



DEPARTMENT OF AGRICULTURE,
WEIGHTS AND MEASURES

2018

AGRICULTURAL CROP & LIVESTOCK REPORT



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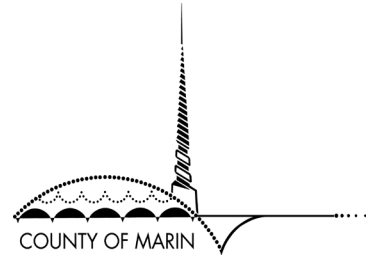
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Stacy K. Carlsen, Commissioner/Director
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It is my pleasure to submit the 2018 Marin County Agricultural Crop and Livestock Report. This annual report presents statistical information on acreage, yield, and gross values of Marin County agricultural products in accordance with Sections 2272 and 2279 of the California Food and Agricultural Code. The figures stated in this report represent only gross values and do not take into account the costs of production, marketing, transportation, or other ancillary costs.

The total value of agricultural crops and products in 2018 was \$94,121,000. This represents an increase of \$6.9 million, or 8%, above the 2017 gross value of \$87,198,000.

Despite falling milk prices for the fourth-straight year, Milk continues to be the leading commodity in Marin; accounting for 37% of the total value in 2018, and representing a value of \$31,196,000, or 9% less than 2017's \$34,153,000. Poultry, Cattle, and Pasture values were up, 30%, 32%, and 6% respectively, due to increases in production and unit pricing. At the same time, Aquaculture dropped 5% due to decreased production of shellfish.

Overall, seven out of the county's twelve commodities showed an increase in value in 2018: Poultry, Cattle, Silage, Pasture, Fruits and Vegetables, Wine Grapes, and Nursery Products. Besides Milk, Sheep, Aquaculture, Wool, and Hay decreased in value.

I would like to extend my thanks and appreciation to all of the farmers, ranchers, and contributing organizations who contributed data for this report. Without their assistance, this report would not be possible. I also thank my staff, especially Allison Klein, who helped compile the information and produce this report.

Respectfully submitted,

Stacy K. Carlsen
Agricultural Commissioner
Director of Weights & Measures

If you require accommodations to view this document, or would like to request the document in alternate formats, contact Stefan Parnay at (415) 473-6700, TTY (415) 473-3232, or sparnay@marincounty.org.

Cover photos by Department staff. Front cover (clockwise from top left): Laying hens roaming outside a movable chicken coop; colorful rows of flowers and vegetables in the field; cattle and sheep grazing on pasture; fresh spring nursery stock; a herd of dairy cows graze on pasture; red wine grapes ripening on the vine. Back cover (clockwise from top left): colorful vegetables for sale at a farmers' market; cattle roaming on pasture; silage harvested awaiting collection; spring nursery stock; dairy cows resting in pasture; fresh oysters in the shell.



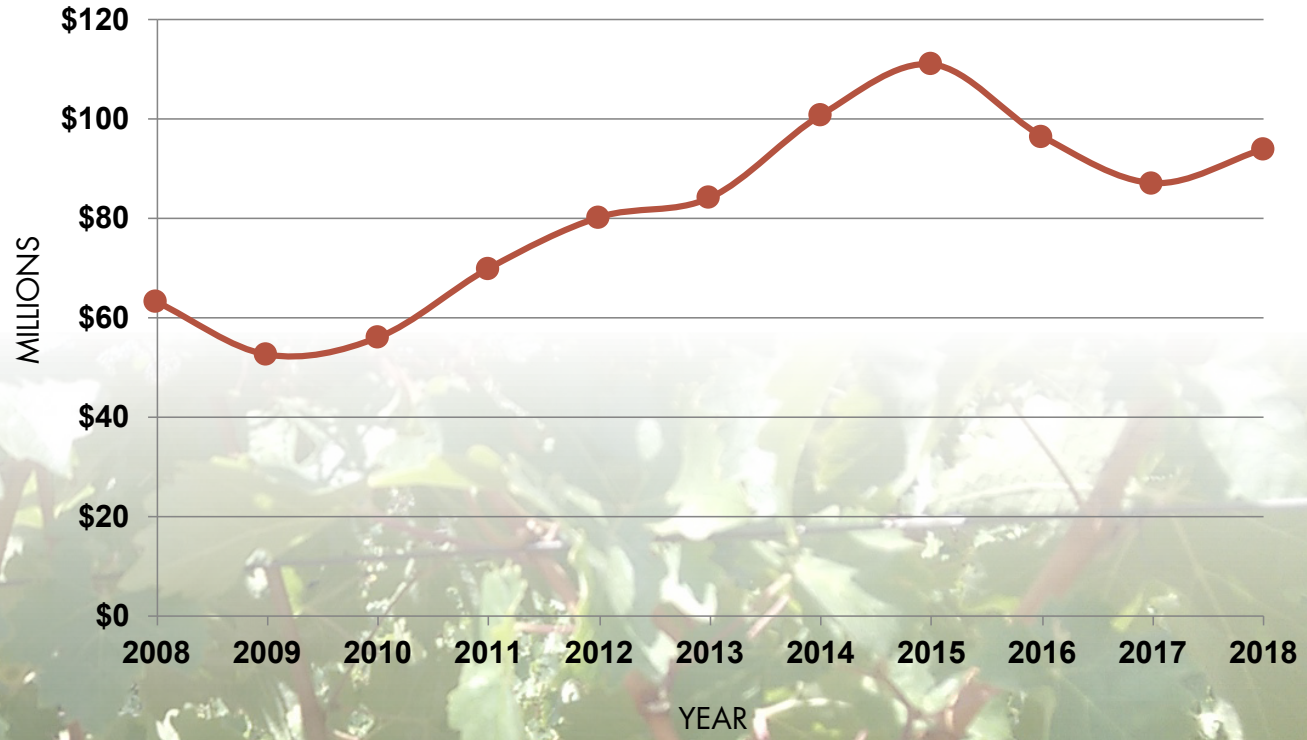
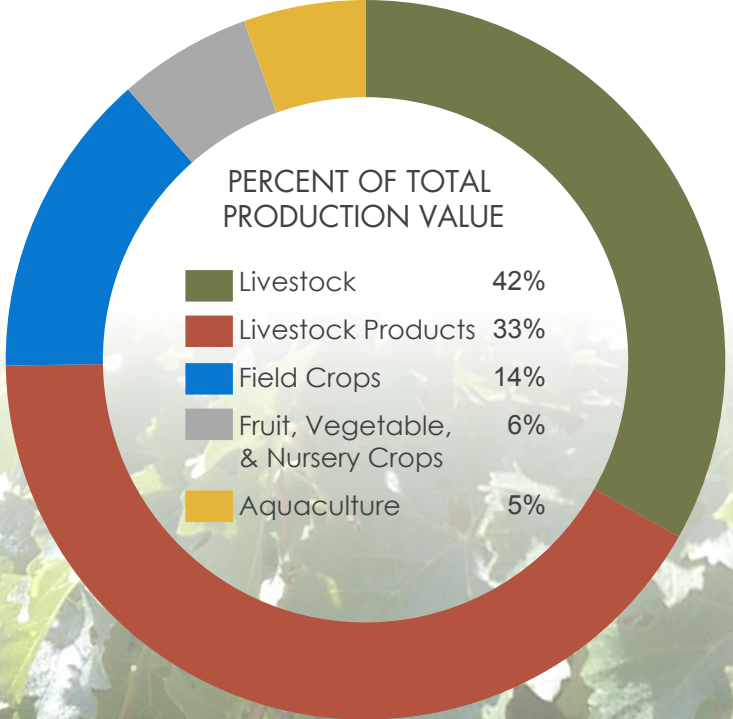
Agricultural Production Summary

TEN
YEAR
SUMMARY





The gross value of all agricultural production in Marin County for 2018 was approximately

\$94,121,000

which represents an increase of approximately 8% compared to the 2017 gross value of \$87,198,000.




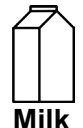

Livestock & Aquaculture

	# of Head	\$ / Head	Dollar Value
↑ 32%  Cattle	14,700	\$965	\$14,186,000
	14,398	\$749	\$10,784,000
↓ -2%  Sheep	9,059	\$187	\$1,694,000
	9,536	\$182	\$1,735,000
↑ 30%  Poultry			\$23,233,000
			\$17,816,000
↓ -5%  Aquaculture			\$5,165,000 ^A
			\$5,414,000
Total Value:			\$44,278,000
			\$35,749,000

Poultry figures include poultry fryers and chicken eggs for consumption.

Aquaculture figures include oysters, mussels and clams.

Livestock Products

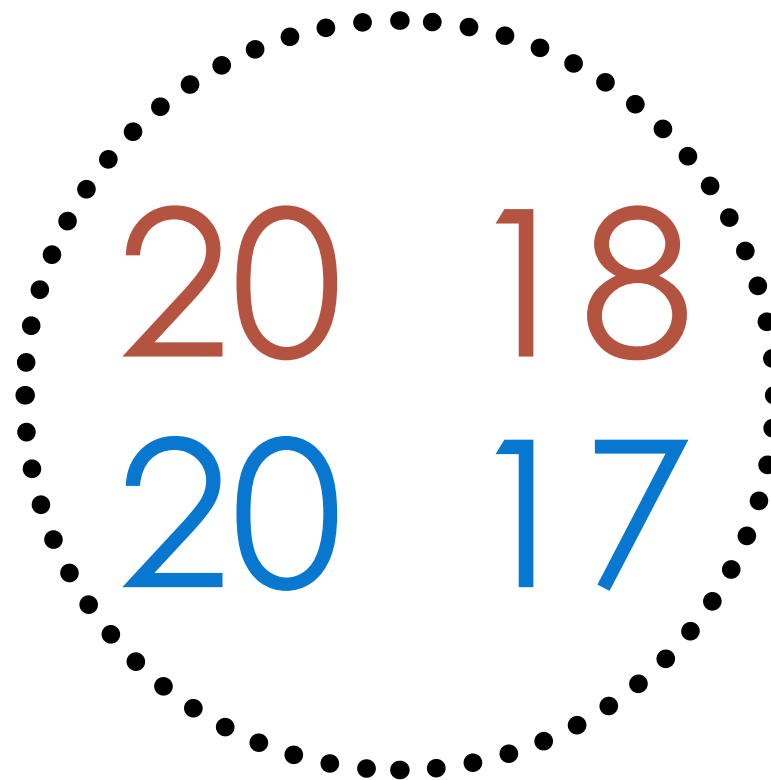
	Production	\$ / Unit	Unit	Dollar Value
↓ -8%  Milk (Organic)	1,023,533	\$27.39	CWT	\$28,035,000
	1,010,578	\$30.02	CWT	\$30,338,000
↓ -17%  Milk (Conv.) ^B	224,678	\$14.07	CWT	\$3,161,000
	252,644	\$15.10	CWT	\$3,815,000
↓ -26%  Wool	41,790	\$0.88	LBS	\$36,800
	58,320	\$0.86	LBS	\$50,000
Total Value:			\$31,233,000	
			\$34,203,000	

^A Aquaculture value based on report prepared by California Department of Fish and Wildlife.

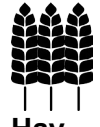


^B "Conv." means conventional (not organically certified)

Figures may not total due to rounding.




2018 data is presented in red above; the 2017 data is presented in blue.



Field Crops

	Acreage	Total Tons	\$ / Ton	Dollar Value
↓ -15%  Hay	1,783	4,222	\$139	\$587,000 ^{C,D}
	1,775	4,331	\$159	\$689,000
↑ 69%  Silage	1,317	13,193	\$63.75	\$841,000 ^D
	1,524	8,749	\$57	\$499,000
↑ 6%  Pasture		Harvested Acreage	\$ / Acre	Dollar Value
	154,000	154,000	\$75	\$11,550,000
			\$71	\$10,934,000
Total Value:				\$12,978,000
				\$12,122,000

Fruits, Vegetables & Nursery

	Acreage	Total Tons	Dollar Value
↑ 3%  Fruits & Vegetables	436		\$4,112,000
	440		\$3,987,000
↑ 37%  Wine Grapes	195	382	\$1,223,000
	195	291	\$894,000
↑ 22%  Nursery Products	7.93		\$297,000
	7.94		\$243,000
Total Value:			\$5,632,000
			\$5,124,000

^C Values include Grass Hay, Oat Hay, and Oat and Vetch Seed.

^D Much of the hay and silage is not sold, but used on the farm - value determined by its feed equivalent.

Following the National Agricultural Statistics Service for Acreage Harvested, acreage harvested and planted repeatedly during the year is counted each time. Harvested acreage for 2018 Fruits & Vegetables represents 317 planted acres.



Sustainable Agriculture Activities

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 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

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.

Additionally, the Department recommends Integrated Pest Management strategies for long-term pest control such as the use of cultural, biological, and mechanical control methods (with chemical control as a last option).

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.

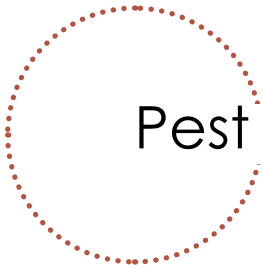
LIVESTOCK PROTECTION PROGRAM

The Marin County Board of Supervisors continues to support and appropriate cost-share funds for the Livestock Protection Program to eligible ranchers who qualify for non-lethal depredation improvements and practices. Recognized non-lethal control methods include the use of protection animals (e.g., livestock guardian dogs, llamas, etc.), electric fencing, scare devices, and herd shepherding, which are eligible for cost-share funds to support ranchers. The Department administers verification inspections for cost-share funding for ranchers participating in this program.

Over the past year, we estimate 17 ranchers will have participated in the Livestock Protection cost-share program to help build and repair fences, purchase and support protection animals, and use scare devices to protect animals from predators. Protected animals include sheep, poultry, goats, cattle, buffalo, and alpaca. The total funds expected to be expended to support our ranching community from July 2018 to June 2019 is \$35,000.



Photos by Emmett Brady and Jeffrey Stiles (top to bottom): A llama guarding sheep; a Great Pyrenees dog guarding sheep; and electric fencing helps protect a flock of laying hens.



Pest Prevention Programs

PEST EXCLUSION

In 2018, inspectors conducted 1,827 incoming plant quarantine inspections. Plant shipments were monitored at FedEx, UPS, nurseries, aquatic supply stores, and post-entry quarantine sites. The Department performed 15 Gypsy Moth inspections of household goods from infested states, as well as 999 Glassy-Winged Sharpshooter inspections on plant material from infested California counties. Ten rejections of plant material were made to protect Marin's agriculture and environment.

In February 2018, inspectors intercepted an unmarked and uncertified box from Pennsylvania at the FedEx facility in San Rafael. The box was opened for further inspection and a live baby crocodilian was discovered (pictured below). It is illegal to import any live crocodilian into California without a permit issued by the California Department of Fish and Wildlife (CDFW). After confirming with CDFW that the receiver did not have proper permits for obtaining the crocodilian, a notice of rejection was issued. CDFW took possession of the animal and transferred it to a rescue facility.



PEST DETECTION

In 2018, inspectors from the Marin County Department of Agriculture and the California Department of Food and Agriculture placed and serviced 1,512 traps for exotic insect pests. In total, 19,178 trap inspections were conducted. 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 Asian Citrus Psyllid. Traps are strategically placed within the county on or near preferred hosts. For example, GWSS traps were placed in nurseries 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.

In November 2018, a single Asian Citrus Psyllid (ACP) was detected in a residential tree in Marin County (pictured below). ACPs are of great concern because they can introduce and spread a deadly plant disease called citrus greening or "Huanglongbing".

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 control agent becomes established, management 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

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 and produce Pierce's Disease-resistant grape varieties. 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 host plants from infested California counties. In 2018, a total of 999 shipments were inspected for GWSS, with no finds. Detection traps are strategically placed throughout the county to monitor for this unwanted pest.



Photos: Page 8 - Baby crocodilian intercepted at FedEx by Raoul Wertz; a single Asian Citrus psyllid (ACP) by California Department of Food and Agriculture. Page 9 - a single Glassy Winged Sharpshooter (GWSS) by California Department of Food and Agriculture.

SUDDEN OAK DEATH

Marin County continues to be infested with Sudden Oak Death (SOD), the disease caused by the plant pathogen *Phytophthora ramorum*. Due to above-average rainfall in recent years, increased infestations have been detected in several coastal counties, including Marin. Mortality in tanoak and manzanita has been recorded in sections of the Mt. Tamalpais watershed, with a noticeable absence of bay laurel, inferring that tanoak and possibly manzanita have caused the inoculum to spread.

Tree mortality in wildland and urban/wildland interface areas causes dramatic changes in the landscape, affecting ecosystems, increasing fire and safety hazards, and decreasing property values.

Hosts of *P. ramorum* include various native woodland trees and understory plants, as well as assorted ornamental nursery plants. State and federal quarantines regulate the movement of host nursery stock, and ongoing research is being conducted to help production nurseries mitigate the risk of spread.

On certain oaks such as Coast Live Oak, *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 to maintain their natural defenses, pruning overstory California Bay Laurels, and strategically utilizing phosphonate treatment products. For more information about diagnosis, distribution, and best management practices, please visit: <http://www.suddenoakdeath.org>.



Invasive Weed Management

UPDATE ON JAPANESE KNOTWEED ERADICATION PROGRAM

Japanese knotweed (*Fallopia japonica*) continues to threaten parts of Marin County. First documented in the winter of 2011 along Lagunitas Creek, Japanese knotweed now occurs on state, federal, and private lands in and along both Lagunitas and San Geronimo Creeks. In 2018, a coalition of various land managers (comprised of local, state and federal agencies, and non-profit organizations) established the Marin Knotweed Action Team (MKAT). MKAT is leading the effort on eradicating Japanese knotweed from these watersheds.

This invasive plant is classified as an A-rated pest by the California Department of Food and Agriculture, which is the highest and most serious pest rating. Japanese knotweed is considered one of the top 10 most aggressive, destructive and invasive plants in the world!

Small patches of knotweed can quickly grow to infest large areas of land in and along waterways, overtime making creek banks more vulnerable to erosion, clogging waterways, and reducing habitat quality for fish and wildlife. It's an aggressive colonizer that outcompetes native vegetation by emerging early, growing fast, and preventing seedling regeneration. It can grow through cracks in street pavement, concrete, and other hardscapes, including sidewalks, home foundations and septic systems. As a result, land managers are not only concerned about the ecological threat this species poses, but also about the damage it can do to homes and property.

Much great work has been done on state and federal lands, and private lands to manage and treat these knotweed populations. However, in order to eradicate this species in Marin, continued coordinated action must be taken before the infestation becomes more widespread.

Over the next year, MKAT intends to engage all private landowners within the San Geronimo Creek area, to increase their knowledge and understanding of

Japanese knotweed and facilitate their participation in surveys, management, and monitoring of knotweed patches on their respective properties. The goal of this work, in collaboration with homeowners and MKAT representatives, is the complete removal of Japanese knotweed from Marin watersheds by synchronizing management on public and private lands.

More information about Japanese knotweed can be found at <https://ucanr.edu/sites/MarinKnotweedActionTeam>.



MARIN/SONOMA WEED MANAGEMENT AREA

The Marin/Sonoma Weed Management Area (MSWMA) is a cooperative organization fighting weeds and invasive plants in Marin and Sonoma Counties. Established in 1999, the group includes representatives from federal, state, county and city agencies, private industry, and landowners.

MSWMA will be reforming in Fiscal Year 2019-20 as a result of the legislature approving \$2 million in state-wide funding in Spring 2019 for weed projects across California. MSWMA has not officially met since 2015 due to the lack of funding to support weed projects.

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.

Photos by Anna Dirkse, UC Cooperative Extension, Marin County: Page 10 - characteristic zig-zag stem growth pattern of Japanese knotweed; Page 11 (top to bottom) - a wall of Japanese knotweed along creekbank; Japanese knotweed stand after herbicide treatment.



Marin Organic Farming & Ranching

MARIN ORGANIC CERTIFIED AGRICULTURE

The Marin County Department of Agriculture is accredited by the United States Department of Agriculture (USDA) as an official organic certification agency.

Marin Organic Certified Agriculture (MOCA) serves local agricultural community producers who employ organic farming and ranching practices, and seek formal certification under USDA's National Organic Program. Organic production systems strive to achieve agro-ecosystems that are ecologically, socially, economically, and environmentally sustainable. Organic farming emphasizes greater cooperation with nature without reliance on synthetic inputs.

Consumer demand for certified organic products continues to increase, with an expectation by consumers that organic products are verifiable. MOCA was established in 2001 to provide a professional service to local individual and business operations engaged in the production and distribution of organically produced commodities.

The primary responsibilities of MOCA are to uphold the standards of the USDA National Organic Program, and document and verify operations' practices of sustainable agriculture. One of the most important benefits of the MOCA program is as a local resource that services the production of organic, value-added products by Marin's family farms.

In 2018, MOCA certified 49 operations as organic. Of those, 35 operations are located in Marin County, and include 11 dairies. Twelve operations are located in Sonoma County. The remaining two operations are located in Riverside County, and are managed by Marin-based operations to ensure a year-round supply of fresh produce in the local off-season.

CALIFORNIA ORGANIC PROGRAM

All organic producers in California must register with the California Department of Food and Agriculture's Organic Program. In 2018, there were 68 registered organic producers in Marin County, farming approximately 32,835 acres, and producing an estimated gross value of \$42,626,000. Approximately 3,077 acres were farmed to produce organic fruits, vegetables, nursery stock, eggs, and poultry. In addition, Marin County had approximately 29,758 acres of organic pastureland.



Marin Certified Farmers' Markets

Certified Farmers' Markets are community events bringing together farmers and consumers, offering the opportunity to meet certified producers and learn how and where food is grown. Farmers may only sell what they grow so consumers are guaranteed the food is fresh and seasonal.

Marin's Certified Farmers' Markets showcase the diversity and abundance of local and regional produce. In 2018, 26 Certified Producer Certificates were issued to producers and 11 farmers' markets were certified.

Check our website at <http://www.marincounty.org/depts/ag> to stay up to date with current market schedules.

MARIN COUNTY CIVIC CENTER

Thursday 8:00 am - 1:00 pm
Sunday 8:00 am - 1:00 pm
Open all year

CORTE MADERA

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

SAN RAFAEL

Fourth St., between B & Cijos
Thursday 6:00 pm - 9:00 pm
June - September

FAIRFAX

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

NOVATO

Grant Ave. @ 7th Street
Tuesday 4:00 pm - 8:00 pm
May - September

LARKSPUR

Marin Country Mart
Saturday 9:00 am - 2:00 pm
Open all year

MILL VALLEY

E. Blithedale Ave @ Alto Shopping Center
Friday 9:30 am - 2:30 pm
Open all year
Tuesday 3:00 pm - 7:00 pm
June - November

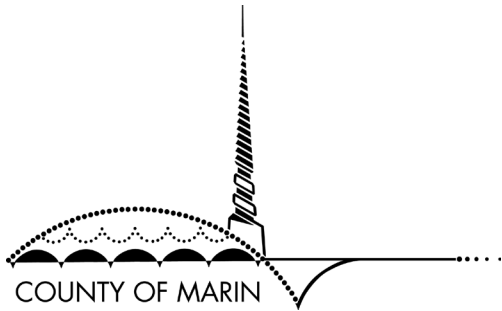
TOMALES

CA-1 @ 1st St.
Saturday 10:00 am - 2:00 pm
June - October

POINT REYES STATION

Toby's Feed Barn
Saturday 9:00 am - 1:00 pm
June - November





DEPARTMENT OF
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Promoting and protecting agriculture, environmental quality, and ensuring equity in the marketplace.

