

Dairying in California through 1910

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INTRODUCTION

Dairying has been a major industry in California for many decades. Its beginning was humble, its growth phenomenal. The intent of this brief history is to present the significant aspects of the practice of dairying through 1910. This history does not concern itself with the processing of milk products nor with the distribution of milk products in the marketplace. Instead, it is directed towards the dairy farm itself and the production of milk at that level. Each segment presented could easily be expanded into separate essays. The documentation within allows for further investigation.

The New World had no dairy cattle, which prompted European settlers to bring their own stock. This provided them with meat, cheese, milk, hides, and tallow. The cattle were generally scrubby and virtually useless for milk in the modern sense. Spaniards, whose culture was transported to California, were accustomed to wine for drink and olive oil for cooking and therefore saw no need to develop specialized dairy stock. Milk was available though if need be from the sturdier cows in the herd.¹

MISSIONS

The Jesuit priest, Eusebio Kino, introduced cattle to Baja California in 1679 as part of the missionary effort to establish mission settlements. When the Jesuits were expelled from the New World in 1767, the Dominicans replaced them in Baja California, and the Franciscans began their work in Alta California.² In a March 13, 1773 letter, Serra noted, "There is nothing in greater abundance in the countryside around San Blas than herds of cows."³ This supply of cattle would soon swell into scores in the decades ahead as mission and rancho herds grew to thousands. These herds would later support trade in hides and tallow in the 1830s, primarily with Boston merchants.⁴

Milk became a blessing to missionaries in time of need. Supplies were lacking at Mission San Carlos (Carmel). Serra wrote on August 18, 1772, ". . . milk from the cows and some vegetables from the garden have been [our] chief subsistence."⁵ Again in 1774 at the Mission San Carlos, Franciscan missionary Francisco Palou wrote, "For eight months milk was the manna . . . meals consisted of a gruel made of garvanzos or beans ground to flour with which milk was mixed."⁶

But there were better times at the missions as the mission settlements prospered and the herds grew. At Mission San Gabriel in 1776 Father Font observed, "The cows are very fat and they give much and rich milk, with which they

[Mission Indian women] make cheese and very good butter."⁷ By 1830 the missions had 500,000 head of cattle, some of which were dairy stock.⁸

SPANISH RANCHOS

In 1775 Juan Bautista Anza brought 1,000 head of cattle from Mexico which was the beginning of the large rancho herds. In the 1820s, 50,000 to 80,000 hides were shipped annually at a cost of \$2 per hide.⁹ With secularization of the missions in 1834-1835, by 1846 there were 813 land grants in California which had enormous heads of cattle.¹⁰ Dairying was rare and its practice crude as can be seen in this real if not somewhat humorous attempt to acquire milk as recorded by William Dane Phelps in 1841.

You would be amused at their manners of milking their cows in this country. I noted them several times while at St. Leandry [San Leandro]. In the morning they send a boy with a horse and lasso in search of animals (that are left to roam at pleasure over the plains except when they want milk). Their cows and oxen are all we should call wild with us, but the tamest of their cows have to be caught with the never failing "lasso" and dragged to a tree, where they are firmly secured by a rope around the horns. Their legs are tied together, and an Indian sitting down on each side succeeds in extracting milk while the poor creature is nearly strangled.¹¹

At the Yorba rancho in the Santa Ana Valley, dairying was more formalized where 50-60 cows are milked daily.¹² American William Heath Davis, while traveling through California in the 1840s, complained of not finding milk for his coffee at the ranchos but did note that fresh cheese was available but had to be eaten quickly or it would spoil.¹³ In 1851 Davis invested in dairying by buying from Emigdio Vega of Los Angeles "700 head of tame milch cows, many of them with suckling calves, and 50 head of cabesteros [beef], for \$7,000."¹⁴

AMERICAN CONQUEST

With the arrival of Americans in California, dairying took a new turn in its evolution. The Americans brought with them their need for milk, cheese, and butter, and they also brought the family cow to service these needs. While the husband was at the mines, the wife milked the cow and sold fresh milk and butter to the miners for sizable profits.¹⁵ This was the beginning of mountain dairies which would grow in size in the succeeding years. Their success can be seen in this excerpt:

In the U.S. Patent Office report for 1851, Phillip Lynch of Ophir, Placer County, reports on December 3 of that year: "About October 1, 1851, I bought two American cows fresh with young for \$400. These cows have averaged 12 quarts each per day which I have sold at 50 cents per quart, totaling \$720 for the two months. These cows I have fed on hay at \$80 per ton, meal at \$8 cwt and potatoes at \$4 per cwt, at a cost not over \$100 for the two months. I would not sell my two cows for \$1,000."¹⁶

CALIFORNIA DAIRY REGIONS

The climate of California varies widely throughout the state. Dairy practice varies as well because of this phenomenon. There are foggy coastal valleys and hot inland temperatures. Rainfall is heavy in some parts of the state and light in others. As a result, California can be divided into four dairy regions.

One region would be the area north of San Francisco Bay to the Oregon border, which includes the land along the coast and the interior coastal valleys. Because of the demand for dairy products in San Francisco, this region was the first to blossom into a viable dairy center. There is plenty of rain normally in that area to provide extensive natural pasturage.

A second dairy region would be the lower coast south of San Francisco Bay to San Diego. The climate in this area is

not a damp as the northern region, and the temperatures are mild. The farther one goes south, however, the quicker the grasses dry after spring growth. Dairies in this region stock more hay and irrigate pastures to keep a supply of feed for dairy cattle.

The third region would be the vast central valley which is arid but has moderate winters. Irrigation and the storing of hay for winter feeding is absolutely essential. The final region centers of the mountain valleys which are found throughout the eastern part of the state. In this region, there is snow and rain during the winter with the summers being moderate to hot in temperature. Natural pasturage is available from spring to fall, but the stock must be sheltered during the inclement winters especially during the stormy periods.

Generally speaking, in comparison with other dairy regions in the United States, California had better dairying conditions because of its mild and arid climate. Dairy stock can exist out-of-doors for most of the year.¹⁷

CALIFORNIA DAIRY CATTLE

The first cattle brought into California were scrawny Mexican stock and were used primarily for meat, hides, and tallow. Dairying was an incidental practice. With the Americans came the family cow, as noted earlier, which was predominantly of the Jersey breed.¹⁸ To feed the hungry miners with meat, shorthorns were driven in from Texas. This breed was better suited for dairying than the Mexican stock, but it still was primarily a meat animal.¹⁹ What was desired at the time was sturdy stock which could be used for butchering as well as for dairying. Devons and Durhams were introduced with this in mind in the early 1850s, followed in the early 1860s by Alderneys and Ayrshires. As the urban population grew there came a greater demand for dairy products. The Jersey became the dominant breed by the 1870s. They produced more butterfat, which was a boon to butter and cheese production.²⁰

The 1880s saw wide introduction of the Holstein-Friesian which soon became the leading dairy breed in the state. It gave more milk and was a larger and stronger animal than the Jersey. With the Holstein and Jersey the true dairy cow had arrived.²¹ Soon dairies were selectively breeding stock from proven sires.²²

The U.S. Census in its agriculture survey records that in 1860 there were 210,000 dairy cows in California, rising to 307,000 in 1900. By 1910, there were 382,000 head. The central valley itself had 101,000 dairy cows in 1860 and 163,000 head in 1910. The central valley region usually had the most dairy cows, followed by the lower coastal region, then the northern coastal region and finally the mountain valleys. Sonoma, Humboldt, Alameda, San Luis Obispo, and Los Angeles counties contested with the central valley counties of Sacramento, San Joaquin, Stanislaus, Fresno, and Tulare for having the most dairy stock.²³

The State Statistician reported that in 1869 a dairy cow cost an average of \$50.31, while beef stock was \$27.86 a head. A dairy cow in 1910 cost an average of \$38.40 while beef cost \$20.10 a head.²⁴ The lower average cost was because of the increase in the total number of dairy stock.

An article in the San Francisco *Alta California* in 1862 noted that a dairy north of Stockton had 150 milk cows.²⁵ The *Overland Monthly* in 1870 reported that there were an "estimated one thousand dairies in California containing from twenty to one hundred cows each." The article went on to record that the Shafter and Howard dairy in Marin County had 3,500 cows. The Steele Brothers in their two dairies in San Mateo and San Luis Obispo counties had 700 head each, and the Chamberlin dairy in the San Joaquin Valley had 600 head.²⁶

Another article in *Alta California* in 1873 had this to say about a dairy in Salinas: "A recent visit to C.S. Abbott's model farm and dairy of 13,000 acres with 1,500 cows . . . About twenty years ago he commenced with three cows . . . They employ some fifty hands at about \$30 a month."²⁷

THE DAIRY MARKET IN CALIFORNIA

During the time period under discussion, the San Francisco Bay area was the biggest market for dairy products in the

state, followed by Los Angeles.²⁸ *The Alta California*

in 1858 reported:

The butter and cheese shipped from Petaluma now form a very considerable portion of the freights and San Francisco market depends upon this valley for its supplies of these articles . . . The supply is, however, but a fraction of the demand, and large quantities are yet shipped here from the Eastern ports.²⁹

The *Overland Monthly* in 1888 reported that San Francisco consumed milk produced from about 10,000 cows. Seven to 8,000 of these were kept in the suburbs of the city.³⁰ Though the city's demand was being met locally, diseased milk would be a recurring problem because of the existing filthy dairy environment (which will be discussed later).

BUTTER AND CHEESE

In 1850 California produced 705 pounds of butter and 150 pounds of cheese. Butter production rose to 16 million pounds by 1880 while 3.7 million pounds of cheese was produced. In 1910 there were 52.5 million pounds of butter being produced and 43 million pounds of cheese.³¹ These figures show the dramatic rise of the dairy industry in California as an important ingredient in the state's agricultural economy. It wasn't easy though.

It took some time to wean urban Californians from eastern butter and cheese. As Professor E.J. Wickson at the University of California wrote, "The prejudice for Eastern cheese . . . is a serious obstacle and prevents the local producers from securing even the best of the local trade."³² He urged that California producers make "some effort to give their product the form and character of the popular Eastern and European cheese."³³ As dairying and processing practices modernized, California cheese met the local need and then exportation of the product began. *Overland Monthly* recorded in 1890 that San Francisco had an average of 24,000 weekly receipts for California cheeses and 300 weekly receipts for eastern cheeses.³⁴

California also produced its own distinctive cheeses such as "Monterey Jack." David Jacks, a Scottish immigrant, owned several dairies in the Monterey area. He developed a cheese based on a Swiss method. It was a cheese of "high moisture, fast curing, soft cheddar-type . . . [which] had a distinctive flavor of its own." By the 1890s it was being shipped east.³⁵

THE CREAM SEPARATOR

During the 1880s and 1890s dairying in California was transformed from a provincial industry to a scientific and modern one. It came about with the introduction of the cream separator, refrigeration, irrigation, the milking machine, and extensive planting of alfalfa.

The cream separator was first used in the United States in 1879.³⁶ At first it was powered by steam and soon by hand, which altered dairying dramatically.³⁷ Prior to the development of the cream separator, separating cream from milk was done by placing milk in shallow pans and allowing the cream to rise to the top. The cream was skimmed off and processed, and the skimmed milk was fed to hogs or calves.

In using the new cream separator, milk was fed into a bowl traveling at 6,000-7,000 rpms. The heavy particles found in the milk, usually manure or flies, were thrown at the top part of the bowl followed by the lighter particles of butterfat. The butterfat escaped through a tube while the skimmed milk below flowed out through another tube.³⁸

With the introduction of the hand separator by Carl Gustaf De Laval of Sweden, dairymen could separate cream from milk at home rather than taking it to the creamery or separator stations. This relieved the dairymen from having to transport the skimmed milk back to their farms from the creamery or separator stations. Centralized creameries were soon located near the dairies, and dairies were established farther out in the countryside.³⁹

The De Laval hand-powered cream separator had competition from the brand Victoria, but the Victoria was much more difficult to crank, thus leaving the De Laval the preferred one.⁴⁰ The hand separator proved to be very economical. It cost \$100, and by not transporting milk to and from the creamery there was a savings of 1 1/2 cents per pound. Cleaning the separator took little time and was easier than washing milk cans.⁴¹ The cream was cleaner as the foreign particles were thrown clear of the cream and milk. The cream coming from this process had a finer quality, was sweeter, and made better butter as there was less acid in it.⁴²

Larger dairies took their milk to the creameries or separator stations. By 1896 all creameries in California had separators. The Guadalupe Creamery of Santa Barbara County had six motor-driven De Laval separators and processed 60,000 pounds of milk a day. The Diamond Springs Creamery in Humboldt County processed a high of 40,000 pounds with four motor-driven separators. Most creameries reported handling 10,000 to 20,000 pounds of milk a day.⁴³

There was concern that the hand separator was beyond the average intelligence of most dairymen and wives. One writer, in his column, "Mr. Moody Answers Questions," in the *Creamery Journal* of July 1897, argued to the contrary.

Of the first thirty-five machines placed among farmers in our territory we have yet to hear from the first man who has had any difficulty whatever in doing first-class work with his separator in every particular. In many instances machines have been sent out and the farmer has set it up and started it himself without assistance of an expert, and they have had no trouble in handling them than they would in running a grind-stone.⁴⁴

THE MILKING MACHINE

The introduction and widespread use of the milking machine was slow. The first recorded attempt at inventing a machine for milking was in 1819 which was followed by other futile attempts in 1837 and 1854. It wasn't until 1878 that the first workable milking machine was invented in New York. To be successful milking machines had to cost-effective, easy to use, maintain, clean, and not injurious to the cow. Most milkers welcomed the machine as it freed them from the monotony and drudgery of milking by hand. It also gave them valuable time to perform other duties.⁴⁵

Studies were done at the various agricultural experimentation stations, and they showed that milking machines were quicker than hand-milking. If one increased the number of machines, there could be vast savings of time. It was found that two men milking operating four machines took the same time as three men milking by hand.⁴⁶ It was found that milking machines must have the same suction as a nursing calf. It was also discovered that the rubber cups of the vacuum-driven machines actually relaxed the cow.⁴⁷

Dairymen were concerned about the quality and quantity of milk produced from milk machines. Much experimentation was done. The results found that everything depended upon the skill and technique of the milker.⁴⁸ Some older cows held up their milk and had to have their udders massaged as done when milked by hand. If cows were introduced to the milking machines as heifers, no difficulty existed.⁴⁹ Dairymen began to breed stock selectively to produce a cow whose physiology was more conducive to machine milking.⁵⁰

Concerning bacteria count, experiments proved that care was needed in using and maintaining the machines. The cow's udder had to be washed thoroughly to prevent the machine from sucking up foreign matter. The equipment including the rubber cups had to be steamed daily. If this kind of prevention was done as a matter of routine, bacteria levels could be kept lower than when milking by hand.⁵¹

Initial cost and installation of a milking machine system with three units was about \$500 with a cost of \$89 annually to maintain it.⁵² For dairies with thirty or more cows, it was found that milking machines could be economical. For large dairies, the savings vastly increased.⁵³

ALFALFA

Close at the heels of the success of dairying in California was the miracle plant, alfalfa. Alfalfa was grown in ancient Egypt, Greece, and Rome. Its name meant "horse fodder." It came to be known as lucern or lucerne in France and England. Alfalfa came to California from Chile in 1851 and was called "Chilean clover."⁵⁴ Forty acres were planted in 1851 by W.E. Cameron, who had a farm along the Yuba River near the community of Marysville. By 1858 he had 270 acres in alfalfa.⁵⁵ Alfalfa became particularly adaptable to California's climate and soil. It does its best when irrigated.⁵⁶

Dairymen fed their stock a variety of feeds, from grains and grasses to cabbage, turnips and beets. It was found that many of the latter gave milk and unpleasant taste. Beets and potatoes produced milk that was flat and watery in texture. Green cornstalks made the milk too sweet, and squash was too fattening.⁵⁷

Articles on alfalfa first appeared in the *Transactions* of the California State Agricultural Society during the year of 1872; others followed in 1878, 1887, 1892, 1894, 1903, and 1909. Each article touched on planting techniques, soils, fertilizers, harvesting, and many other useful topics important to the farmer. In the 1872 *Transactions*, Nicholas Wyckoff of Yolo County wrote positively about alfalfa including this comment, "For milch cows it is superior to any other hay; it excites the secretions."⁵⁸ E. Nason of San Benito County reported in the 1878 *Transactions* that in 1877 he has a dairy of "thirty cows in poor condition." He had fifteen acres of alfalfa and by the winter, after feeding the stock alfalfa during the year, he "had eighteen tons of good hay stored away for winter use and his cows were in good condition."⁵⁹

By 1892, when irrigation was just expanding in California, alfalfa was doing very well and prompted this comment in the 1892 *Transactions*:

Of all the modern forage plants none seem to be better adapted to general use and easy growth in our State as alfalfa . . . The price of alfalfa is generally good; from \$8 to \$12 per ton . . . Our dairymen would be at a loss without it.⁶⁰

In an article in the San Francisco Chronicle, April 16, 1904, entitled, "Tulare Wants More Dairying," it was reported that:

Five or ten tons of cured alfalfa hay is a common yield in a season and affords liberal food for the support of one cow. This has a money value in the shape of milk and cream of \$6 or \$8 per month per cow under ordinary conditions. An income of \$60 to \$70 per year common among patrons of Tulare County creameries . . . Good alfalfa land can be bought for from \$15 to \$50 per acre, according to location, and on easy terms. The first year's crop often pays for the place.⁶¹

A promotional pamphlet by Santa Fe Railway, entitled "Dairying in the San Joaquin Valley," made frequent note of the benefit alfalfa had for dairying. One paragraph had the caption "Ocean of Alfalfa."⁶² In the same pamphlet it was noted that one dairyman received \$1,866.26 in creamery checks for one year and had all of his thirty acres in alfalfa except two acres for a garden and buildings.⁶³ In 1909 there were 484,134 acres of Alfalfa in California producing 1,639,707 bushels at a value of \$13,088,530. Alfalfa had become an important element in California dairying.⁶⁴

The accounts which follows typifies the promise alfalfa held for dairymen. A farmer and his wife stopped in Fresno seeking a farm. They found that alfalfa sold for \$4 a ton and butter for 49 cents a pound. They bought a farm and soon a cooperative creamery was formed. Before long there were six creameries in the area with shipments to coastal cities at four times the local consumption rate of dairy products. The account concluded, "What had happened in Fresno is practically the case with every county and every locality in California where irrigation has made alfalfa cultivating possible." What started in Fresno in 1898 as \$300,000 a year butter industry rose to \$3.5 million by 1908.⁶⁵

IRRIGATION

Irrigation in California was first practiced at the Spanish missions where crops of fruits and vegetables were watered by small canals connected to meager diversion dams. Similarly, ranchos used water for irrigation from streams, wells,

or springs. American settlement took place along streams or near springs to utilize them for drinking water and irrigation. Pumps were used to draw the water for consumption. In Yolo County J.C. Davis was able in 1858 to hoist 600 gallons per minute with a steam pump for household, stock, and crop use. He also had 250 milk cows.⁶⁶

The potential irrigation held was seen by most everyone, especially those in the central valley, as they saw at first hand the effect of the Sierra watershed. In 1871 there were severe floods that "swept away millions [of dollars] of property and caused incalculable amount of suffering and loss of many lives." A plan was needed to convert this destructive force into a positive one which could irrigate millions of acres.⁶⁷

The 1874 *Transactions* of the California State Agricultural Society contained a plan or attack. In this issue there appeared a six-page analysis of the cost of irrigation to California farmers. It was determined that the total cost per mile of canal would be \$11,781, and cost to install an irrigation system would be \$10 per acre.⁶⁸ There were 139,570 acres being irrigated in California by that date. Los Angeles County had 23,740 acres under irrigation and Fresno County had 2,700 acres.⁶⁹ The report in the *Transactions* concluded that because of cost and the legality of the placement of irrigation systems, centralized government control would be necessary and investment would be best in the hands of the government or private industry.⁷⁰

When Americans took over California they brought with them their tradition of English common law or riparian rights, in which the landowners along watercourses (rivers or streams) had rights to the water and others did not. This was challenged in the California Supreme Court in 1886 in *Lux v. Haggin*, a monumental case, in which the court ruled that others had the right to the water as well. This ruling was followed by the Wright Irrigation Act of 1887 which authorized the creation of special public irrigation districts. Legal bickering continued, but soon there were a number of districts.⁷¹ By 1915 there were fifty-seven irrigation districts in California, irrigating 29.2 percent of the acreage while private enterprise irrigated 64 percent of the acreage.⁷²

The growth of irrigation and the breaking up of the large ranchos can be seen by the statistics presented below. Alfalfa played an important part in the expansion of irrigation, which in turn made dairying profitable to small dairymen. In 1913 hay and forage acreage rose to 26.3 percent of all crops irrigated in California; alfalfa accounted for 75.7 percent of the acreage.⁷³ From 1900 to 1910 irrigated acreage grew by 1,217,990 acres, and increase of 53.3 percent.⁷⁴

In 1860 there were 18,716 farms in California. By 1910 there were 88,197 farms. In 1860 there were 2,344 farms of twenty to fifty acres, followed by 20,614 farms with the same acreage in 1910. Between 1900 and 1910, some 7,504 farms of twenty to fifty acres alone were added.⁷⁵ The value of land through the same ten-year period increased from \$21.87 per acre to \$47.16.⁷⁶ The total number of milk cows through the same ten-year period grew from 308,872 to 495,00 head.⁷⁷ It was evident that dairying on small acreage with irrigated alfalfa had taken hold. A Santa Fe Railway promotional pamphlet observed: "An Alfalfa Paradise - Close to one hundred thousand acres of alfalfa, not in old-time pasture, but irrigated and cut for hay, is the boast of Stanislaus County."⁷⁸

SANITATION

No discussion of dairying during this period would be complete without taking into consideration dairy sanitation, disease, and subsequent changes made to upgrade dairy standards. Early California dairying existed in squalor which is understandable, given the times and lack of scientific knowledge at that point. As dairying increased so did interest in its practice, especially as science in the latter part of the nineteenth century began to look into the condition of human and causes of disease.

In the 1880s and 1890s state officials and others, who were concerned about public health, became more alarmed daily as to the impurities that were being found in milk. Milk, being a nutrient, was considered especially beneficial to children. Milk looked pure because of its white color, but it was a deception as it could carry bacteria which would cause a variety of disease, namely, tuberculosis, diphtheria, scarlet fever, typhoid, and sore throat. It was pointed out in the *San Francisco Call*, June 21, 1891, "that thousands of lives, particularly those of children, have been lost in this city by the use of bad milk."⁷⁹ Later in the same article it noted that:

Dairies should not be allowed within the city limits, as they generally locate in hollows where the water supply is

tainted, bad and full of bacteria, and they are near slops and filth and disease of all kinds . . . some system of State inspection, something similar to that in vogue in England, should be adopted.⁸⁰

Quite often dairy stock located near cities were fed distillery swill, brewery slops and garbage of all kinds which produced poor milk. There was widespread ignorance of cleanliness required to operate a dairy. This was so stated in the 1894 *Transactions* of the California State Agricultural Society: "Many people . . . have little or no idea of the scrupulous cleanliness that must be observed and practiced in all things connected with dairy."⁸¹ Besides bad feed and water, unkempt corrals and barns, filthy milking equipment, dirty clothes used by milkers and improper cooling and handling of milk often caused diseased milk.

A report was filed by Dr. Thomas Bowhill of San Diego County in 1888, wherein he found milk cows with a disease similar to anthrax. The stock came from Mexico.⁸² This could have been bovine tuberculosis, which soon caused a great scare not only in California but throughout the United States. The California State Dairy Bureau felt that all cattle should be mandatorily inspected. But because of the sheer number of cattle with the disease (50 percent was the estimate), farmers complained that they would be put out of business if they had to slaughter those infected.⁸³ But because of the serious nature of the disease, an inspection law was put in place. Not only were the cattle to be inspected but dairy facilities and equipment as well. The law was needed to provoke dairymen to clean up their herds, facilities, and methods of handling milk.⁸⁴

At first there wasn't enough money budgeted for statewide inspection.⁸⁵ However, inspections still went forth as best they could. In the 1911 report of the California Dairy Bureau there appeared a lengthy list of fines imposed on dairymen for an "unsanitary dairy." Fines ranged from \$10 to \$40.⁸⁶ A checklist card was used during inspections which covered everything from barns to the cleanliness of the milker's clothing.⁸⁷ The duty of the Dairy Bureau was "to enforce the law preventing the sale of milk or milk products from diseased cows or from an unsanitary dairy, or factory of dairy products."⁸⁸

This was the beginning of the modernization of dairies in California. Instead of wooden structures, it was advised that dairy buildings should be constructed with cement and steel and constructed so as to insure easy cleaning. The reports of the California Dairy Bureau contained blueprints of structures to help dairymen in this process.

Dairying had come a long way from the early days of milking cows at a mission, or carrying out dairying in a mountain shanty, or in the hallow of an urban setting. The proper stock had to be developed. Feeding needed to be cost-effective and healthy. Land had to be available at a decent price and needed to have an irrigation system to provide water for pastures and alfalfa fields. Machinery had to be invented to improve the quality of dairying and speed up the process. Proper sanitary dairy techniques had to be implemented to provide a healthy product. It was an evolving process which has not ended even today.

PHOTOS

Photo #1

Milking time at Stockton State Hospital in 1901. Milking is being done by hand on what appears to be the only Jersey cow in the milking string. The others are stout beef stock -- not ideal for good milk production. The barn is airy, allowing for good ventilation, but the straw and manure on the floor is not good sanitation practice. This and following illustrations courtesy of the Haggin Museum, Stockton.

Photo #2

A herd of Jerseys on the Lafferty Ranch in the San Joaquin Valley, c. 1910. In the background there is a stack of alfalfa and silos with corn silage. This herd is in good condition.

Photo #3

A hay press in San Joaquin County, c. 1910. Alfalfa hay is fed into the press where it is baled and then stacked. Baled hay is less bulky, easier to transport, and preserves better.

Photo #4

A herd of young Holstein cows walking along a lane on the Riverside Dairy near Stockton, c. 1910. The type and size of the buildings in the background was untypical for the warm San Joaquin Valley.

Photo #5

A herd of Holsteins at a pasture in San Joaquin Valley, c. 1910. Scientific breeding

of milking stock was not in full practice at this dairy as yet as seen by the varying markings on the cows. The valley oak provided shade in the hot summers, and the haybarn in the distance was typical for the Central Valley.

NOTES

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