

AVOCADO STANDARDIZATION

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Delivered before Avocado Department, San Diego County Farm Bureau, at Escondido, December 11, 1939

The question of higher standards for avocados comes up every few years. The subject is not one that can be discussed briefly, because there are many factors to be considered.

Calavo Growers of California favors adequate standards for avocados, and always has. This is demonstrated by our activities over a period of sixteen years. In 1923 I was personally privileged to start work on standardization, before we even had a standardization law. At that time avocado growers picked when they pleased and what they pleased, or when they found prices attractive. Windfalls were sold, and no one in the industry could identify the major varieties in the immature stage at which they were sold. Spinks, Dickinsons and Tafts, for example, were sold when only a quarter or half grown. The fruit would soften, after a fashion, and was consumed. There were meetings of the commission men and growers, and some of the battles over standardization were more bitter than any that have occurred since.

We succeeded, in spite of the opposition, in getting a law on the books in 1925. This law has been amended from time to time since then, and organizations like Calavo Growers, the Farm Bureau, the L.A. Chamber of Commerce and others, have worked out the changes and helped get them put into effect. All of these changes have been made in order to strengthen the law.

BASIS FOR STANDARDIZATION LAW IS CONSUMER PROTECTION

The basis for the present standardization law is the protection of consumers against fraud and deception. That means protecting the consumer against the purchase of something that is not what it appears to be on the outside—oranges without juice, walnuts without kernels, or avocados that are frozen or have no flavor because of lack of oil content.

It is presumed that growers are not so much interested in the altruistic spirit of the law as they are in the fact that protection of the consumer has its effect on grower returns. If a consumer is satisfied with the product, the grower will, in the long run, get more for it. I concur in that belief. Therefore, if it is consumer satisfaction that we are thinking of, we should try to determine what makes for consumer satisfaction in avocados. There are a

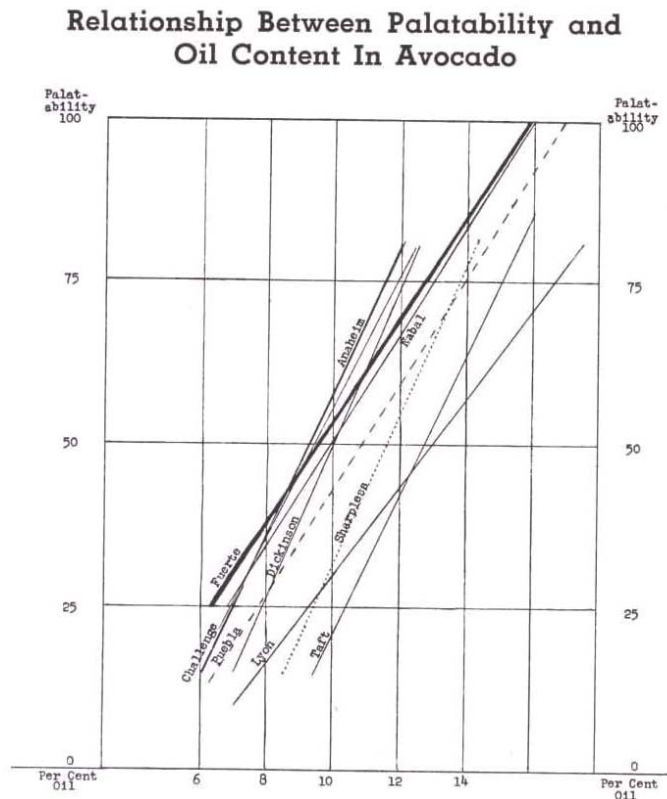
number of things besides palatability.

"KEEPING QUALITY" IMPORTANT FOR CONSUMER SATISFACTION

Keeping quality is the Number-One item in building consumer satisfaction. No matter how perfect the fruit is when it is picked, it must be in good condition when the consumer buys it and uses it, whether in Los Angeles, Denver, Chicago or New York. Unfortunately, keeping quality and maturity -do not run hand in hand—often they work in opposite directions. The more mature an avocado is, the less likely it is to keep well. Over mature fruits may have sprouted seeds, or the flesh may taste rancid. The longer the fruits are on the trees, the more susceptible they are to diseases and pathological breakdown. These defects do more to damage consumer satisfaction than does lack of oil content.

Here are other factors in consumer satisfaction:

- The size of the fruit;
- The size of the seed;
- Appearance—inside and out;
- Price.



This chart summarizes the results of hundreds of tests conducted over many years—to determine the palatability of individual varieties of avocados at given maturities (oil content).

The horizontal lines are the palatability scale, with "tops" of 100 on down to zero. The vertical lines represent the percent of oil content. (No consideration is given here to appearance, keeping quality, or any factor other than palatability.)

Testing was done by a group of experienced individuals at the Calavo General Offices and Packinghouse at Los Angeles, who are familiar with avocados—and hence are perhaps supercritical. None of

the tasters knew the source of the fruit, the variety, the oil content, or the opinions of other tasters. Each taster gave his opinion of the palatability/ in terms corresponding to the vertical scale. The opinions of all tasters were then averaged for that particular fruit/

and a dot placed upon a chart at the corresponding oil content-palatability point. For example, a Fuerte testing 8% oil might have an average palatability rating of 35, and another at 12% oil, an average of 70; a 10% Nabal might be rated 53, and one at 14% oil, rated 80—and so on.

For simplification- the chart omits individual test ratings and gives the general trend for the varieties shown. The detailed analysis of the chart data is given in the accompanying material.

PALATABILITY IN RELATION TO OIL CONTENT

For over thirteen years Calavo Growers has been carrying on scientific methodical tests to determine the relationship between oil content and the palatability of the major varieties. This is done by softening a sample fruit, cutting it up into small cubes, and passing the samples around to a number of people who individually sample the fruit – without knowing what the variety, or oil content, or source of the fruit may be, or what the opinion of the other tasters has been. Each taster gives his opinion in terms of numbers, or a percentage of the theoretical "tops" of 100. These tests are "blind".

Calavo has made thousands of these tests. The oil content for each sample is determined by the refractometer method. The oil content is then correlated with the reaction of the "average taster". For example, if a Fuerte tests 8% oil content and the average taster gives it a rating of 40, we then put a dot on the chart showing that that is the average reduction on Fuertes at that level of oil content. If we test another at 15% oil content and if the average reaction is 100 on palatability, we place a dot at that point.

The palatability ratings reflected on the chart are based on the reactions of super-critical tasters who, like the growers, are familiar with the fruit and expect more of it than would the average consumer. It is, therefore, reasonable to suppose that the oil content necessary to afford a given percentage of maximum palatability is much higher than would be the case if these tests had been made on casual consumers, less familiar with and less critical of avocados.

With the numerous tests that are carried on over a period of years, we are able to show the general trend of the relationship between palatability and oil content for the individual varieties.

For the sake of comparison, let us consider the Fuerte and the Anaheim. The Fuerte at 8% has received a higher palatability rating than any other variety at that figure, despite the fact that the maximum oil content of the Fuerte is among the highest—somewhere around 24% or better. On the other hand, the maximum oil content for the Anaheim is probably somewhere near 12%. It should be noted that such varieties as Taft and Lyon had to have an oil content of 10% to 12% in order to be considered as good eating as a Fuerte was at 8%. This would seem to indicate definitely that consumer satisfaction, or palatability, cannot be measured by taking a percent of maximum oil content—so well as it can be measured by using a flat figure of 8%, 9%, or whatever figure may be decided upon. But certainly there is no justification for saying that if a Fuerte has a 24% maximum oil content, it should not be sold unless it has a minimum of 12% and that Anaheims, with a maximum of perhaps 12%, should be sold at 6%. Under such

conditions you would be penalizing the Fuerte and allowing grossly immature Anaheims to be put on the market.

The original purpose of the oil content-palatability chart and the studies which we have made and are continuing to make is, among other things, to determine what the oil content should be for our "CALAVO" grade. Naturally, we feel that our highest grade should give better consumer satisfaction than the minimum standard allowed by the state law. So we have put an oil requirement for such varieties as Fuertes at 12% to 14%, for the Calavo-List. This means that Fuertes must have a palatability rating of between 50 and 75 on the chart.

STANDARDIZATION ENFORCEMENT PROBLEMS

We can all agree that a reasonably good or fair law that is enforceable and is enforced is far more valuable to the industry than a theoretically perfect law that is unenforceable. There would be difficulty in enforcing a law with different standards for different varieties—except perhaps in counties where avocados are generally grown and known, such as Los Angeles, Orange, San Diego, Ventura and Santa Barbara.

In the markets where the fruit is sold but is not so well known, the inspectors would have more difficulty in enforcing a law that was complicated by a number of standards for different varieties. The inspectors have many things to work on, besides avocados. The simpler the law, the more easily it can be enforced. Generally speaking, the standardization inspectors do an excellent and intelligent job, and probably put more effort on preventing the shipment and sale of immature avocados (considering the size of the industry) than they do on the products of other industries.

Merely having a law does not mean that an inspector can prevent someone from selling fruit. You have to depend upon the other officials to make enforcement effective. When a man is arrested for selling immature avocados, if he is a large shipper he takes the case to court, asks for a jury trial and, if the law is not sound—based on reason, fairness, and lack of discrimination; if the law is in any way capricious or over-technical; if it does not actually protect the consumer—chances are it will not be enforced. The jury will simply refuse to convict the man.

In San Diego County last year, cases were taken to court. The people arrested went free and continued to ship questionable fruit. Since then the law has been amended through the activities of Calavo Growers, the Farm Bureau, and other organizations. There are more teeth in the law now. The Director of Agriculture can enjoin a shipper, to keep him from shipping fruit that is not up to standard. The Director can bring suit to fine the shipper for the value of the shipment involved in violation. Any shipment in violation of the standardization law may be declared a "public nuisance", and movement or disposition may be prevented until the shipment has been reconditioned so as to comply with the law.

The new provisions of the law have not been tested, so far as we know, as to avocados. This year the sale of Fuertes was held back until most of them were past the 8% mark. Practically all of them have passed standardization requirements, and there have been very few condemnations. No one has been taken to court, so far as we know.

UNIFORM VERSUS VARIABLE MATURITY STANDARDS

Assume a variable standardization for avocados, based on 50% of maximum oil content. This would mean about 127 for Fuertes, and about 67 for Anaheims. It is clear from the data on the chart that this arrangement would not give greater consumer satisfaction than does the present law, by any means. It would mean that Tafts could be sold, say, at about 97 or 10%. A Taft at 10% gets a palatability rating of only 20, as compared with the Fuerte rating of 55 at the same oil content.

The results of these many tests show that a 12% Fuerte would have some 70% of top palatability rating, and a 6% Anaheim only about 15% palatability rating. The evidence of these palatability tests shows definitely that 50% of maximum oil content of the different varieties is not a reliable guide as to consumer satisfaction.

It has been suggested that Fuertes (and perhaps some other varieties) have a 127 standard, and the rest an 8% standard. Which are the higher oil content varieties—what is the maximum oil content for the different varieties—does anyone know? What will we do with the new varieties as they come along? If we change the standard for some, aren't we going to have to change it for all, to avoid the charge of discrimination?

If we change it for all, aren't we also going to have to change the standard for the West Indian type of fruit, which is always clamoring for admission to California, from Cuba, Florida and Hawaii? They have a lot of cheaply raised fruit in Hawaii, without a market. They would like to ship it to California. Last year they had the quarantine law changed, so that avocados could be admitted to California after the fruit had been treated. They didn't ship much into this state because the fruit did not arrive in good condition and the price levels were such that there was no object in shipping here. That won't obtain always, however. This summer we will have very little fruit and probably high prices; and the treatment may be improved to allow better arrival condition.

Much of the Hawaiian fruit is of the West Indian type, with low oil content. If you once admit the basic soundness of a variable oil content standardization, by raising it for Fuertes, aren't you open to lowering it for low oil content fruit—a 3% standardization on 6% maximum oil content fruit, for example?

Once this situation starts with one variety, where will we stop? Every grower could bring in his pet variety and demand that a standardization requirement be fixed for it.

If we favor a uniform standard for all varieties and the present one is too low, how high should it be—9%, 10%, 12%, or what? We must realize that there are some varieties grown here that do not go much above 8%—the Anaheim and Challenge, for example. I am reminded of the Hart Russet, which at one time was considered a satisfactory avocado. When the 8% standardization law went into effect, the Hart Russet passed from the picture because it was a low oil content fruit.

The higher the standard is raised, the more fruit will be lost. Sooner or later some grower or shipper is going to attack such a law on the basis of its being confiscatory and unreasonable. When fruit testing 8% or 10% is brought into court, properly softened, is of good appearance, and is sampled by the judge and jury—it may be that they will decide such a law is unreasonable.

THE PURPOSE OF THE STANDARDIZATION LAW

Fundamentally, the standardization law is a **minimum law** to keep the so-called "junk" off the market and to protect the consumer against grossly immature fruit. The standardization law is not intended to fix the grades above the legal minimum.

Laws are inelastic. Once they are on the books, they cannot be changed to fit marketing or cultural conditions. If the minimum legal standard is set too high, the time will undoubtedly come when the industry as a whole will find that it would like to have the law changed—only to find it is too late to get it changed quickly, and fruit that might otherwise be salable would have to be condemned.

The minimum law is certainly not a maximum law. Any grower or packer can grade his fruit as high as he pleases. The one thing he cannot do is sell fruit below the legal standard. Most of the avocados today are being packed and sold under various brand names. It is a simple matter to raise individual standards and endeavor to secure a premium for the higher grade fruit. It is preferable to correct the grading standards voluntarily, rather than attempt to regulate them by law.

PICKING AND GRADING PROBLEMS UNDER ANY MATURITY STANDARD

In order to be reasonably safe in picking and packing fruit that is not below 8%, you must aim at 10% or 12%. When you are standing at the bottom of a 30-foot tree, trying to pick avocados 12 or 15 feet above your head, it is difficult to tell the difference between a 7½% and a 9% fruit. To be reasonably safe from condemnation, you look for the biggest and most mature-looking fruit, probably testing 12%. Even then there is plenty of danger of getting below 8%.

The same is true on the grading table. To be safe, the graders have to try not to pass any fruit that is less than 10%. Even then there are some mistakes.

The higher the oil content, the more difficult it is to determine which fruit is the more mature. In other words, it is easier to distinguish an 8% from a 10% fruit, than a 12% from a 15% fruit. If we had a minimum standard of 12%, we would have to aim at picking and grading fruit that ran 15% to 20%, or we would definitely be in danger of arrest for packing fruit illegally below 12%.

EFFECT OF STANDARDIZATION ON CONSUMER PROTECTION AND GROWER RETURNS

The higher the standard, the longer the fruit has to remain on the tree in order to reach it. If the minimum standard were 12% and it was necessary to pick 15% to 20% fruit to be safe, chances are we would not get into commercial shipments until after January 1. Usually the season starts in October or November. With a higher oil content the shipping period would be reduced some 30% to 50%. The peak load would be much heavier; the fruit would have to move in fewer months, and prices would be lower because, other things being equal, prices depend upon supply and demand. Shortening

the shipping season would adversely affect grower returns the more in seasons like 1938-39. Average returns are better, generally speaking, during longer marketing periods, as they provide greater opportunity to adjust large supplies to demand.

Summer varieties are tending to automatically hold back the picking of early Fuertes. This past season, for example, Itzamnas and Dickinsons were in such great supply during September that there was no particular urge to pick Fuertes until well into November. That situation will probably not maintain this coming season, because we will probably have a small supply of summer varieties in 1940; but we will have big crops of all varieties in the future. Santa Barbara and Ventura Counties are planting heavily to summer fruit. As these increase they will tend to hold back Fuerte picking. There will be no good reason for putting Fuertes on the market until the summer varieties are out of the way.

This season the fruit was held back later than usual, because of the heavy supply of summer fruit; there have been very few condemnations; maturity was well above what it usually is at the start of the season, running from 10% to 12% and up, instead of 8% to 9%—and yet we had one of the most serious price collapses ever. This would indicate that there are other marketing factors besides maturity, affecting price.

If maturity is the sole factor in pricing, why is it that Fuertes have been selling for some 50% more than Pueblas, when every one knows that Pueblas are more mature and more palatable than Fuertes at this time of the year?

Consumer satisfaction is hurt more by decayed or damaged fruits than it is by lack of high oil content.

INVESTIGATION AND STUDY SHOULD PRECEDE STANDARDIZATION CHANGES

The standardization of avocados is complicated by many related problems. They all deserve thorough investigation and analysis before any conclusions are reached. Changes in the law have been made from time to time, and will undoubtedly be desirable in the future; but the latest amendments have not yet been tested by court action. Perhaps they are sufficient for adequate standardization.