

REPORT OF THE COMMITTEE ON REGISTRATION AND CLASSIFICATION OF VARIETIES.

May 13, 1922.

We are glad to have new varieties to mention from year to year, particularly when they give promise of commercial value. There is always the possibility of the discovery among them of something even better for commercial purposes than the superior kinds we already have. None of us will deny that these in themselves are a sufficient foundation for our industry to become a great one, but none of us will deny that the ideal commercial avocado for California conditions is still to be found. None, also, will deny the great value and important place in our industry of those which have been or may still be imported from abroad. What has been done by individuals and by the government in this respect has given us some of our best kinds and assisted in giving us a foundation on which to build towards our ideal fruit. But in view of the hardness we seek, it seems more and more probable that such a fruit is most likely to be obtained in a cross between the Guatemalan and Mexican types in a California-grown seedling.

Natural crosses of the kind have occurred and will occur, and a few growers are doing some intentional hybridizing. It would be very desirable for the future of our industry if the State or National Government would undertake this work on strictly scientific lines.

A natural enthusiasm over his product exists in a grower who produces a new and good fruit, and a very common desire is to urge its immediate use by the industry. He needs frequently to be reminded that this is unreasonable and that a combination of many different values is needed in an avocado qualified to take a place as a leader in the market, and that it takes years to find if they are present. No fruit when first produced, however good it may be in itself, can be known to possess them in proper proportion. Hardiness against cold and wind, ease of propagation, strength and healthful growth of young trees in nursery and orchard, season of maturity of the fruit, length of time from bloom to maturity, beauty of appearance, inside and out, size of fruit and of seed, keeping and shipping qualities, besides quality and flavor, must be considered; and, as the basis of all else, whether the tree is precocious and productive. However good the fruit may be, a tree is of little worth that does not yield a good crop. Also, our knowledge is not complete until we know the young budded trees are exempt from the weakness in the bud's union that caused the discarding of the fine Colorado variety, and others. To acquire all this knowledge takes much time, even five years is not too much, and several should be given to results with budded trees.

During the past season the committee has, as usual, examined trees and tested fruits of old and new varieties. We report on the following kinds:

The *Victory*, grown at Sherman by Mrs. L. M. Chaffey. Samples of the fruit were submitted to the committee, as well as to the Board of Directors, at an October meeting. We give the record from one fruit: Weight, 18 ounces; seed, 3 ounces; shape, round;

skin, light green, turning brown in places as it ripens, similar to the West Indian type, 1/16 inch thick, smooth and granular; flesh yellow, shading to light green; quality good; flavor good. Flesh does not discolor for days after cutting. Tree 17 years old, vigorous, bearing 200 fruits in 1920, 350 in 1921.

Chidester Seedling No. 1. Two samples were picked October 15th and sampled ten days later. Weight of one sample 13 ½ ounces and of the seed 2 ¼ ounces, and of the other 12 ounces, seed 3 ½ ounces; skin smooth, glossy black, leathery, 1/16 inch thick; shape, pyriform; flesh smooth, bright cream yellow. No fiber, and flavor good.

The Clower. The tree was furnished by Mr. Glower to Mr. Shedden and grown by Mr. Shedden at Monrovia. It has fruited for several years and produces fruit of good quality and mild and agreeable flavor.

The Ward. Grown at Sierra Madre by Irving N. Ward. Tree nine years old and has borne fruit since its fourth year. Crop in 1920 three fruit, in 1921 two hundred. Trees budded from it three years ago were easy to bud, are vigorous and were all in bearing in 1921, averaging twelve fruit each. Weight of the fruit, 12 to 16 ounces. An analysis showed oil content 24.98. Flavor good but some samples showed some bitterness and a rather neutral flavor. This is an early Spring fruit, beginning to ripen in February, and showed reasonable hardiness last Winter. A sample received January 12th weighed 12 ounces, seed 2 ounces. Another on February 11 showed, shape pyriform with neck one-sided. Skin only 1/32 inch thick, of a dark red or purple to black color; flesh cream yellow to pronounced green; quality smooth and flavor good.

The Dutton. A large, tall, reasonably hardy tree, ripening a large part of its crop during the early Spring, with fruit approximately a pound in weight. On account of a change in the ownership of the tree, it has been difficult to obtain samples of the fruit in good condition. Those obtained showed watery, poor flavor and discolored flesh, and were not in accord with the reputation of the fruit. At last, in April, we received one that does, which we are glad to report. Weight 14 ½ ounces, seed 2 ½ ounces; tight in the cavity; shape pyriform, very slightly necked; skin dark maroon with many warts of a lighter color, 1/24 inch thick; color of flesh cream to light green, a trace of fiber, quality smooth, flavor very rich. Keeping and shipping qualities good.

The Thompson, grown at Montebello by Miss Jessie Thompson. Some seeds sent from Atlixco, Mexico, were taken from a tree known to bear the smallest seeds, compared with the size of the fruit, of any tree at Atlixco. Eighteen seeds grew and produced trees ROW ten years of age, of which this tree is one, and produced last season 44 fruit; one other tree bore one. The remaining trees are not in bearing. The Thompson fruit justifies its parentage and is notable for its exceedingly small seed. The tree is growing in a cold location, suffered injury, and was not as hardy as a Fuerte near it. We give a test of a fruit sent us after the freeze on February 6th. Evidently not a normal fruit. Shape pyriform; weight 16½ ounces, seed 1¾ ounces, tight in the cavity; skin red-purple, 1/12 inch thick; flesh light yellow to light green, some red fiber showing, quality good, flavor watery. The ripening season is stated to be February 1st to April 1st.

The Prince. The tree is growing in Hollywood on the place of E. W. Dickey. It is described as ripening its fruit in October, November and December, averaging 25 ounces in weight, seed 2 ounces; no fiber; good shipper; best in flavor. Many hundred

small samples of this variety were given out to the public at our October display in Exposition Park, and ample opportunity given to judge of its fine flavor and see the fine-looking fruit. A sample sent to the committee was tested on November 2nd. Shape pyriform; weight 21 ounces, seed 2 ½ ounces, tight in the cavity; skin dark green with brown spots, causing it to look dark, granular, 1/16 inch thick, a trace of fiber showing dark color; quality smooth, flavor good; keeping quality good.

A few buds taken from the parent trees and top-worked last Summer from the *Dorothea* and *Billingsley* proved hardy in the recent freeze. Both varieties have much merit. The location of the *Dorothea* is in a frost-free place at Hollywood. With previous records of regular crops, both the *Dorothea* and *Billingsley* had a small crop in 1921, due no doubt to the heavy crop of the previous year. We reproduce for your information the 1920 tests:

The *Dorothea*, grown by A. W. Miller, Hollywood, from a seed of the well-known Miller tree and believed to be a cross from one of the Mexican race. The tree is vigorous and productive. Crop, 1918, 16 fruit; 1919, 30; 1920, 250. It blooms April and May, ripens mainly in December and January. Three samples, picked and tested in January, weighed 12 ounces, 8¼ ounces and 8 ounces; the seed, respectively, 1 ounce, 1 ounce, 1¼ ounces; color light green with many yellow spots; skin leathery; flesh clear, attractive yellow, of good texture, no fiber and excellent flavor.

The *Billingsley*. A large tree on the property of Ray Billingsley, Villa Park, Orange County. A Spring fruit, weighing 10 to 16 ounces. Weight of three fruit samples 10½, 13 and 16 ounces; weight of seed 1⅝, 1¾ and 1¾ ounces; fruit pear shape to oval; color light, yellowish green, turning partially brown; flesh clear, bright yellow, with merely a trace of fiber, quality excellent, with a good, rich and agreeably distinctive flavor. The tree was 18 years old when it bore its first crop.

The *Dickey*. A is a Spring-ripening fruit, pear shaped, fine looking, red, turning to reddish purple in color, with bright, clear yellow flesh, free from fiber and having one of the smallest seed known, as compared with the flesh. The quality and flavor have been the very best. Because picked out of season, or for some other reason, some of the fruit sampled last year was not quite as high in flavor as before. The size is three-quarters of a pound to a pound.

The *Nimlioh*, sampled November 30th, 1921, had a growth of the seed showing it past proper maturity; shape broad oval, rough skin with small warts, dark green in color, with many yellow spots; weight 33 ounces, seed 1½ ounces; no fiber, smooth quality, very good flavor and good keeping quality. In another sample tested the flavor was much lacking in richness.

The *Panchoy*, tested December 2nd, 1921. Shape obovate; weight 30 ounces, seed 2.8 ounces; skin dark green to purple, 1/8 to 3/16 inch thick, and slightly rough; flesh yellow to green at the edge; quality very good, flavor somewhat strong on account of over-ripeness; keeping quality good.

Sample fruits of the two *Wilson Popenoe* fruit introductions from Guatemala, just named, and also of the *Kanola*, *Cabnal*, *Mayapan* and *Benik*, are on exhibition at this meeting.

There are special uses for certain kinds of avocados for Californians who have homes in orange-growing sections, even when they have only dooryard space, and where it is too cold for our Guatemalan type of tree. We can tell them they are not barred out from growing at their own door a tree or two of the Mexican type to afford their own table, and by their own growing, an abundance of this wholesome and delicious fruit. Good varieties of this type are available, such as the Northrup, Ganter and others that will stand all the cold which an orange will. They bloom in the Spring and mature their crop in the Fall. The Ganter is a good grower, usually a good bearer, with fruit averaging half a pound in weight, free of fiber, moderate in size of seed and of excellent flavor. A frequent defect at the blossom end interferes with its market value, but not for its use at the home table.

Another special use is provided by a variety grown at Highland, called the *Tiger*. The tree is a hardy, upright grower, productive, and bears an attractive-looking purple, pear-shaped fruit, averaging three-quarters of a pound in weight, with a thick skin, large seed and maturing during the latter part of the Winter, extending into the Spring. It does not have a high flavor—in fact, a decidedly neutral one—but still agreeable. Its value is that it stands the dry air of the interior valleys better than any other kind so far tested, and seems best adapted for growth in such places.

For another special purpose, we can utilize our exceptionally and especially frost-free locations. The damage done to them by last winter's cold has apparently demonstrated that we can grow safely *only*, in such places, some of our choicest varieties. Among others are the *Linda*, *Queen*, *Knight*, *Nimlioh*, *Panchoy*, *Sherman Seedling No. 1*, and the *Victory*. All large, fine-looking fruit of good flavor and most beautiful clear yellow flesh when cut open. The *Linda* produces the largest fruit we have, approached in size by the *Nimlioh*, *Panchoy*, *Sherman Seedling No. 1*, and the *Victory*. The largest *Linda* weighed over four pounds. Such extreme sizes become more moderate with older trees and full crops. An interesting development last season is the very long period during which this fruit ripened, with good quality and flavor maintained by the latest to ripen. Beginning at the end of Spring, the *Linda* fruit continued to mature throughout the year. A sample sent the committee on January 12th, 1922, weighed 19 ounces.

The severe cold of last winter was the worst experienced in nine years, and brought disaster to the citrus industry and to our own. While it was a present misfortune, it will in the end be a gain by giving us knowledge of the limitations as well as advantages of different varieties. This information, only partially available today, will become better known and understood during the current year, and will put our membership in a position at the next annual meeting to make a wiser, more acceptable and more useful revision of our preferred list, than could be done now. Opinions at present, both as to contraction and enlargement, are in a fluid and unsettled state. In view of the existing uncertainty of opinion, it would seem the part of wisdom to now merely divide the list into two parts, letting the list say what the frost says, namely, that the *Fuerte* and *Puebla* stand by themselves, leaving the adoption of a revised list to the next annual meeting.

To assist in a study during the year of kinds which by their previous position in the industry would be entitled to consideration in forming a future list, we give a short description, based on the vicinity of Los Angeles and on latest information, of the following varieties, mentioning the names of a few others already described without

prejudice to the consideration of any others that may seem worthy of adoption:

The *Fuerte and Puebla*. Both are strong, vigorous trees, proven this winter the hardiest of our commercial varieties, and are also leaders in oil content, quality and flavor. The *Fuerte*, of a dull green color, averages three-quarters of a pound to a pound in weight, with a medium-sized seed, and matures its fruit from January to April. It sometimes has a good many undersized fruit and a good many non-pollenized fruit. The *Puebla* bears a glossy, handsome, pear-shaped fruit; maturing in November and December, and requiring only about eight months from bloom to maturity. The fruit is small, averaging only half a pound, with a proportionately large seed. Oil content, respectively, by Chase analysis of 1920, 29.6 and 26.5.

The *Sharpless* is well known for its handsome, large, purple fruit. It averages a pound to a pound and a half in weight, with a comparatively small seed. It has high quality and flavor, and a desirable ripening period in the late Summer and Fall extending into the winter in some locations. The fruit requires a year and a half from blossom to maturity, and the young budded trees for the first few years do not stand up well against our trade winds, requiring in this respect more than usual care and attention. Oil content by Chase analysis in 1921, 18.4.

The *Spinks* is a strong-growing tree and a good bearer. The handsome fruit, of a purple-black color, has a long ripening period from early in the Spring until October. Weight, a pound to a pound and a half, and seed large. Fat content, Chase report, 18.5.

The *Dickinson*. The tree is good and the fruit, of good quality and flavor, averages three-quarters of a pound to a pound in weight, with a moderate-sized seed, and matures in the Summer. An outstanding feature is its very thick, granular, warty skin, which becomes a handsome purple color and identifies the variety. Some of the fruit have shown a pink color and some bitterness in the flesh. Oil contents, Chase reports 9.5 to 14.4.

The *Taft*. Tree vigorous and beautiful, somewhat more tender than the average. Fruit green in color, a pound or more in weight, is one of the very best we have in all respects, but the tree is so slow in coming into bearing that its planting is very limited for that reason. Oil content, 18.9.

The *Lyon* tree, by its upright, slender growth and comparatively dwarf size, is the kind best adapted for interplanting or close planting. The green fruit averages a pound in weight, with a moderate-sized seed, and matures in the Spring, and is of good quality and flavor. Fat content, Chase analysis, 26.9 and the protein content the highest of any variety. The shriveling of the fruit sometimes noticeable, and a good deal of drying before maturity showing at times, in some districts, has been found in other varieties, and is now believed to be caused by a temporary tree condition and not by disease. The weakness and death at one time of young *Lyon* trees when planted out in the orchard were very great and caused much loss to many planters, but it is claimed that trees of healthy growth are now being produced. They are being planted in large enough quantities to give a widespread test this year. Should it prove possible to grow as healthy young trees of the *Lyon* as well as other kinds, the value of the *Lyon* for early fruiting and very great and regular crop production is well known. An early fruiting young tree should surely have the crop removed for the first year or two to keep it healthy, and

extra heavy crops should be thinned continuously.

The *Blackman* is a vigorous tree of too spreading growth, which is easily controlled by proper pruning when the tree is young. The fruit is glossy green, a pound or more in weight, with a comparatively small seed, clear yellow flesh, without fiber, and quality and flavor of the best.

Other varieties previously described: *Dickey A*, *Thompson*, *Dorothea*, *Prince*, and *Billingsley*.

In a future list it should be emphatically stated that the relative hardiness of the different varieties is of primary importance, and explanations ought to be given, that true Guatemalans should be considered for planting only in places exceptionally safe for lemons and adequately protected with orchard heaters, where lemons require such protection.

Growers will please send future letters for the committee, or samples by parcel post for testing, to the Chairman at Upland.

CHAS. D. ADAMS, *Chairman*;

T. U. BARBER, WM. HERTRICH, C. F. KINMAN, *Committee*.

Approved by the Board of Directors and by the Association at the business meeting on May 13, 1922.