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## The Big Leffingwell Lemon Orchard.

The Citrograph copies a long account of this grove from the Fullerton News. It is quite interesting, and may be valuable to our South Florida subscribers:

Ranching in Southern California has many big problems—many, still unsolved—and it is gratifying to chronicle the successful solution of one of them. If the rancher is content to take things as they come and not bother about the "why" of it, he has an easy, care-free existence, compared with the man who works not only his hands, but his brain, in constantly trying to make the product of his acres of the very highest type known, and then trying to better that.

In the past ten years lemon culturists have passed through various troubles and vicissitudes. In many cases growers were discouraged by the obstacles which beset them and which seemed insurmountable, and dug out their lemon trees or budded them to oranges. But some persisted, sought the solution of their troubles, and this article is intended to describe the methods of one grower who has succeeded to a remarkable degree in locating the trouble, finding a remedy and developing the lemon along scientific lines to a point which means substantial financial returns for his pains. I am speaking of the Leffingwell ranch of 100 acres, located at Whittier, and owned by Rev. C. W. Leffingwell, of Illinois, and his son, C. W. Leffingwell, Jr. The latter is the resident partner and manager of the property, and it is his energy and ability that have brought about the results given in this article.

The lemon tree is a constant producer, there being blossoms and maturing fruit steadily on the trees. But the heaviest crops come in the winter months, when the demand in most parts of the United States is lightest, and in the summer when the demand is greatest, the crops are lighter.

One great problem confronting the grower was to so handle his fruit that it might have good keeping qualities, so that the winter crop might be held for the summer market. This necessitates a careful study, not only of market conditions but of the soil and its needs, the trees, irrigation, cultivation, pruning, picking, curing and packing. In fact, every step from the fertilizing of the

soil to the marketing of the fruit had to be considered.

The Leffingwell ranch consists of 500 acres, sediment soil lying on the south slope of the foothills east of Whittier. One hundred acres of this is in bearing lemons.

I went into the orchard with Mr. Leffingwell and saw the fruit on the trees, which were loaded down with blossoms and small green lemons, with now and then a yellow one which had escaped the pickers. A gang of men were at work pruning—as they are nearly every month in the year on this ranch—trimming to encourage the low, broad shape of the tree as much as possible. The pruning may seem excessive to some people, but in this orchard has proved to be the right thing.

Commercial fertilizer is used and also all the stable and sheep manure obtainable, besides peas and other crops high in nitrogen which are planted in the fall and later turned under.

The long rows of trees stretch away nearly as far as the eye can reach, have a thrifty, well-fed appearance and are absolutely free from scale, a condition necessary for best results. The leaves are green, shiny and clean and the blossoms large and perfect. The fruit is full, smooth and well nourished in appearance. This healthy condition puts life and vitality into the lemon and makes it keep hard and firm for months so that it commands a ready market at superior prices.

Present indications show an immense crop for the coming season.

The picking, which is done every four to six weeks, according to growth is performed by two gangs of men, one gang going ahead of the other. Each man has a ring which he uses on every lemon. There are two sizes of these rings, the first gang being supplied with those of 2 5-16 inches in diameter, and they clip all fruit that will not pass through this ring. The following gang is supplied with rings of 2 1-18 inches in diameter and they pick fruit which is beginning to color slightly and which would be too ripe before the next picking.

The reason for the use of the two rings is that the trade in the East has become accustomed to two sizes—300 and 360 to the packed box—since the Sicily lemons were imported, and the pickings are regulated every four to six weeks, according to growth, to get the right sizes. The

best keeping lemons are picked absolutely green and cured in the packing house.

The orchard is divided into seven blocks for picking purposes, and a record is kept each day of the block in which the picking is done, the number of men employed, number of picking boxes turned in, etc., so that the manager knows each day what each man averages and what it costs. This system also enables the picking crews to get over the orchard during the proper time, as the superintendent can tell each day just how the work is progressing and regulate the help accordingly.

As the lemon is picked from the tree, after having been tested for size by the ring, it is carefully placed in a special picking sack and handled as gently as if it were an egg. From the sack they are carefully removed to boxes and taken to the packing house on spring wagons.

This great care is noticeable in handling the fruit all through the process and has had much influence on the keeping qualities which have made the product of this ranch famous. It also insures proper sizes and keeps the lemons picked so closely that they do not have a chance to ripen on the trees.

It seems a little thing to notice, but if the rind of a lemon is bruised ever so little it impairs the shipping value of that lemon, and may endanger others.

At the packing house the lemons are washed at once in a machine which has been worked over, adjusted, and changed until the builder would hardly know it, all with a view to handling the fruit without bruising. From the washer they come out on a moving sorting table divided into four grades for color and keeping quality, and are placed in the boxes in which they will afterward be shipped, in truts for curing.

The packing house is a big place, 112x232 feet, with an addition, 60x132 feet, and the main part is divided into canvas truts 10x20 feet, and ten feet high, each capable of storing a car of lemons, which from the previous care given, come to this stage all sorted for color and keeping quality and will cure evenly. Thirty-six thousand boxes are required to fill the seventy-five truts.

This process is cheaper than the old way of hand washing, and puts the fruit in shape so that each grade can be shipped at its prime, the green fruit being kept longest and the ripier

being shipped promptly. In other words, each degree of ripeness is segregated as to keeping quality and kept together in car lots, the handling being thereby simplified and a more even pack assured. This is one of the salient points that is putting California lemons in the lead. The percentage of decay incident to the process so far described in the house is one in 10,000 in winter. In the spring, when there is more sap, it will sometimes run as high as 1 per cent.

Beginning with January, when the pickings are heavy and the demand light, the fruit is stored in the truts for three or four months. In the summer months the fruit can be shipped as soon as colored, say two or three weeks. Along toward September coloring is done artificially by placing the lemons in tight rooms and subjecting them to a damp heat of 90 degrees for from three to eight days. The facilities of the ranch will permit of concentrating three-fourths of the crop in the six warmest months of the year, retarding the winter crops and hastening the summer crops.

The storage capacity of this packing house is seventy-five cars, and two cars a day may be packed and shipped when desired.

In packing, the lemons are graded from the boxes to shallow trays 2x3 feet, and three inches deep, being sorted for color, quality, appearance, etc., into two grades and placed carefully by hand into these trays, which then go to the packer, where each lemon is wrapped in paper and carefully placed in the packing box. Special attention is given to placing the stem end of the lemon toward the wood whenever possible, as that end is much less easily bruised.

When the dox is ready for closing two cleats are placed under the cover instead of one, that the danger of bruising may be still further minimized. This is still further emphasized by careful press work in nailing on the cover.

Each box bears the number of the packer. The packing house is four miles from the railroad, and after the loads of packed boxes reach the railroad station, one box is picked out at random from each car and returned to the packing house, where it is opened and examined in the presence of the manager. This is not only a check against the careless packer, but determines absolutely the condi-