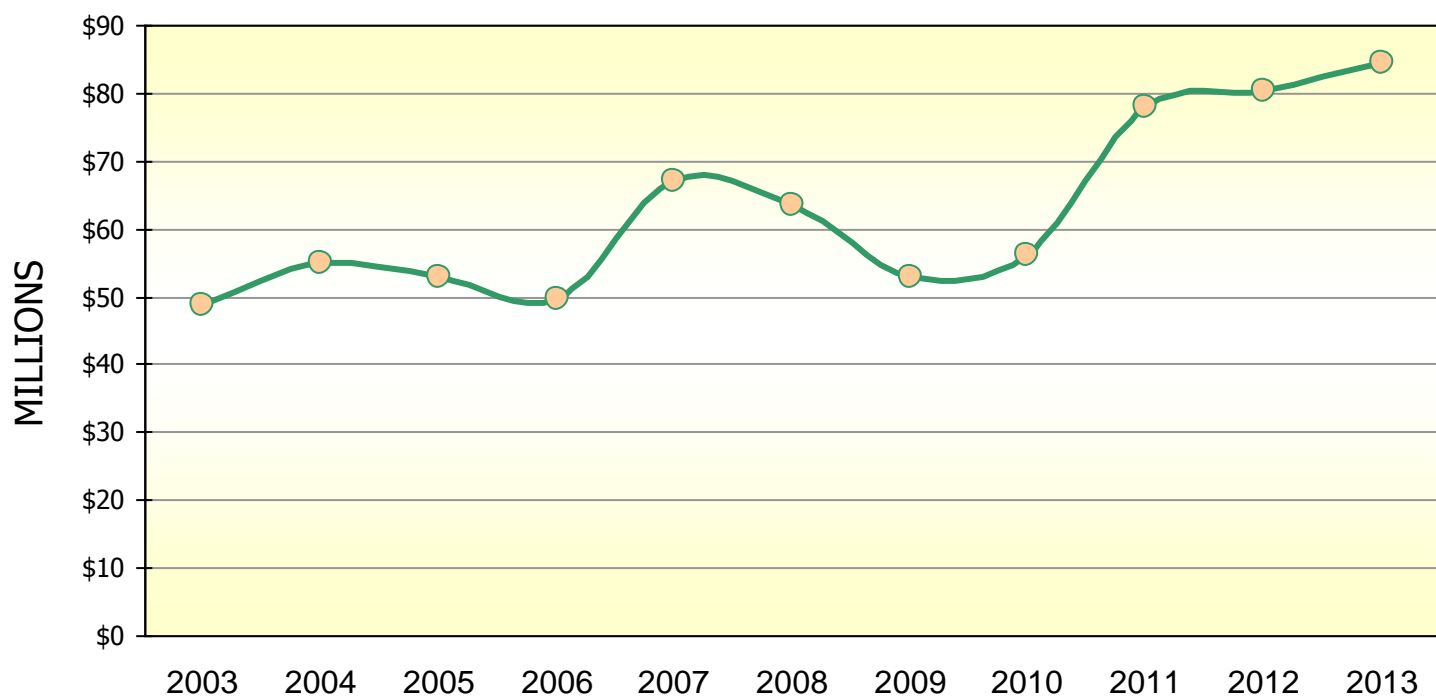
~ Values provided by USDA switched units of measure from CWT (hundredweight) to HEAD for 2011.

The 2012 gross value of all agricultural production was **\$84,300,087**. This represents an increase of approximately \$3,934,700 (4.9%) from the 2012 agricultural production gross value.



This graph illustrates how the 2013 agricultural gross value breaks down across the various types of agricultural production.

AGRICULTURAL PRODUCTION GROSS VALUE TEN YEAR SUMMARY



COMPARISON OF 2012 AGRICULTURAL PRODUCTION VALUES SELECT NORTH COAST COUNTIES

	MARIN	NAPA	SONOMA*	SOLANO
Livestock, Livestock Products, & Misc	\$61,474,200	\$3,709,500	\$174,726,000	\$63,425,000
Field Crops	\$9,240,300	\$637,800	\$12,833,900	\$84,604,000
Fruit, Grape, and Vegetable Crops	\$3,754,000	\$657,293,200	\$589,067,800	\$144,279,000
Aquaculture	\$4,800,100	\$0	\$1,605,343	\$0
Nursery Crops	\$1,096,400	\$3,074,100	\$33,471,300	\$23,630,200

* Aquaculture figure is based on 2009 data.



LIVESTOCK AND AQUACULTURE

ITEM	YEAR	NUMBER OF HEAD	\$/UNIT	DOLLAR VALUE TOTAL
Cattle & Calves	2013	13,056	\$1,181	\$15,419,136
	2012	15,144	\$1,253	\$18,976,492
Sheep & Lambs	2013	10,575	\$188	\$1,988,147
	2012	9,121	\$176	\$1,605,320
Poultry*	2013	258,006	-	\$12,340,660
	2012	161,350	-	\$6,496,416
Aquaculture	2013	Oysters, Mussels, & Clams		\$5,532,431
	2012	Oysters, Mussels, & Clams		\$4,800,387
TOTAL	2013		-	\$35,280,374
	2012		-	\$32,160,615

* Poultry 2010 figures include poultry fryers and chicken eggs for consumption.

LIVESTOCK PRODUCTS

ITEM	YEAR	PRODUCTION	\$ / CWT	DOLLAR VALUE TOTAL
Milk~ (Market)	2013	1,386,889	\$24.06	\$33,368,549
	2012	1,522,529	\$22.38	\$34,074,204
Milk~ (Manufacturing)	2013	251	\$19.92	\$5,000
	2012	132	\$22.72	\$3,000
Wool~	2013	46,531	\$.70	\$32,571
	2012	60,442	\$0.61	\$36,870
Total	2013			\$33,406,120
	2012			\$34,114,074

~ Due to unavoidable computational rounding, the Dollar Value Total value is overestimated by less than 0.01%.

Photo by William Quirt, Courtesy of Marin County UC Cooperative Extension, Farm Advisor



INVENTORIES OF LIVESTOCK AND POULTRY

COMMODITY	HEAD	NUMBER
Total Cattle*	33,000	-
Milk cows & heifers (2 years and over)	10,000	-
Beef cows & heifers (2 years and over)	8,200	-
Sheep and Lambs, all [†]	10,600	-
Poultry	-	258,006

[†] Number of Head as of January 1, 2012.

* Includes cows, heifers, calves, and bulls.

FIELD, FRUIT AND VEGETABLE CROPS

COMMODITY	YEAR	HARVESTED ACREAGE	TON / ACRE	TOTAL TONS	\$ / TON	DOLLAR VALUE TOTAL
Hay ^{†~}	2013	1,600	2.73	4,368	\$168.00	\$737,481
	2012	2,013	2.40	4,831	\$114.40	\$552,670
Silage [~]	2013	1,213	12.38	15,016	\$38.33	\$575,600
	2012	1,571	13.72	21,554	\$43.71	\$942,125
Pasture, Irrigated	2013	810			\$100.00	\$81,000
	2012	810			\$100.00	\$81,000
Pasture, Other	2013	154,000			\$55.45	\$8,539,300
	2012	154,000			\$49.77	\$7,664,580
Fruits & Vegetables*	2013	906				\$4,408,665
	2012	330				\$2,527,166
Grapes, Wine	2013	175		306		\$873,810
	2012	186		387		\$1,226,864
Total	2013					\$15,215,856
	2012					\$12,994,405

[†] Values include Grass Hay, Oat Hay, Oat Seed, and Vetch Seed.

[~] Due to unavoidable computational rounding, the Dollar Value Total is overestimated by less than 0.01%.

* Following the National Agricultural Statistics Service for Acreage Harvested, acreage harvested and planted repeatedly during the year is counted each time. Harvested Acreage for 2013 Fruit & Vegetables represents 265 actual Acres.

NURSERY PRODUCTS

NURSERY STOCK, ALL

Year	Production Acreage	Dollar Value Total
2013	8.02	\$397,737
2012	5.06	\$1,096,743
2011	6.10	\$1,004,764
2010	6.25	\$991,983

Phytosanitary Certificates were issued for Marin-grown nursery products shipped internationally to: Canada, China, Fiji, and Japan.



DEPARTMENT OF AGRICULTURE PROGRAM OVERVIEW

DEPARTMENTAL MISSION STATEMENT

Our mission is to serve the public's interest by ensuring equity in the market place as well as promoting and protecting agriculture, environmental quality, and the overall health and welfare of Marin County's citizens.

Following is a description of the Department's agricultural activities:

PEST PREVENTION

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. 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.

PROTECTION OF THE ENVIRONMENT

The Department operates a Pesticide Use Enforcement program that includes a permitting process for restricted materials 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.

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.

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.

SUMMARY OF OUR SUSTAINABLE AGRICULTURAL ACTIVITIES

MARIN ORGANIC CERTIFIED AGRICULTURE (MOCA) AND REGISTERED ORGANIC FARMS

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 2013, the number of MOCA certified operations in Marin and Sonoma Counties was 56 operators, including 1 processor.

All organic producers in California must register in their principal county of operation. There are 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.

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

Gorse
Bull Thistle
Yellow Star Thistle

Scotch Broom
Ash White Fly
Italian Thistle
Purple Star Thistle
Klamath Weed
Eucalyptus Red Gum Lerp Psyllid

BIOLOGICAL AGENT/MECHANISM

Gorse Mite, Seed Weevil
Bull Thistle Gall Fly
Seed Head Weevil, Gall Fly, Hairy Weevil, Peacock Fly,
Rust – *Puccinia jaceae* var. *solstitialis*
Seed Weevil, Stem Boring Moth
Parasitic Wasp
Seed Weevil
Seed Weevil
Beetle
Parasitic Wasp

LIVESTOCK PROTECTION PROGRAM

The Marin County Board of Supervisors has continued to support and appropriate funds to 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.

PEST PREVENTION PROGRAMS

PEST DETECTION

In 2013, inspectors from the Marin County Department of Agriculture and the California Department of Food and Agriculture placed and serviced 1,013 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.

PEST EXCLUSION

In 2013, inspectors conducted 1,468 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 70 Gypsy Moth inspections of household goods from infested states, as well as 1,427 Glassy-Winged Sharpshooter inspections on plant material from infested California counties. Twenty nine rejections of plant material were made to protect Marin's agriculture and environment.

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. Currently the infestation occupies 15 counties, compared to 17 counties in 2011.

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 15 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 found at: www.cdfa.ca.gov/lbam

GLASSY-WINGED SHARPSHOOTER

The Glassy-Winged Sharpshooter (GWSS), *Homalodisca vitripennis*, is a very serious pest 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 2013, a total of 1,427 shipments were inspected for GWSS, with no finds. Detection traps are strategically placed throughout the county to monitor for this unwanted pest.

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.

Dominican University has established a research center to study the disease and identify treatments for nurseries to facilitate movement of nursery stock.

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 *Phytophthora ramorum*. Best preventative practices include keeping trees healthy so they maintain their natural defenses, pruning overstory California Bay Laurels, and utilizing phosphonate treatment products.

The California Oak Mortality Task Force (COMTF) was established in 2000 to conduct research and understand SOD. More information, including diagnostic guides and management recommendations, may be found at www.suddenoakdeath.org.

PROPOSED 10-YEAR INVASIVE WEED MANAGEMENT PLAN FOR MARIN COUNTY

Noxious and invasive weeds have become an extremely serious, challenging, and widespread issue in Marin County, especially over the past two decades. 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. They 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 OF MARIN COUNTY

The purpose of farmers' markets is to allow local producers to sell their certified commodities directly to the public. 33 certified producers were issued Marin County certificates in 2013. The following 12 farmers' markets have been certified by the Agricultural Commissioner to market local and regional produce in Marin County.

CIVIC CENTER (SAN RAFAEL)

Thursdays 8:00 am – 1:00 pm
Sundays 8:00 am – 1:00 pm
Open All Year

FAIRFAX

Perry Park, Downtown Fairfax
Wednesdays 4:00– 8:00 pm
May – December

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 – 7:00 pm
May – September

CORTE MADERA

Corte Madera Town Center
Wednesdays 12:00 – 5:00 pm
Open All Year

MARINWOOD COMMUNITY

Marinwood Plaza
Saturdays 9:00 am - 1:00 pm
Open All Year

OLD TOWN NOVATO

Downtown, Novato
Tuesdays 4:00 – 8:00 pm
May – September

SAUSALITO

Dunphy Park, Sausalito
Sundays 10:00 am – 2:00 pm
Open All Year

DOWNTOWN SAN RAFAEL

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

MARIN COUNTRY MART

Larkspur Landing Cir., Larkspur
Saturdays 9:00 am – 2:00 PM
Open All Year

POINT REYES

Toby's Feed Barn (11250 Hwy1)
Point Reyes Station
Saturdays 9:00 am – 1:00 pm
June – November

TAM VALLEY

Tennessee Valley Rd @ Marin Ave
Tuesdays 3:00 – 7:00 pm
May - November



WEIGHTS AND MEASURES PROGRAM OVERVIEW

The Marin County Department of Agriculture, Weights and Measures is mandated by state law to protect the interests of the buyer and seller in order to eliminate unfair business practices, unfair competition, and assure the integrity of everyday business transactions. The primary objective of weights and measures officials is that "Equity Prevails" in the marketplace. The Weights and Measures programs ensure honesty and integrity in commercial transactions when products are sold by weight, measure, count or time. This is accomplished through the continuous and systematic inspection of all equipment used to weigh or measure commodities. Weights and Measures inspectors test: taximeters, stores scales, gasoline pumps, fabric and cordage meters, electric meters, livestock and animal scales, vehicle scales, packaged products (for stated net contents) and barcode scanners (to ensure accurate product pricing). Overall, every transaction involving the exchange of goods by volume, count, or weight is affected in a vital way by some aspect of the Weights and Measures department's program.

POINT-OF-SALE AND PRICE VERIFICATION

Our department routinely conducts inspections at approximately 411 different retail locations in Marin to verify that prices charged to consumers are the same as those posted or advertised. State law requires that the consumer be charged the lowest price posted, advertised, or quoted.

To help address the issue of inaccurate pricing, in conjunction with the Board of Supervisors, Marin Weights and Measures has revised the Point-of-Sale Registration ordinance in 2011 to allow our department to post consumer protection stickers at all retail locations that use a point-of-sale system. The stickers are designed to alert consumers that by law they are entitled to the lowest price posted or advertised. Department staff post the stickers at each point-of-sale location and customer service counter in all 411 retail locations currently being inspected.

Sample of consumer protection sticker:



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Mary Wahlberg
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2014 Marin County Livestock & Crop Report

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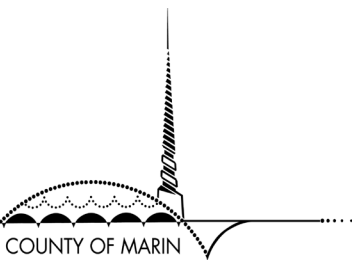
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California Department of Food & Agriculture
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Marin County Board of Supervisors
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Katie Rice, District 2
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Steve Kinsey, District 4
Judy Arnold, District 5



Stacy K. Carlsen, Commissioner/Director
Stefan Parnay, Deputy Commissioner/Director

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)

REVENUE	\$2,521,083
County Funds	\$1,326,225
State Funds	\$808,097
Collected Fees	\$366,692
Collected Fines	\$20,069
EXPENDITURES	\$2,521,083
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

"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.

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

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 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.

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.

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

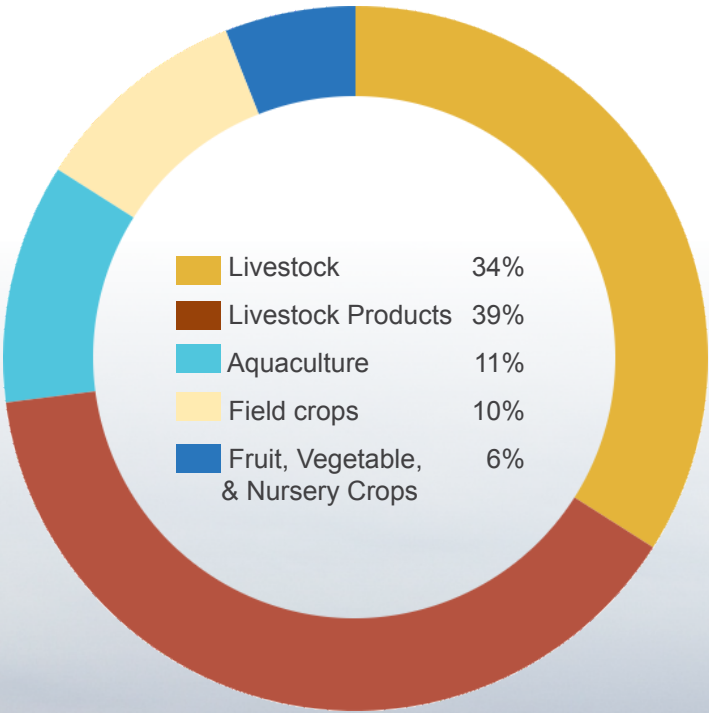
The gross value of all agricultural production in the County of Marin for 2014 is

\$100,953,000

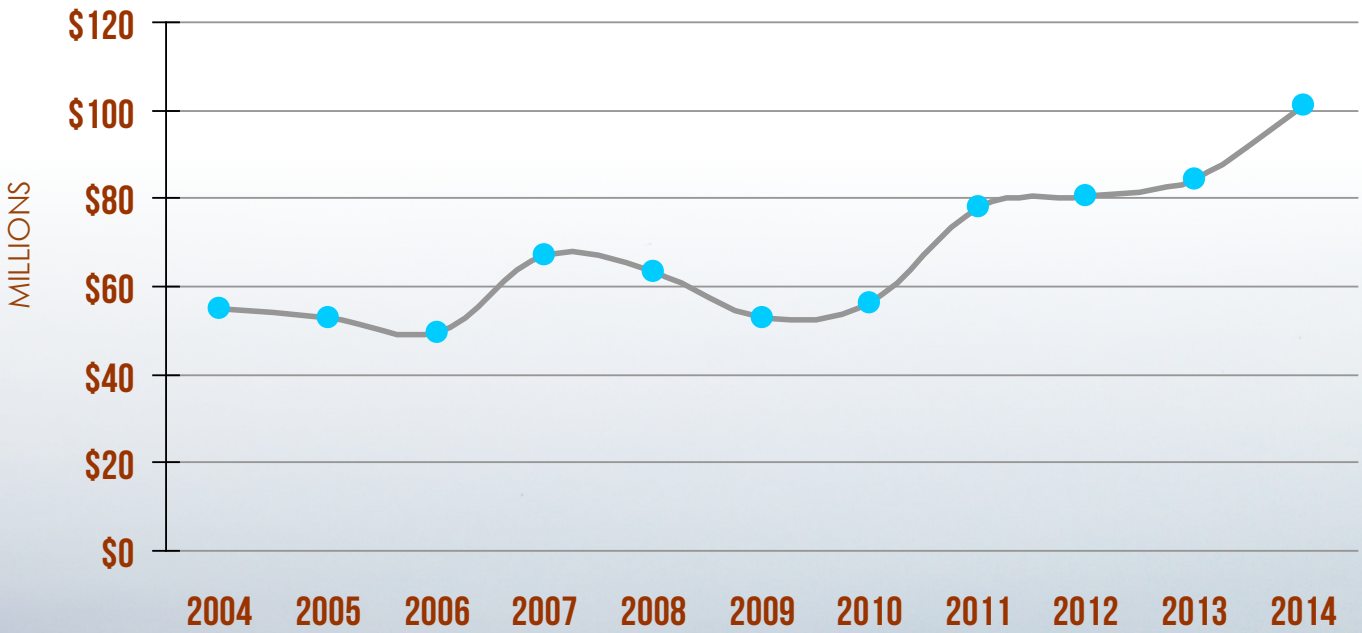
This represents an increase of approximately

19%





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






TEN
YEAR
SUMMARY



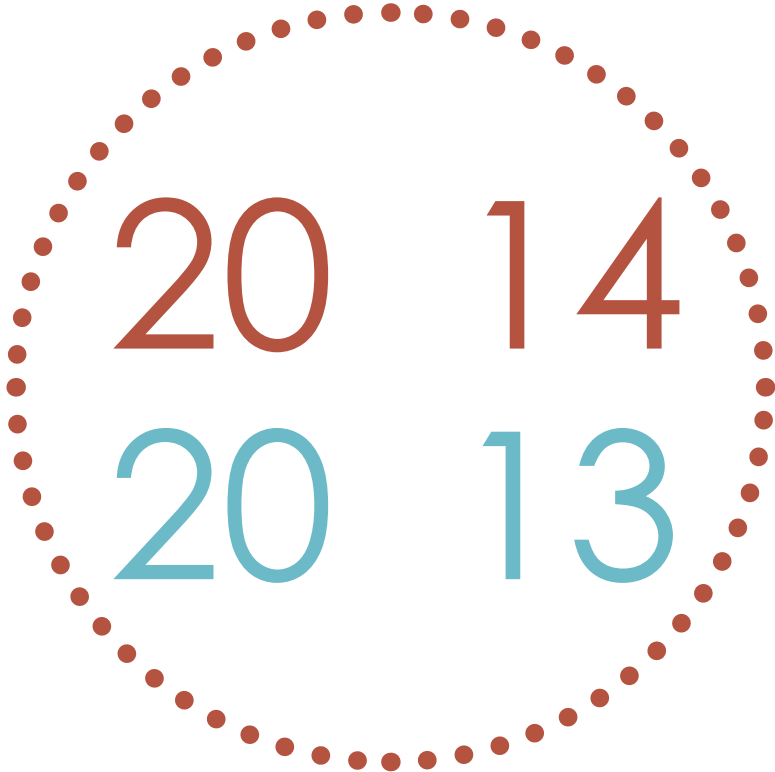
Livestock & Aquaculture

		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	Poultry figures include poultry fryers and chicken eggs for consumption.		\$11,926,000
				\$12,341,000
↑				
92%	Aquaculture	Aquaculture figures include oysters, mussels and clams.		\$10,600,000
				\$5,532,000
Total Value:				\$44,910,000
				\$35,280,000




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	
Total Value:				\$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	
	Harvested Acreage		\$ / Acre	Dollar Value	
 9% ↑ Pasture	154,000		\$60	\$9,273,000	
	154,000		\$55	\$8,539,000	
Total Value:				\$10,663,000	
				\$9,852,000	

Fruits, Vegetables & Nursery

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

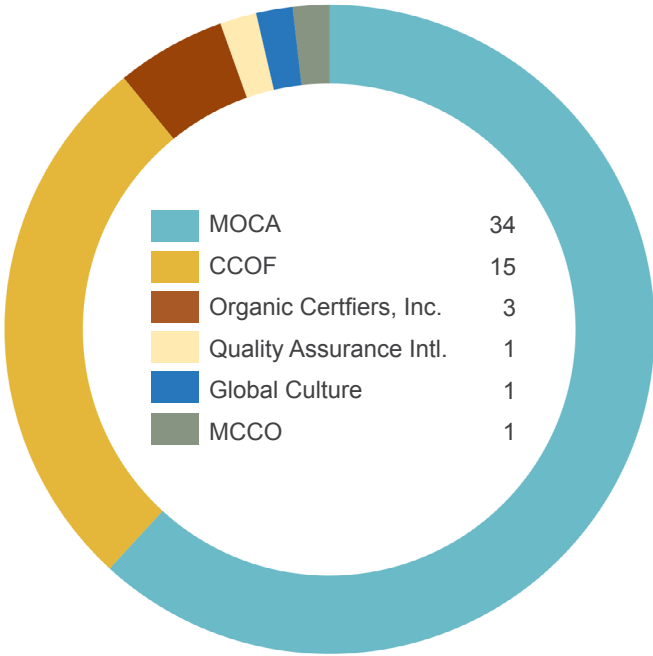
The Marin County Board of Supervisors has continued to support and appropriate funds for the Livestock Protection Program depredation prevention. Recognized non-lethal control methods such as protection animals (llamas, livestock guardian dogs, etc.), electric fencing, scare devices, and herd shepherding 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.

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

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.cdfa.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.



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 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

