

*Amazing
BUT TRUE*

*FACTS ABOUT
MARIN COUNTY
AGRICULTURE*



HOW BIG IS AGRICULTURE?

Agriculture is California's number one industry, with sales of \$44.7 billion in 2012 and over 400 commodities. (Milk has the highest annual sales value).

California provides a quarter of the nation's food and nearly 50 percent of its fresh fruits and vegetables.

Approximately 170,876 acres in Marin are farms or ranches. This amounts to 50 percent of the land in Marin. Of the 323 agricultural operations in Marin, 110 are considered large farms (annual gross income of \$100,000 or more), and 213 are considered small or mini-farms (annual gross income of less than \$100,000). The average size of a farm in Marin is 529 acres, and the majority are third- to fifth-generation family-owned operations.



Agriculture in Marin contributes over \$100 million annually to the local economy, with milk production dominating at 39 percent. More than 60% of this value is derived from organic milk.

SUMMARY OF PRODUCTION	2014	2013
Livestock Products	39,312,600	33,406,120
Livestock & Misc.	34,310,000	29,747,943
Field Crops	10,663,000	9,933,381
Fruit, Grape & Vegetable	5,693,000	5,282,475
Aquaculture	10,600,000	5,532,431
Nursery Crops	374,000	397,737
TOTAL	\$100,953,000	\$84,300,087

The figures quoted above are the gross values and don't include the multiplying factor of 2.5 used to represent agriculture's contribution to the local economy in associated areas, such as tourism, employment opportunities, and support businesses in Marin communities.

Of the over 7.5 million people who live in the greater Bay Area, only one to two percent have jobs in agriculture. Eighty percent of the jobs in agriculture occur off the farm.

WHAT DO WE GROW?

Marin's topography is one of rolling hills, coastal bluffs and flat interior valleys separated by hills. While the hilly topography, prevalence of nonprime soils and lack of reliable water supplies are deterrents to more intensive agriculture like row crops, some areas in Marin that are rich in alluvial soils support diverse vegetable and specialty crops.

Marin's coastal agriculture is well known for its quality grasslands, due to foggy, moist conditions that keep the grasses green much of the year and make them well suited for grazing dairy, beef cattle and sheep.



Livestock production is the second largest agriculture industry in the county, with 205 beef cattle, cow/calf, and sheep grazing operations producing livestock, replacement heifers for dairies and breeding stock. In many cases, local operators are producing grass fed and pasture raised livestock and selling products directly to clients.

While milk and livestock products dominate Marin's agricultural activities, a growing number of organic operations (66) produce organic fruits, vegetables, and pasture on 42,000 acres.

From 2007 to 2012 the number of poultry producers increased from 25 to 47. 2014 poultry production in Marin was valued at \$11.9 million, over 10% of the total value.



FARMING THE SEAS

Several innovative operations have strong reputations for producing a high-quality product, such as Star Route Farms vegetables and greens in Bolinas, Pt. Reyes Original Blue Cheese, Green Gulch Farms in Muir Beach, and Marin Sun Farms in Point Reyes. Check out the <http://www.growninmarin.org> site for more information on these and other producers.

Since 1983, the Marin Farmer's Market (now Agricultural Institute of Marin) has helped connect consumers directly to farmers and their produce.

There are approximately 80,000 "small farmers" in California, 5,000 of whom market to consumers directly at more than 700 farmers' markets all over the state.



Several nurseries grow many crops, from roses and iris to heather and native plants.

Several ranchers are experimenting with growing cool-weather wine grapes and are hopeful of future market potential. A total of 14 commercial grape growers produced 325 tons on 175 acres in 2014.

There are approximately 36 dairies in Sonoma and 29 dairies in Marin (including one sheep, one buffalo, and two goat dairies) in Marin. 75% of Marin's dairies are organic. Among the 43 counties in California that produce milk, Marin is ranked 15th.

Marin's sister county, Sonoma, has four times the number of farms and ten times the annual output in income (over \$848 million in 2014). Marin and Sonoma farmers share many things in common, from family relationships to agricultural suppliers.



Oyster culture is the oldest aquaculture industry in California, dating back to the 1850s.

Marin is second only to Humboldt Bay in California in shellfish production, which includes oysters, clams, and mussels. In 2014, six growers used bay bottom in Tomales Bay and Drakes Estero to grow shellfish worth over \$10.6 million. Many local restaurants want fresh oysters and mussels for their customers, who often drive up from San Francisco for this fresh seafood.

Marin has 70 miles of open coastline and 40 miles of San Francisco Bay frontage. Many types of fish live in the waters of Marin, including salmon, rockfish, halibut, striped bass, sturgeon, ling cod, herring, and others. Sport fishing and commercial boats leave Sausalito, Bolinas Lagoon and Tomales Bay to catch these fish for food or sport. Today most of these species have declined in numbers, due to habitat loss, reduced fresh water flows into the bays, and over-fishing.

The major fishery in San Francisco and Tomales Bay is for Pacific herring, which are processed for their roe (herring eggs). In 1918 a shortage of herring in the North Sea caused increased demand and spurred production locally of about 4,000 tons. In the 1940s and '50s, production increased further when the sardine fishery collapsed and herring were used in their place for canning. In the 1970s, herring were marketed to Japan for their roe, and this market continues along with a new crop of herring roe on kelp, wherein kelp is hung from rafts and harvested after spawning fish deposit a layer of eggs on it. The peak sales for this fishery occurred in 1995-1996 during the Japanese craze for herring roe. This roe-on-kelp fishery in San Francisco Bay produced 106 tons in 1995-96, which at \$20/lb. was valued at over \$4.3 million. The herring gill net fishery and round haul fishery in San Francisco Bay produced 6,165 tons worth \$18.5 million, while in Tomales Bay this fishery captured 355 tons valued at just over \$1 million. In 2006-2007, these declined to 292 tons and \$182,780 value for San Francisco Bay and 1.2 tons and \$744 for Tomales Bay.

A major sport fishery for clams exists in Tomales Bay, where during low tides up to 100 enthusiasts spread out on mud flats to dig Washington clams and other bivalves to barbecue and use in chowder.



WHO ARE WE?

Today's farmer and rancher is an expert in many areas, including genetics, nutrition, business, marketing, and mechanical repair. Many farmers and ranchers have college degrees.

Families in the North Bay have been dairying for over 100 years. Marin and the region's first dairy ranchers were mostly Swiss, Italian, Portuguese and Irish.

Dairying and farming is very demanding work, seven days a week, 12 or more hours per day.

Dairies and their families have strong ties to their local communities. Bankers, accountants, feed suppliers,



veterinarians, milk testers, equipment retailers, feed mills and milk haulers all work in agriculture in Marin. Manufacturing, marketing, and distribution of milk products employ a whole other segment of the community.

In Marin, more than half our farms and ranches report hiring farm labor, with 576 workers employed by producers with both part-time and full-time employees. There are 14 farms in Marin that report using migrant farm labor. More than \$7.4 million is spent on on-farm employee payroll (Census of 2012).

Of the 82 farms that have employees, 32% have five or more employees, while 68% report employing four or fewer workers.



WHERE HAVE WE COME FROM?

In the early 1820s, Marin was settled by the Mexicans, whose home base was the San Rafael mission. The Mexicans raised thousands of longhorn cattle for their hides and tallow. The cattle ran wild along with herds of native tule elk and were rounded up yearly by Mexican and Miwok vaqueros.

After the mission was shut down in 1834, the land and the longhorns were divided up into vast ranchos. During the Gold Rush of 1849, the longhorns were driven to the gold country. After the Gold Rush faded, ranchers began to introduce American stock to replace the Mexican cattle and the tule elk, wiped out by hunting and loss of habitat.

The Gold Rush of 1849 helped start the dairy industry. In the 1850s a San Francisco law firm owned most of the Point Reyes peninsula and established several very successful



tenant ranches. These kinds of dairy ranches, owned by absentee landowners, were also set up in Sausalito. They not only produced dairy products, but huge crops of fruit.

At that time, most dairy operations were small, 10 to 15 cows, or as many as they could milk by hand. Cows were milked twice a day.

Before refrigeration, all the milk produced was churned into butter. In 1862 Marin provided a quarter of California's butter. Fresh milk was poured into pans and cooled. The cream was skimmed from the top, churned into butter and salted to preserve it. Some families made their own cheese or used the skills of a cheesemaker who traveled from ranch to ranch.

Since land travel was limited to horse trails and wagon roads, creeks and waterways were the major links to the San Francisco market.

The Marin coastal towns of Bolinas and Tomales were shipping ports for agricultural products. Tons of potatoes, grains, clams and dairy products like cheese and butter were shipped from warehouses to eager markets in San Francisco.

Flat-bottomed hay schooners were important boats for moving hay to hungry San Francisco horses and livestock. They also carried wheat and barley, vegetables, salt, dairy products, lumber and bricks from Marin brickyards. One can visit the Alma, a restored schooner now at the National Historical Park in San Francisco. Ross Landing in Kentfield was one of Marin's busiest ports until the trains came in the 1880s.

Towns like Tomales, Olema and Nicasio were early trading centers for Marin's growing dairy ranches. Potatoes were a huge crop in the Tomales area from the

PRESERVING AGRICULTURE

1850s to 1900. The steep hillsides planted in vertical row crops couldn't take the intensive cultivation, and the resulting erosion caused tremendous sedimentation of Tomales Bay, the Esteros and Key's Creek.

In 1870 the North Pacific coast railroad was completed,



traversing Marin and connecting coastal towns to San Francisco. All kinds of agricultural products traveled south on the railroad. Towns along the railroad (Fairfax, Mill Valley, San Rafael) blossomed, while those bypassed by the trains froze in time.

Since the 1800s, when dairying developed in Marin, the dairy industry has been known for its high-quality delicious milk. The invention of the milk bottle in 1884 made handling and distribution of milk much easier. The California Cooperative Creamery was established in 1913 by local milk producers to process and distribute the milk products (milk, butter, cheese). Today most Marin milk is transported in trucks to several creameries in Petaluma and elsewhere. Increasingly, portions of this milk is being used on farm or shipped to local cheese makers. Currently there are 35 farmstead and artisan cheese makers, making Marin the Normandy west of the Mississippi.

By the 1920s U.C. Berkeley, a land-grant university, was sending agricultural agents out to ranchers to spread new information and methods. M.B. Boissevain was the first farm advisor in Marin County. He was followed by successive advisors introducing innovations in dairy production, livestock grazing, and diversification that support production today.

By 1930 most ranches on the Point Reyes Peninsula were independently owned. Six dairy ranches and 15 grazing ranches continue their operations as part of the

Between 1949 and 1982 about 783,000 acres, or roughly one-quarter of the Bay Area's farmland, was lost to development. Since 1959 Marin has lost 32,000 acres of agricultural lands. (1944 census figures show 1,800 ranches, as compared to 276 today.)



In the early 1970s, Marin's agriculture was threatened when plans for major highway extensions to the coast were developed. The county was rezoned to include three major planning corridors, of which two – the coastal recreation and inland rural corridors – contain most of the agriculture in Marin today. They are protected by A-60 zoning, which allows no more than one house per 60 acres.



In 1950 there were 200 dairy ranches in Marin. There were 150 in 1960 and fewer than 100 in 1972. A group of ranchers and local environmentalists came together to create the Marin Agricultural Land Trust as a way of preserving agricultural lands. Since MALT's beginning in 1980, it has acquired agricultural conservation easements on nearly 48,000 acres on 76 family farms, protecting and keeping those lands forever in agriculture.

-- David Lewis, U.C. Cooperative Extension, July 2014

(For more information and statistics, go to <http://www.co.marin.ca.us/depts/AG/Main/NEW/Ag/AgriculturalStats/Crop%20Report%20PDFs/2009.pdf>.)



Point Reyes National Seashore, a national park.



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