

Peninsula Diary Mayo Hayes O'Donnell

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### More on the Sugar Beet

We are continuing today the story of the sugar beet industry in Monterey as it was explained to us at the October meeting of the Monterey County Historical Society, held at the Spreckels Sugar Beet Factory at Spreckels. We, the members of the Society, were given a history of the plant itself, then the process used in making the sugar and the marketing of the finished product, followed by a tour of the huge plant. If our readers have not experienced the privilege of touring this interesting creative exhibit within an hour's driving distance of the Peninsula, we urge you to plan such a tour at once, it is well worth the time expended either during the daylight or evening hours. A call to the factory will guide you as to the best hours for visiting when guides will be available.

The raising of sugar beets is rough work. Therefore, farmers have needy sturdy and cheap labor. Chinese laborers were hired in the early days of the industry. At one time a religious colony of Dunkards started raising sugar beets near Modesto. Usually, however, Americans are unwilling to work in the beet fields. The work is left to Mexicans, Portuguese, and Philippinos. Americans are unwilling to stoop over the rows of beets all day.

Claus Spreckels, a San Francisco active in the Hawaiian cane sugar industry, became interested in beet sugar. He visited sugar factories throughout Europe and returned to America convinced that California soil was ideal for sugar beets.

He organized the Spreckels Sugar Company in 1888 and built a factory at Watsonville which was the second successful factory in the United States. For several years it was the largest in the country. Later the company expanded and "built an immense sugar plant near Salinas, the place being names Spreckels after the sugar magnate." The plant, active today, is the one the Country Historical Society was privileged to visit.

Spreckels was the first to recognize the advantage of handling all parts of beet sugar production. Therefore his company bought land, hired laborers, and built a railroad to transport the crop (Pajaro Valley Railroad, 1937). He even bought ships to take fuel and sugar beets to his factory and to ship sugar as a finished product to the markets of the world.

Spreckels knew of two ways to manufacture beet sugar. The extraction process was used where fuel and water was scarce. This method consisted of crushing the beets and squeezing the sweet juice out of the pulp.

Spreckels' factories were built where they could use a better method, call diffusion. And this method is what we saw on our recent evening visit to the factory. In this process the sugar is dissolved or soaked out of the beets by treatment with hot water.

First we saw the tops, after they had been cut by hand in the field or by machinery in the modern way. Then the roots are hauled to the factory where they are washed with cold water to clear off all gravel, earth and rootlets which have been taken back to the field as fertilizer, we were told.

We saw a continued, hurried stream of beets, sliced like shoestring potatoes and soaked in with hot water, pass beneath us on a wide belt—more beets than anyone could imagine could be grown within shipping distance of Spreckels—just one continuous flow of beets. That resulting solution is grey and cloudy. It is treated several times, we understood, with milk of lime, carbon dioxide gas, and sulphur to deep amber to clear straw color. Some of the water in it is removed by evaporation with steam, and the syrup is thickened still more by boiling in vacuum tanks. When the sugar begins to crystallize, the crystals are separated from the syrup by centrifugal machines. The white crystals are washed, dried, and made ready for market.

The syrup that remains is reheated and thickened until it crystallizes again so that more sugar can be taken from it. Chemists and engineers have improved the methods and machinery so much that they can now remove most of the impurities and recover nearly all the sugar from the beets. In 1937 about 18 pound of sugar was made from 100 pounds of beets. Today 7,000 tons of beets go through the factory every 24 hours.