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The Olive

Its Past, Present and Future

We were informed a few days ago by a nurseryman from Oregon, who had lived in the West for many years, that we were certainly good boosters for California. It is in the air—we cannot help it. No country in the world can show such striking development in agriculture and horticulture, and although thirty years ago the growing of fruit was of comparatively little importance, today it outranks in dollars and cents any other industry. In trying to make this fact universally conceded, but we are recognized as leading every country in the world for everything pertaining to the industry. Our tools and implements for cultivating and pruning; our methods of harvesting and curing; our advanced ideas on the combating, and very successfully too, the ravages of insect pests; and finally our improved transportation facilities, have all contributed to cause us to be regarded as the great commercial fruit growing center of the world.

The building up of the industry is quite extraordinary when the almost insurmountable obstacles which had to be overcome are borne in mind. Transportation facilities were very unsatisfactory, and the rates were excessive, making it difficult to reach the eastern and middle west states with our products and compete with eastern goods. Further than this, we had to overcome pests, which was depthly rooted. Our fruits were held up to ridicule, and even in cases where any fair-minded individual should have admitted that the future was bright for California fruits, no olive branch of peace was ever extended. The New York importers were the most violent in their denouncements; they laughed to scorn any likelihood of California ever becoming a competitor of imported fruits. The spirit of the west rose supreme over all these discouragements, one battle was won after another, and today every important fruit industry of Europe has found its Waterloo in California.

The olive and its products suffered more severely from this unjust criticism than any other industry. False reports were circulated as to the methods of making olive oil, and all who were courageous enough to attempt to make green pickled olives were in despair in trying to make their output compare in color with the imported olives and to secure that peculiar flavor so characteristic of the latter. A glance at the imports of olive oil and pickles—and we want to say that the United States is the greatest importer of pickled olives in the world—is a convincing argument as to what the future holds out to us in this one industry. In 1912 we imported 4,175,657 gallons of green pickles, valued at $260,377.00, and 4,356,215 gallons of olive oil, valued at $6,170,825.00; and we would mention by the way that there has been a constant and steady increase from year to year in the importation, proving beyond a shadow of a doubt that our foreign element from the south of Europe are heavy consumers of olive products, and that the American people are swinging into line, as consumers first of all, of pickled olives, and particularly ripe fruit, for which California is already famous. The medicinal qualities of olive oil are becoming generally recognized, as is also its value for culinary and table purposes.

Our output is only a drop in the bucket. We are only in swaddling clothes when it comes to production, but we are in the front rank in the quality of both oil and pickles. The name "California" attached to a package of olive oil or pickles means that it is the very best to be had, and the men and the firms they represented, who ridiculed the idea that California would ever enter the field as an active competitor with Europe in either of these products, are among our heaviest purchasers. The details of the many failures are only too familiar to us, and it is useless to dwell on them here. We are done with the past, the future is before us, and we triumphantly march forward, unfurl our banner of success, toss our hats into the ring, and are ready to offer our olive products in competition with the world.

Although the states to the southwest of us, as well as certain sections of Mexico, may enter the lists, the name of "California" in olive oil and pickles is a brand of quality. To begin with, olive trees were planted in poor, rocky soils, and most of the original orchards were started in the coast counties, as it was deemed necessary to protect them from the cool, moisture laden breezes of the ocean to grow first class olives. Fortunately for California, outside of a few scale pests the olive is free from disease. The possibility of importing any new disease is very problematic because in the importations of olives made 30 years ago all the leading varieties of Europe of recognized commercial value were distributed, and the business is established on a firm commercial trail. History is repeating itself, and out of the hundred or more varieties introduced, some are recognized as having genuine international possibilities.

For Olives

SOILS FOR THE OLIVE.

It is quite possible to grow olive trees on poor rocky soils, but the growth is slight and the production is limited, so that it is a waste of time with the thousands of acres of fine land available for cultivation in California, to select locations which will not contribute the best returns for the money labor, and time expended in bringing the orchard into bearing. We are firmly of the opinion that many of the sections of the San Joaquin and Sacramento and San Joaquin valleys which are not irrigable will eventually, considering their remarkable fertility, become paradises through the culture of certain products which have adapted themselves to similar locations and climatic conditions, both in Europe, Africa and Asia.

One of the most remarkable of the dry lands cultures has been graphically described in Bulletin No. 125, by Mr. Thomas H. Kearney, pathologist in charge of alkali and drought resistant plant breeding investigations, in a bulletin entitled "Dry Land Olive Culture in Northern Africa." This immense plantation, comprising 475,000 acres and containing over 5,000,000 trees, is located around the city of Sfax, about 200 miles south of Tunis. This was the acreage devoted to olives at that time, and it undoubtedly has increased very rapidly, because the French government has been furnishing for a number of years a fixed annual bounty to all olive growers, so that the advancement in this industry has been very marked, indeed. According
ROEDING'S PRACTICAL HORTICULTURE

A one year old olive tree with winter seasonal growth. This tree should be kept. Note the amount of growth that has been cut off and also the fact that all the branches where there was one branch last year there are now two or three branches. This will lead to a number of cuts being made on all the other roots. After this is done they should be pruned. When the tree is planted it should stand at least a couple of inches deeper than in the nursery rows. Allow the tree to grow without much interference the first year, for the more vigorous the new growth and the more of it, the stronger will be the root development. The first winter after planting trim all the growth off except 4 or 5 branches close to the head and have these properly distributed, as they will ultimately form the main frame work branches. Cut off two-thirds of their growth. The second winter trim the tree in such a manner as to leave from one to two lateral, to original, tree, branches, bearing in mind that these branches should have upward tendency, and cut them in turn back at least one-half. In subsequent years this same method of thinning out and shortening in should be followed, and this cutting should be quite severe for at least five years. This will promote sturdiness in the tree and a vitality such as is not found on any branches, and is caused by all the growth, many small lateral fruit bearing branches, and naturally fruit than an unpruned tree, the growth of which, if not checked, would consist of several straight, upright shoots with all the fruit bearing branches in the top. In case of a broken or lacerated branch, which would have been developed by pruning, would bend over and in many instances break off. After a number of years the small branches in the small leaves cause many so-called "crown-nests" to form in the trees, and the new growth is very weak. It will be at least 15 years before the tree will reach its full capacity, but when ous there should be no hesitancy in cutting them back severely and thinning from the tree, further promote a strong, quick growth. Even before this age the trees will have a large amount of inside growth, which, when it is not longer productive, should be cut out entirely. This does not mean that the branches of the tree should be trimmed out in one season, for this would be a mistake, but that wood which indicates by its appearance that it has lost its vitality should be removed, and this will soon be replaced by new wood.

CULTIVATION AND FERTILIZING

It is the same old story—if you want results you must provide the best conditions you can. We are therefore not satisfied that the closer attention you give to the cultivation, irrigation and fertilizing of your grove, the greater will be the results. You are not in proportion to the thought you give in maintaining it to its potentiality. As to the plowing and cultivating, no fixed rule can be laid down, except that thorough work in this direction is important. Under average conditions and proper attention to the stirring of the soil, three irrigations would be ample for a grove in the San Joaquin valley. There are two periods which are important: the first irrigation should take place in April just before the olive blossoms, and this usually occurs in the latter part of April or the early part of May; if the rainfall has been ample and the soil is well charged with moisture this irrigation may be dispensed with. The second irrigation should be given in the middle of the summer, and the third in September. This last irrigation should never be considerate, for the difference in price between third grade olives and strictly fancy is increased by the use of water at this time. Olives to mature properly require a good rain in early October, and when trees are poorly watered the influence of the rain from above and the aerial root system of the tree begins to play its part. The roots, the olives run into the larger sizes; they are full of oil, and consequently the grover and the packer are both happy. It is useless to fool your- self by going on year after year to harvest crops of olives no matter how rich your soil may be, without making some return to the land for the constant drain you are subjecting it to. We do not propose to give a dissertation on fertilizing in discussing this subject, simply because information as to be had on every hand, and the grower must regulate his expenditures by the condition of his pocketbook. Just bear one point in mind: that none of us can live on air and water, and your trees are no exception to the rule. Feed them and they will feed you. Do not go on applying fertilizers one year after another year after you have once given up the habit without putting in a cover crop occasionally to add to the humus of the soil. The fertility of the soil must be maintained at all hazards, and this is the simplest and cheapest way to do it.

HARVESTING

This is one of those fixed expenses which is never lost sight of and cuts the most important part in the cash receipts of the grover.
children to do a man's work would be severely condemned, and generally regarded. Why is it that demands impossibilities from his trees in relatively such a short time?  

**DO OLIVES PAY?**

At five years old an olive will produce 1000 pounds of fruit to the acre; at seven years 2000 pounds, and at ten years 4000 pounds and over. In the subsequent years there will be more or less variation from this quantity, depending on weather conditions when the trees are in bloom. It is the common opinion that olives do not come into bearing every other year—that is, that a very small percentage of them is often succeeded by light crop. There is some truth in this, but it does not always work out in a commercial experience. An Italian proverb says when olives bloom late the crop is light, and we notice that this is invariably the case. However, olives bloom entirely too—very rarely being in full bloom before the middle of May—to be damaged by frost, and in years of heavy bloom, paid for by olive leaves, are several causes responsible for this condition. One is rain while the trees are in the height of bloom, another strong wind; but according to our observations these which trees which pruned in which the young bearing pruning, the young bearing wood, packing in vitality, is responsible for the lack of fruitfulness in many cases.  

**CROSS POLLINATION.**

Cross pollination is said to cut an important factor in this situation. It is an extremely interesting matter and one that can only be determined by years of careful scientific research. It is easy for a layman to advance conclusions in this matter, but unless backed up by scientific deductions, such statements are not worth the paper they are written on.

In our own orchards we have Nevadillo Blanco and Mission among the oldest blocks of trees; we have Penfultia, Rubra, Obliza, Atrofino, and at a very early age, of these varieties adjoining rows of Sevillano, Ascolano and Manzanillo, and although these oil types would be loaded with fruit, no difference was noticed between the bearing of the pickling olives immediately adjoining those rows and those farther in. We do not insist there is nothing in cross pollination, for we believe there is, we think it does create facts to present in proof of the supposition.

**BEARING AGE.**

The olives are considered to be bearing until five years old. Allow them to grow in a haphazard fashion, and the trees will bear much earlier than this.

What is the result? The vigor of the tree increases as the crop when every effort should have been made to build it up and cause it to respond by producing bountiful crops of fruit when it had reached the bearing age. A man who would attempt to force a

**DEMAND OFTEN OUTRACES THE SUPPLY.**

You must be educated to eat a green-picked olive. Not all the olive crop, at least judging from the demands that have increased by leaps and bounds—the Americanles, who have taken to olives like a duck to water. So much is the case, that excessive prices have been paid in many cases for the raw product, prices will sell at $125.00 per ton, and the exceptionally large olives, the Ascolano and the Manzanillo, are selling for $145.00 per ton. A ton of olives makes 300 gallons of oil. Oil olives, will vary in all varieties whether they are olive or pickling sorts, which are not @ meanable for pickling only from $45.00 to $65.00 per ton. One ton of oil olives produces from 35 to 40 gallons of oil. The age of an olive tree is an indeterminable quality, except that the trees may live many years without ceasing, even when there are no olives on them, they will live, but we are not sure that they will live in California, their existence will be measured in centuries.  

**VARIETIES.**

When it comes to deciding what varieties of olives to plant, there are two sharply defined lines, with the olive on one side and the pickling olive on the other. When the interest in olive culture first manifested itself in this country, a very loud battle was fought in which branch of the industry would be most profitable, and now it has been determined by the market that those olives were planted just as extensively as pickling sorts.

The olive has changed somewhat, and the planting has been confined to a very few varieties, all of which are cultivated for the purpose of being made into olive oil. It is safe to assume that the olive tree has not yet reached its best form and is capable of showing further improvement to make it more suitable for olive oil. The olive tree is a very hardy tree and will thrive in almost any climate. It is a tree that can be grown in almost any part of the United States and will bear fruit well in almost any climate.

**THE MANZANILLO.**

This is the olive so extensively used for making olive oil. Its season of ripening is fully two weeks earlier than the Mission. The olives average large in size and are almost round. The flesh is considerably softer than that of the Mission. When ripe the olives, if the pickling should be delayed too long, will break down while being processed. This olive is well adapted to green pickles, and although it makes a highly flavored ripe olive, it lacks the aromatic flavor which has made the Mission so popular.

**THE MISSION.**

The Spanish prunes were great lovers of fruit, and the fact that even today their introductions in every line should be still recognized as standards remind us that they were peculiarly gifted in this respect. All arguments to the contrary, the Mission stands in the same relation to other olives as the Washington Navel to other oranges grown in California. The habit of the tree is exceptionally good, and it is so easily trained by average good judgment in the use of pruning shears that it makes a most striking tree. The olives are oval in shape, very firm, and are never troubled with decay or disease. The fruit ripens to a very decided gradation in this respect.

The two olives which have practically been the standards for planting have been the Manzanillo and the Mission. For a number of years and up to this season the Mission has always had the preference, and it was on our absolute refusal to sell the Mission olives trees that were consisting on our customers taking part of their orders in Manzanillo that we succeeded in selling the latter variety. This year there has been a reversal of conditions—every olive grower insists in practicality for Manzanillo. There can be only one reason for this change as far as we have investigated it, and that is that the Mission olives were slow in ripening in many districts this season and were damaged by lightning. The delay in ripening of the Mission olives last late November, while the Manzanillos were practically all harvested before this frost occurred.

**THE ASCOLANO.**

The Ascolano is regarded very highly and is a superior pickling olive, but it is not our opinion that it is a class of olives to be grown in the United States. The trees are not hardy, and they do not grow well in the cold climate. The tree itself is not hardy, and it will not survive the winter weather. The olive grows quite large and is a very heavy bearer. When picked the olive is of an excellent flavor.

**TREES OF KNOWN VALUE ARE NONE TOO GOOD TO PLANT ON YOUR VALUABLE LAND—ROEDINGS ARE KNOWN.**

This tree was severely cut back three years ago. See the density of its growth now. A beautiful specimen and capable of carrying a tremendous load of fruit and with everything in its favor to do so on account of its large bearing surface.
olives are graded and sorted, being reasonably careful to get the olives that are to be cut off a uniform size. Figure on the basis of 250 pounds of olives to the barrel, which will take 20 gallons of water to cover them, in which 4 pounds of lye should be dissolved before pouring it over the olives. It takes from 12 to 18 hours to cut the olives the desired depth—about one-third through. The rapidity of the fruit depends on the condition of the olives. Stir the olives thoroughly every half hour while processing, to keep them cut evenly and to retain a uniform color.

The best implement for stirring is a shovel made the same shape as an ordinary shovel, except that full blade and handle are all of wood. After the olives are cut to the desired depth wash them in fresh water each day for about 5 days, or until all lye has disappeared. Then commence the use of salt or brine, using a 10 degree brine, changing same every forty-eight hours, for 8 days. The olives will not shrink after they have taken a little salt. Fill barrels of olives, head up in 20-degrees or 10-ounce brine to finish curing, and roll the barrels, hung up, into the open. In case of warm weather when the olives are placed in a barrel it is advisable to keep them in a covered shed for a couple of weeks to retard fermenta-

How to make our green olives when turned out as a finished product compare favorably with the imported goods was the desideratum we all aspired to thirteen years ago. Information from Spain and Algeria, the two points from which practically all our green olives came, was so misleading that men who were experienced in this class of work knew that if the instructions given were followed the olives would be ruined.

In order to make green olives similar in appearance and flavor to the imported olive, the process extends over a period of six months. Briefly, the process is as follows: First the

HOW TO MAKE OLIVE OIL

When the olives are received at the packing house they are run through a fanning mill or an aspirator to remove all dirt or leaves. Even when left, do not seem to impair the quality of the oil. The olives are next crushed between heavy corrugated iron rollers, operated by steam power. In crushing, the pits as well as the pulp of the olives are reduced. It has been found impractical to do otherwise, and the statement that has been made that an inferior article is produced when the pits are crushed is a fallacy, just as much so as that the virgin oil is the best.

This is good trade talk, but is never carried out in actual good practice. The oil that is light and the resultant product is practically all water, very little oil. Before making the second pressing the pomace is again crushed and is then placed in a large press which extracts a pressure of about 200 pounds to the square inch. This is followed by another crushing and pressing, the pomace having been previously steamed so as to cause it to more readily release its oil. By continuous crushing the pomace in the press again, however, it is pressed up by the rollers. The oil and water from the presses are run into settling tanks. Here the oil

THERE IS A WONDERFUL FUTURE FOR THE OLIVE INDUSTRY IN CALIFORNIA.