

1898

Citrus Talks-Citrus Fruits

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CITRUS TALKS

"CITRUS FRUITS"

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CITRUS FRUITS.

This is a comprehensive subject, the citrus family being large and varied, embracing the orange, lemon, lime, citron, bergamot, pomelo and Shaddock. Each of these species are divided into numerous varieties, there being over one hundred in the orange. As the orange, lemon and grape fruit are the only members of this genus in which we are financially interested I shall confine myself chiefly to them, attempting to be practical in the discussion.

The culture of the orange and lemon is one of the most fascinating, and at the same time most discouraging branches of agriculture, these fruits doubtless requiring greater intelligence, closer and more constant attention than any other fruit grown for profit in this country. *often bringing very meager returns* This is accounted for in part by the great length of time required to mature them, the numerous and persistent enemies which prey upon them, their delicate and susceptible nature, *the various methods of handling & marketing* the large money value represented and the natural interest arising from watching the ever-changing phenomena incident to their development to a high state of beauty, succulency and usefulness..

C The orange, scientifically speaking, is a berry. The membranes which separate the different sections, the pulp and the rind are only the enlargement of the vessels which produce seed.

The original varieties or sub species, the bitter orange and the sweet or China orange, are quite distinct in almost every respect, but by cultivation, hybridizing and budding with each other and the citron and the lemon, we have the orange in its present

form, which, for beauty, delicacy of flavor and wholesomeness as an article of diet, is without a peer in the fruit world. *(over)*

The orange has been cultivated for many centuries in Europe, having been brought into Western Asia from India by the Arabs, under Mohammed, and then into Europe by the Crusaders on their return from Palestine. * Some trees have attained great age, if we are to credit tradition. There are trees in Rome which are recorded as being over four hundred years old. Some trees have had enormous bearing capacity, having borne ~~as~~ a single crop, as many as twenty-five to thirty thousand oranges. In Florida trees have borne as many as twenty thousand oranges. We need not expect our budded trees to compare either in age or yield with these specimens, which were seedlings. X There were, before the late freeze in Florida, some famous groves, producing as many as thirty to forty thousand boxes annually. California is now the field where the fruit is grown extensively, and we produce ~~now~~ more than Florida ever did. In a few years we will have groves producing as many as 100,000 boxes.

A C The orange was introduced into California by Catholic missionaries about the beginning of this century. The first trees to come in bearing were at San Gabriel Mission. About 1834 Don Luis Vignes brought some trees from San Gabriel to Los Angeles, which were the first known to have been planted outside of the Mission grounds. William Wolfskill, seven years later, put out a considerable orchard, also in Los Angeles. He appears to have

In Orange County are two trees growing
side by side which very correctly represent
types of the original species. The fruit on
one is large, coarse & so intensely bitter that
it cannot be eaten; On the other grows
the delicate, sweet little China ~~orange~~
or Kid glove orange, as it is sometimes
called. Properly speaking however, the
Mandarin. From this orange the small
fragrant kangerine is derived

been the pioneer in the culture of the orange for profit, in California. *X*

It is difficult for us of this day of low prices to comprehend the fabulous returns some of the earliest groves brought their owners. The last crop Mr. Wolfskill sold from his twenty-eight acres brought him \$25,000. Col. Wilson, another pioneer, received for the oranges grown on a single acre \$1,800. Mr. ~~A. P.~~ Stacy, of Minneapolis, told me that about ten years ago he remitted to a grower \$2,100 for a car of St. Michaels. The general average now will run from \$200 to \$500 per car.

Southern California is especially adapted to the culture of citrus fruits, but not every place here can they be grown profitably. Therefore great attention should be given in locating citrus orchards. Sections even in the midst of what may be considered fine orange districts, may have insurmountable obstacles. In putting out an orchard select stock with greatest care, and buy only from parties you know to be careful. It is most discouraging to nurse a tree for four or five years, and then learn that it is worthless. Should you find such a tree, ~~however~~, in your orchard *leaving* do not hesitate to bud it at the first opportunity. Set trees not closer than twenty-five feet. It is a serious mistake to crowd them. Almost invariably new comers strive to get the largest possible number of trees on a given tract. Every experienced orchardist knows this to be a mistake. Unless the ~~topography~~ *topography* of your field is perfect, make it so with the ~~scrapper~~ *the plow + before setting young trees*. A little

work at first will save much later on.

VARIETIES. While orange culture is facinating, yet few men are undergoing all the disappointments and annoyances incidental to the business these days, for the little pleasure they may derive from it. It is profit, rather than pleasure, that is the incentive to most growers. It is essential, therefore, that those varieties which produce the most profit be grown. There is some question as to what these are.

The Washington Navel is the universal favorite, and one is safe in growing this variety, for, if not contaminated, and when free from scale and smooth, it will find a ready market in its legitimate season, which extends from about January 1st to the middle of May. It has recently lost much in favor, however, by shippers putting it on the market before it was ripe.

I regard this growing custom of shipping unripe oranges as absolutely pernicious. It is a menace to the business, and California pays enormous interest on the money gotten from these early shipments. Judging from results, however, the past season, I predict that shippers and dealers will not again be led into buying so heavily of this stock.

The Thompson Improved Navel is admired in some of the larger markets on account of its smoothness and beauty, and usually commands higher prices than the Washington. This variety has not been grown extensively enough to judge of its real value as an all-round orange. Whether we can produce it in its ideal form

on all kinds of soil I cannot say, and how pure the stock is that some orchardists have recently put out remains to be seen. I predict, however, that much of it will prove to be ^{only} a fair grade of Washington Navels. There is such a thing as producing an orange entirely too fine and delicate. Its rind may be so thin as to greatly weaken it as a keeper and shipper.

Either the Malta or Ruby Blood oranges in limited quantities, will generally find a ready market at fair prices. The Maltese is a regular and heavy bearer. The streaks of red pulp in this orange are supposed to have been produced by a graft set in a pomegranate.

The St. Michael is a good bearer, and I believe will eventually, to a large extent, supply the place of the late seedling. I find two varieties of the St. Michael. What is known as the paper rind I would shun. The tree is more of a dwarf, the fruit is smaller and more inclined to drop than the other variety, which, even with it, is a serious weakness. All oranges should be marketed when in their prime, but it seems that this variety suffers most by neglect in this regard. When it is found unprofitable to continue growing the poorer seedlings, this fruit will find a market when in its best form.

The other variety of the St. Michael, which is larger, comes from the Island of St. Michael

one of the Azores, a group of islands off the coast of Portugal. A party who had lived there and known the fruit, on seeing some specimens I had, said they were identical with the oranges grown there. *on that island.*

The Valencia Lates, if properly manipulated, may be depended upon to supply the limited demand for oranges during the summer and early autumn, although the market this season ^{has been} ~~is~~ filled with nearly all varieties. This is a fine orange, a good bearer, though it does not come in bearing as early as the navel, and is a splendid keeper. Hart's Tardiff, which is grown in Riverside, ~~I am told is the same orange. If not the same variety it is very similar.~~ ^{identical}

If I were setting out an orchard of twenty acres I believe I would select the different varieties in about the following proportion: Thompson's Improved Navel, two acres; Washington Navel, eight; Malta Blood, one; Large St. Michael, two; Valencia Lates, five; Lisbon and Eureka or Villa Frankie Lemons, one acre each.

This is only my idea, and based upon the way I should expect to market the fruit. It might be better for those who intend to put their crop into an association, or turn it over bodily to some shipper, employing a promise-anything-or-everything sort of an agent, to grow one variety straight --- the Washington Navel. This would avoid annoyance, perhaps, and as the returns seldom seem to be a factor in such transactions, it would be easier all around.

In such cases the grower generally accepts, with a strange sort of gratitude, quite as though he felt that he was just so much ahead, what the shipper in his policy-generosity may dole out to him. As a matter of fact, there is little else for him to do.

Considerable attention of late, has been given to grape fruit, and hundreds of acres have been put out in the last three years. ^{one party alone putting out as many as 16000} The Pomelo and Shaddock are natives of India and China, and were brought to the West Indies by Captain Shaddock, Commander of a British man-of-war. They were early introduced into Florida, where the trees, for a long time, were only used for ornamental purposes. The present popular name of "grape fruit" was given by the colored people of Florida, because the fruit has a tendency to hang in clusters, and they having forgotten its real name. The grape fruit, as we have it today, has been greatly improved by cross-fertilization and cultivation. In California we have the Florida Seedling, Walters' Seedless, ^{as favorite} the Triumph and some other varieties.

Mr. Philip Ruhlman, who introduced grape fruit into the New York market said to me that he regarded our California fruit as inferior to that grown in Florida, which was better than any grown in the West Indies. He also seemed to doubt that it would ever prove remunerative to California growers. The demand will always be limited, I believe, and the market therefor easily overstocked. However, I think we can overcome any inferiority without trouble. California never holds second place long. The tree is a rank grower, an early and heavy bearer, and even more hardy than the orange. The fruit is said to be a specific for the cure of dyspepsia, rheumatism, kidney trouble and malaria.

MANAGEMENT. I shall touch briefly only the salient points in the care of an orchard.

CULTIVATION. I believe there is scarcely one other thing that exerts an influence so favorable on the quality of an orange as cultivation, and perhaps, there is no other part of orchard work that is generally so indifferently done. The implement to do the work properly may not always be at hand. The man to operate it intelligently and honestly is likewise difficult to employ. There are several reasons why greater attention should be given by citrus fruit growers to cultivation, which I will not take time to mention. Two points, however, I wish to refer to. One is the greatly improved quality of the fruit that may be secured by proper cultivation. A smoother orange with more syrup and better flavor will be produced, and these are features which we should strive to attain. Then vigorous cultivation at the time the fruit is setting will insure a larger crop than if neglected at this critical period. Cultivate often, cultivate deep, cultivate

at the proper time after irrigation. During the winter use your plow. *Besides other beneficial results it clove away in the ground the largest possible amount of water*

PRUNING. I find some orchardists who use the pruning shears sparingly, if at all, claiming that Nature is her own best guide. Nature is blamed for a good many things with which she has little to do. She is like we ought to be, however. She endeavors with all her energy to make the most of the conditions into which ignorance or poor management have forced her. To me it is

needed tonic.

particularly sad to see her often struggling blindly, and no intelligent hand put forth to assist or direct her. By careful breeding a higher grade of stock may be produced. By intelligent ^{care} cultivation multitudes of flowers and fruits have been developed from Nature's crude productions to a state of beauty and succulency.

Pruning must be intelligently done, never cutting without a reason. You must have a knowledge of the natural weaknesses and tendencies of the variety you are pruning, and a well-defined object in your mind as to what you desire to obtain.

Growing lemon trees should be pruned heavily, ~~making~~ ~~xxxx~~ forming a stalky tree, and forcing it to fruit on the inside. Do not prune lemons later than September 1st.

As soon as we learn how to care for and cure lemons their culture will be profitable. We will then have but little trouble with the market. A new York fruit dealer told me that if California lemons were put on the market in proper condition his house alone could shut out foreign lemons from that city. I trust that the steam curing process will prove successful. There is, I believe, a brighter future for the lemon.

PESTS. In most sections of California orchardists must be constantly on the alert to keep from being damaged by pests of one kind or another. These are chiefly the gopher, squirrel, jack rabbit, the red, black and purple scale, the red spider and Fuller's rose beetle. It requires constant vigilance to keep the orchard free from these enemies. The gopher and squirrel do their work

quickly, eating the bark from the roots. Usually if the soil is replaced around the roots, and the tree vigorously cut back and irrigated it will recover.

The red scale not only damages the fruit, but will destroy the trees in a very short time, if permitted to have free course. The black scale, the most common pest, is more of an enemy than many growers seem to regard it, although I am gratified to note the determination manifested to stamp it out. The purple scale is not so common, but is also to be dreaded. Scale not only spoils the fruit so that it is necessary to wash it, but destroys all the finer qualities of the orange, leaving only the coarser and more fibrous parts. Always remember that the most delicate portion of the fruit is the first to succumb. It is upon this that the scale first feed. It is impossible to produce fine fruit and grow scale on the same tree. Oranges with smut on, or having been washed, should not be graded as fancy, however faultless otherwise.

It is imperative the tree should be kept free from scale. Fumigation, if properly done, will destroy at least most of them, without injury either to fruit or tree. My experience with both spraying and fumigation is that the latter is the only process to rely on with any degree of confidence. The hot spray may be used on small trees with reasonable satisfaction. Do not go to sleep thinking that the sun will kill the scale, or in some way it will die out or leave you. They have no such idea. Kill them with

hydrocyanic acid gas. This must be done until their natural enemies are discovered, and they will be, for they exist. The scale was imported, and its enemy left behind. When clean your fruit will find a readier market, bring more money, save washing and afford you a degree of satisfaction that you never can experience in handling dirty stock.

The red spider appears to be a more serious pest than one would at first suppose. It seems to subsist largely upon the rind of the orange, thus preventing its development. ~~I am told~~ *that simply spraying with water with sulphur will kill it. There is an effort now being made to exterminate its natural enemy*
 Fuller's rose beetle is a ravenous feeder on the tender growth of young trees, and should be stamped out wherever manifested, for the damage it can do in a growing orchard is appalling. These may be shaken off into a sheet spread beneath the tree, or into a bucket containing kerosene, or even water.

FERTILIZER. I think it is essential to keep soil enriched. Not too heavily, for then the fruit is liable to be coarse, but by frequent light applications of some kind of fertilizer, for the orange tree is a ravenous feeder. This is one of the annual expenses that seems to be incurred largely through faith, or a vague hope that it is going to do some good; or it may be that you are simply talked into using some "straight goods" by a fertilizer ^{manufacturer} agent. I know but little about fertilizers. Indeed, I regard their use as largely experimental. Too many unknown conditions to contend with, and then one has little knowledge, general-

The various elements that compose the fertilizers
 ly, of just what is being used. On the Santa Isabel Rancho there have been used commercial fertilizer, bone meal, lime cake, wood ashes, sheep fertilizer and barn-yard manure, with what success I am unable to say. I would not recommend the latter, however, only for soil badly run down, or lime cake for other than heavy soil, for it too rapidly dissolves the elements. I do not know as I care to express a preference further, but I would keep doing something. More or less benefit is derived from any kind of fertilizer.

A good many people think there is a sort of magic in fertilizers alone. If they can only find the right kind, they can then produce abundance of fine fruit. Inquiries have often been made of me as to what fertilizers we used on the Santa Isabel Ranch, with the idea of using the same kind. A prominent shipper last winter made this inquiry, stating that he had not seen so heavy a crop in California as on a portion of the ranch. He was interested in a grove, and wanted to use the fertilizer that had proven so satisfactory. As a matter of fact, I do not know as fertilizer really had anything to do with the crop. This particular part of the ranch never had any other than a light dressing of sheep manure. I would not recommend a constant use of this, however. Indeed, I ~~do not know~~ ^{but} ~~that~~ the heavy crop alluded to was really due to other conditions. *Remarks Rare*

IRRIGATION. The question of irrigation is an important one. Water costs money, and it is an expense to care for it. we therefore must put all the water we buy where it is needed, with

as little loss as possible, and with the least amount of labor. Flumes, either cement or wood, should be constructed, or pipe-lines laid, and then practice furrow irrigation. This is certainly better than the block or form method. By it water is carried deeper into the soil, less lost by evaporation, kept from contact with the trees, ground easier prepared, left in better condition for cultivation, and is less expensive. Do not wait till trees need water; give it to them before they get in that condition. Drive the water as far into the ground as possible. Mere surface irrigation is of but little value, besides it encourages the feeders to come too close to the top. I saw trees thus irrigated, when fourteen inches below the surface the ground was as dry as dust in the road.

MARKETING. There was universal complaint the past season among citrus fruit growers and shippers, about the overstocked condition of the orange market. This in some respects was well founded. Some markets will at ~~all~~ times be glutted. This is unavoidable under the present methods of shipping. I can, however, with equal propriety apply to our business the same argument Rufus Choate made with reference to his when asked, whether or not, owing to the overcrowded state of the legal profession, he could recommend a young man to enter it. "There is plenty of room" said he "in the upper story." So I can say that there is room, if not plenty, yet room, in the Eastern market for high grade fruit.

Good fruit, like a first class article of any kind, will always meet with a readier sale than the poorer grade, and generally at a much higher price. As you advance in the quality of your customers, you will be able to increase the price at even a greater ratio. For instance, a box of poor oranges, 150s, might sell in New York for \$1.50 or \$2. This would go to a peddler or a dealer who had indifferent trade, and would retail for fifteen to twenty-five cents per dozen. This trade would not pay more. A box of fancy fruit of the same size, or even larger, which would go upon the table of the rich, would sell from \$2.50 to \$3.50. The expense incurred in marketing each box was the same. Another advantage the fancy fruit would have is in finding a readier sale. Indeed, I do not believe it possible for California to overstock

the market with fancy fruit. I do not mean with oranges that some shippers are pleased to brand as fancy, but really fine, richly flavored ^{fruit} oranges. We have endeavored upon the Santa Isabel Ranch to grow high grade oranges, and in some respects have met with reasonable success. It is not this grade of fruit that we have difficulty in selling. That is sought after. Indeed, we cannot supply the demand for it. It is the poor fruit that bothers us. It is this grade that overstocks the market.

Many of the growers have thus become quite discouraged at the meagre returns from the past season's crop, and some even alarmed for the future. If we were to consider the returns in connection only with the enormous crop, there would be, I grant, room for serious apprehension. However, weighing all the facts and conditions carefully, I see no occasion for alarm. I think on the whole, the crop brought all it was worth, or very nearly so. Indeed, I consider it a marvel that so much poor, unpalatable fruit was consumed by the people of the East. Much of it was light in weight, syrup watery and tasteless, cells broken down, fruit generally of poor keeping quality, and bore other evidences of frost.

Let me quote from a letter ^{received} secured from an Eastern firm which handles ^{large} ~~box~~ quantities of this fruit: "The orange season has been disappointing in general results, largely owing to the excessive amount of green, sour fruit shipped early, and frost-damaged stock later, curtailing the consumption demand. With proper handling and a quality of fruit such as California produces when

not damaged by frost, we claim 15,000 cars and even more, can be marketed with satisfactory results to growers and dealers."

There was doubtless enough good fruit sent forward to keep the buyers from being wholly disgusted. It may be said that the crop was literally forced upon the people by low prices, persistent dealers and peddlers, splendid transportation facilities and the machinery for putting it into every section of the United States and Canada, and the present wholesome tariff law, which practically prohibited the importation of foreign oranges.

A gigantic trade has been built up, provided with all the machinery for manipulating it, and to the men conducting it in all its various branches and avenues we are indebted for forcing into consumption the large season's output. This powerful combination would have crowded almost any article into the hands of the people. A few years ago before all these men and firms and exchanges were in the business, it would have been impossible for California to have marketed 3,000,000 boxes of oranges. A great and valuable work has been inaugurated in getting this machinery in motion, besides, we have destroyed the importing business, and converted the importers into agents for handling our oranges.

Some four years ago I began looking into the orange business, as carefully, perhaps, as a novice would be expected to do, and there was presented to my mind a proposition of a three-fold nature. I may add that my experience and observation since have confirmed the conclusions at which I arrived at that time.

FIRST. The citrus fruit growers of California must grow better fruit; better in every sense: It must not only be the best varieties, but must be cleaner, smoother and more luscious than most fruit then marketed.

SECOND. Better care must be taken of it. It is one thing to grow fine fruit --- quite another to handle it properly. It must be more carefully taken from the trees; not when green and sour, not over-ripe and puffy, but at the time it is in its best form. No picking bag more injurious to the fruit than the Woodward bag should be used. Use springs on all wagons carrying fruit, and when in the packing house it must be more carefully handled, graded higher and greater attention given to uniformity. The packages must be more attractive.

THIRD. After growing better fruit, ^{and} taking better care of it we must then accept less money for it. This seemed inevitable. The increased production and the almost certain unwise competition that would develop among shippers and combinations of growers would pull the price down. One could bank with certainty upon the weakness and the breed of human nature in this regard, which invariably results to the detriment of the grower. This is a factor to be always considered, and will prove quite as potent in lowering prices as the quantity of fruit grown. I therefore reasoned that unless these conditions could be met one was not justified in embarking in the business. I thought I saw ample room, however, for improvement in the first two conditions, and also

believed that oranges could be profitably produced and placed on the market at prices that would insure their consumption. ~~Any orchard in full bearing, and intelligently cared for, will yield a net income of ten per cent on a valuation of \$1,000 per acre, and I may ask what other branch of agriculture will do better?~~ *I believe this can be done & if the orchard is intelligently cared for* ~~Pruning~~ I find growers fumigating, irrigating, cultivating rocky old seedling and Australian Navel trees, only to find disappointment with the returns. It requires fortitude, I know, to destroy dear old landmarks, but I should say either cut such trees down, for there is neither profit nor pleasure in them, or bud to a better variety. The latter may be a little tedious, but it is practicable. In my judgment the sooner this is done the better, for it is certain that this poorer fruit is going to be literally crowded out by the better. The law of the survival of the fittest will apply here as in other realms. As before stated, however, as long as growers persist in putting this poor stock on the market, the good will suffer. Bad company contaminates. I want to plead with growers to give attention to these matters. Indeed, we absolutely cannot afford to be indifferent to them. They are vital. Let us make the business profitable as well as a pleasure. Let us be prompt to act as the highest judgment dictates. *Let me further say*

in closing, that

X
The Divine Hand has been most lavish in bestowing upon Southern California rare, natural advantages, perhaps greater than are enjoyed by any section over which floats the stars and stripes. The magnificent mountain ranges not only form most picturesque scenery and giant bulwarks to guard the fertile valleys, but great natural reservoirs where is stored the water to be carried here and there on the growing fields and the beautiful orchards below as they may need its refreshing influence. X This is no little advantage over sections depending upon the frequent and inconvenient summer rains. Our coasts are washed by the boundless Pacific, which, at accessible points is provided with desirable harbors for commerce. The climate is faultless the year around. X Indeed, in fertility, topography and climate Southern California is quite similar to the promised land of ancient Israel, which made prosperous its millions. * God, in his munificence, has given us these perfect physical blessings, let us as intelligent and faithful stewards, make the valleys fragrant and beautiful with bountiful harvests of the most delightful fruitage known to man.