

AGRICULTURE IN SIERRA COUNTY FROM

1880 to 1890

The following discussion of agriculture in Sierra County is in some ways of artificial structure. Only the principal aspects of farming and ranching are to be considered, and each separate from the others. The discourse will center around hay, cereal grains, dairying and the beef cattle industry. In almost every case these aspects of agriculture were interrelated and carried on simultaneously by the farmers or ranchers, although many emphasized one product or another. The related livestock and crops have been separately studied for the sake of expediency and simplicity. It should be remembered that this affected ordering did not actually occur and is simply an unnatural artifice of the author.

The four principal aspects of agriculture in Sierra County have been emphasized to the neglect of secondary and less important crops and livestock groups. Potatoes, market-garden and orchard products were all of some significance. Swine and horses were also important to the overall picture of ranching during the period. Particularly the raising of trotters and race horses was an unusual but interesting practice. It has been ignored during this article due to limitations of space and time.

Problems dealing with land tenure, irrigation, fencing, disease, and plagues of insects have all been examined individually. The problem of sheep has also been divorced artificially from the particular emphasis of this study. Yet, in the final analysis, it is hoped that the artificial structuring of the discussion will lead to a better understanding of Sierra County's agricultural industry during the 1880's. The reader must keep in mind the intrinsic relationship of all the factors discussed. The social and political activities of the farmers will be discussed in a separate and concluding section of this work.

As the decade opened there were 156 farms within the confines of Sierra County. Most of them contained from 100 to 500 acres, averaging around 250. There were no farms larger than 1,000 acres, and only twelve contained more than 500 acres. In well over ninety-five percent of the cases, the person who worked the farm also owned it. There was no share-cropping and little tenant farming. A total of 38,965 acres were being farmed in 1880. Improved farm land was collectively valued at approximately \$450,000. During the 1880's farms changed hands repeatedly and new land was located under the Desert Culture Act of 1878. Slowly, but surely, the farms grew in size, the smaller ranches being incorporated into the larger ones. New land was cleared and brought under cultivation and Swiss-Italian immigrants homesteaded land not already claimed. Subsequent to the Desert Land Act of 1887, abuses in acquiring land became apparent and "land grabbing" by the larger farmers grew into a serious problem. Many residents doubted whether there was actually any desert land in Sierra County. The means used by some farmers to gain more acreage were highly questionable where they were not openly fraudulent and dishonest. In 1889, claims of desert land locators were being contested, too late to prevent a dangerous drift toward concentration of land in the hands of a few.¹

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The number of farms, by 1890, had dropped by one-third, although total acreage in farms had increased by almost sixteen percent and the value of farm land had increased to \$646,370. The average size of a farm had grown to 417 acres and six now contained over 1000. The number of farms containing less than 500 acres had declined from one hundred and thirty-six to eighty, whereas the number containing over 500 had almost tripled during the decade. The tendency, seen throughout America during this period, toward the concentration of land in the hands of fewer and fewer persons was proceeding apace in Sierra Co.²

Sierra Valley farmers did not face a major problem in regard to fencing materials. Timber was close at hand and many of the lumber mills carried posts, one-inch boards and rails. Barged wire had been developed in the previous decade and was in general use in Sierra Valley during the eighties. In an average year the farmers would spend about \$5,000 building and repairing fences. By 1885, much of the valley was fenced off and new wood and wire barriers continued to enclose the open range. Miles of fences were built each spring while the ground was soft, "the usual styles being posts with two boards and a barbed wire on top, and a board in the middle of the posts with a barbed wire above and below it." The animals were not accustomed to wire and many were injured when wire was strung by itself.³

Irrigation was a significant concern of the valley grangers and they experimented with a number of methods of bringing water to their crops and meadows. One of the first major attempts to bring more water into Sierra Valley began in 1878, when a joint stock company known as the Sierra Valley Irrigation and Water Company was incorporated in Virginia City, Nevada. The company's aim was to cut a canal from the Little Truckee River, below the falls, to the valley. Three miles of the canal were completed and water was being delivered when construction was halted because of a court action brought by the Boca Mill and Ice Company and Dr. D. G. Webber. The injunctions were a crippling blow to the water company and subsequently it was in constant financial trouble, showing up on the delinquent tax lists in both 1880 and 1881. By 1885, the company had folded. D. D. Newman and H. A. Mason then appropriated the water and attempted to repair the canal. The valley ranchers kept a sharp watch on their counterparts in Nevada, especially after 1889, to be sure that none of this ditch water was taken for use in the sister state's irrigation plans. Water continued to flow into Sierra Valley through the canal, but never enough to supply the need.⁴

In 1881, the Sierra Valley farmers began their most impressive experimental effort to find the needed water--drilling artesian wells. A number of ranchers on the west side of the valley brought in a natural flow, and in 1882, Walter Ede began drilling for water along the eastern foothills. The following year new improved boring equipment was imported with the intention of going down 2000 feet if necessary. In 1884 several successful wells were sunk and one year later Ede brought in his well--the largest yet found. With more technologically advanced equipment, it became possible to drill 500 feet in as few as seven hours. Seven hydraulic jetting machines, costing about \$1,000 each, were drilling wells in Sierra Valley between 1886 and 1889, and a flow of some of the wells was substantial enough to drive machinery. In 1889, companies were formed in Long Valley to drill for artesian wells. The experiment in Sierra Valley had proved so successful that the Nevada State Legislature began subsidizing exploration and drilling in that state. By 1890, Sierra County contained forty-five artesian wells, with an average depth of 458 feet and an average flow of forty-

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seven gallons per minute. Despite the general success in gaining water by this method, the demand continued to outrun the supply. Other methods had to be used to supplement artesian wells and water ditches.⁵

As the decade drew to a close two new attempts were made to acquire more water. First, the farmers in the south end of the valley sought out the proper sites and then erected storage dams across the mountain streams that entered the valley. Others dammed the creeks as they crossed the valley floor. This was successful to some extent but was costly and caused legal problems over water adjudication for downstream users.⁶

Finally, in 1889 and 1890, the farmers brought in wind powered pumps to exploit the natural ground water. In those two years both pumping and geared windmills went up around Sierraville, Sattley, and Loylton. But even the harnessing of the wind was not sufficient to keep pace with the ever expanding need for water. The twentieth century would see other, more sophisticated, solutions to the water problem. Yet, by 1890, over thirty-two percent of the farm area of the county was artificially irrigated and almost nine out of ten farmers were using some means of irrigation to water their crops and meadows.⁷

Lack of water was not the only problem the ranchers had to contend with. They also had to face plagues of insects and disease. A six year infestation of grasshoppers, beginning in 1878, pushed Sierra Valley farmers to the brink of bankruptcy and defeat. The battle between man and insect became a struggle for existence. The decade of the 1880's opened with the great grasshopper war well under way. The insect scourge was on the point of overwhelming the ranchers in 1880, and there was serious talk of appealing to Thomas Edison in the belief that he could invent something which would defeat the locusts. The grasshoppers' natural enemies did not exist in great enough numbers, and it appeared that the 'hoppers would drive the farmers from Sierra Valley. The insects advanced from north to south, completely devastating the northern grass and grain crops. Hay was harvested before it ripened so that something could be reaped before the grasshoppers reached the fields.⁸

By 1881, scientists of the United States Entomological Commission had established that the insects were not the seventeen year locust; not that this made much difference to the beleaguered grangers. In that year grasshoppers overran the grain and grass crops in Clover Valley, Squaw Queen Valley and Last Chance by the middle of May. Millions of eggs were found in Sierra Valley that month, and by June, tens of hay were being consumed by the pests. There were four times as many grasshoppers as had infested the valley previously, and again, the twenty-five ranches in the northern end were devastated. There were "acres and acres, and even miles of them in some locations....They were coming from the north, and marching south and east" in huge black masses. The farmers tried to defend their fields with whatever weapons were at hand. They hauled in straw, scattered it over the earthbound insects (only a few could fly) and set it on fire. Ditches were dug and filled with water in the hope that this might half the devouring hordes. Finally in July, th as the pests made for the grain fields, the inhabitants turned out and fought their face to face. "The frightened ranchers assembled on the edge of the grass land, and with burning straw, sticks, stones, rags and a large ditch succeeded in repelling the invaders." The grain crops in the southern end of the valley was saved and the farmers hoped that the plague would not return the following year.⁹

Hopes and prayers were not enough. New egg-beds were discovered early in 1882. The farmers concluded to plow them up, attempting to kill the larvae, and then made heavy grain plantings believing that some of the crop could be recovered.

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The lower section of the valley was again hard hit, but about two thirds of a normal crop was harvested for the entire area.¹⁰

By 1883, the plague had abated somewhat. The farmers' sense of humor seemed to return. When one "solemn faced granger" was interviewed by a Tribune reporter about why the grasshoppers had not been exterminated earlier, he replied: "Kil 'em! You can't do it; and as for catching 'em and clipping their wings, we've got something else to do." But the insects had taken their toll. Dairymen had been driven out of the valley for lack of feed and the grain and grass industries had suffered severe losses. In 1883, the grasshoppers left as mysteriously as they had come, only to appear the next year in Sacramento and San Joaquin Valleys.¹¹

No pest was again to subject the farmers to the punishment they received from the locusts. But in the closing years of the decade the hay crop was heavily damaged by a plague of rabbits. The livestock and dairy industry suffered whenever the hay crop was impaired and stockmen had the added burden of animal diseases which swept through the herds of horses, beef and dairy cattle.

This article will be continued in the December issue of the Sbr Sierra County Historical Society Bulletin. The author of this article is Bill Coppen, the president of the Historical Society. This is a section of a larger work by President Bill covering the history of Sierra County through the 1880's.

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 2. Reports on the Statistics of Agriculture in the United States, Eleventh Census (Washington, D.C.; Government Printing Office, 1896), pp. 124-125, 200; Report on Farms and Homes; Proprietorship and Indepthedness in the United States at the Eleventh Census (Washington, D.C., U.S. Government Printing Office, 1896) pp. 219, 289; Report on the Productions of Agriculture as Returned at the Tenth Census (Washington D.C.; Go ernmet Printing Office, 1883) pp. 34-35.
 3. Compendium of the Tenth Census, Part I (Washington, D.C.; Government Printing Office, 1883), p. 689; Sierra Valley Leader, Sierraville, Feb. 10, 1888; May 4, 1888; June 7, 1889; Jan 3, 1890 Quotation from Sierra Count, Tribune, Downieville, May 15, 1885.
 4. Trickee Republican, Nov. 23, 1881; Mountain Messenger, Downieville, Jan. 31, 1880; Feb. 5, 1881; Sierra County Tribune, Downieville, May 15, 1885.

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5. Mountain Messenger, Downieville, Marcy 19, 1881; Nov. 26, 1887; Sierra County Tribune, Forest City, May 4, 1882; Downieville, April 17, 1881; June 5, 1885; Sierra City, Dec. 4, 1885; July 17, 1885; Editorial, Jan. 6, 1888; Sept. 28, 1888, May 17, 1889; Reno Evening Gazette, Jan. 9, 1883; Jan. 28, 1889; Feb. 2, 1889; Reports on the Statitics of Agriculture in the United States, Eleventh Census (Washington, D.C.: Government Printing Office, 1896), p. 15.

6. Sierra Valley Leader, Sierraville, Editorial, Feb. 1, 1889; Feb. 8, 1889; Aug. 22, 1890

7. Sierra Valley Leader, Sierraville, Aug. 30, 1889; Oct. 3, 1890; Sept. 12, 1890 Reports on the Statistics of Agric-ulture in the U.S., Eleventh Census (Washington, D.C.: Govt. Printing Office, 1896), p. 41.

8. Mountain Messenger, Downieville, Feb. 7, 1880; Dec. 8, 1880; May 29, 1880; June 12, 1880; July 24, 1880; May 11, 1880.

9. Reno Evening Gazette, Feb. 9, 1881; June 23, 1881; first quotation from June 3, 1881; Mountain Messenger, Downieville, June 4, 1881; May 21, 1881; June 11, 1881; June 25, 1881; second quotation from July 16, 1881; Aug. 6, 1881

10. Sierra County Tribune, Forest City, April 27, 1882; June 29, 1882; Sept. 28, 1882.

11. Reno Evening Gazette, June 23, 1881; Sierra County Tribune, Downieville, Dec. 20, 1883; quotation from Aug 2, 1883; Truckee Republican, May 8, 1885.

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