

Avocado Culture in Palestine

Rehovoth, Palestine. August 23, 1936

Dear Dr. Colt:

I received your letter of June 16, 1936, in which you request news about avocado growing in this district which might possibly be of interest to readers of the Yearbook. In the following lines I shall try to comply with your request. The views given are based partly upon own observation; partly upon statements of growers with whose places I am familiar.

The figures on the extent of avocado growing given by Mr. A. Grasovsky in your 1933 edition probably suit the situation even to-day. Very little expansion has taken place during the last three years, in spite of the fact that generally speaking the home market for fresh fruits and vegetables, and for a greater variety of them, has improved much during the same period under the influence of considerable new immigration which has brought with it elements having more differentiated and more modern food habits; the number of immigrants, however, from countries where avocados are a well known part of the daily diet, is comparatively very small. Introduction of our fruit to a larger public has made very slight progress—through personal contact mostly. There are a few stores which occasionally will receive from a grower fruit exceeding his family consumption and offerings to his friends; this has been offered for sale at prices ranging from 10 to 25 mils per fruit, (meaning 5 to 15 cents exchange value, and at least one half more actual buying value) depending upon its size. No large size (Guatemalan) fruit has probably been offered for open sale in this country yet.

LITTLE DEMAND FOR TREES

The lack of interest in avocados on the part of growers is well illustrated by the fact that in several instances nurseries containing larger numbers of trees —aggregating several thousands—have been started by enthusiasts and the bulk finally been thrown away when outgrowing the nursery stage, as they could not be sold. Uncertainty among the few growers of avocado trees as to the varieties worth growing, if any; lack of yields from the first budded trees of improved varieties introduced into the country (in 1924), have discouraged further plantings. As, however, more and more trees actually come into bearing real crops now—the bulk of the older existing trees having been planted about the years 1927 to 1930—valuable knowledge is being gathered already, especially also from the several plots which have been started by the experiment stations of both government and Jewish colonizing institutions and agricultural schools.

The large majority of seedlings serving as rootstocks to-day are of the Mexican race, seeds having been introduced from California, some from Florida; some of them are

progeny of bearing trees in the country. Many of these have not taken buds well, experience in this respect being similar to elsewhere; satisfactory propagation methods indeed await their perfection for general use. Accordingly, nurseries which otherwise might be called fairly responsible, will until this day sell avocado trees mostly un-budded to the man who comes to buy a variety of fruit trees for his backyard—a practice not likely to promote future sales. In many cases seedling suckers have been allowed to outgrow the bud, trees not rebudded if the original bud died after transplanting. Probably at least half of the bearing avocado trees in the country are Mexican seedlings.

Guatemalan seedlings are rarely found as stocks, are known to have been hit by frosts. There are some trees of various age grown from seed with the definite purpose of obtaining suitable new varieties, part of them progeny of known varieties from abroad.

Mr. Grasoovsky's list of 1933 of named varieties present in the country, may be supplemented to-day to include the following: Northrop, Queen, Benik, Mayapan; although due allowance should be made for the usual mistakes occurring with passage of varieties from hand to hand, from land to land.

FACTORS GOVERNING VARIETIES

The main factors that will determine our choice of varieties seem to be at present: 1). presence of Med. fruitfly, 2). dry eastern winds in springtime (sirocco).

Trees of the Mexican race will blossom in the citrus districts between end of December and late March or early April; fruit will have been set in March or beginning of April, and ripen from middle of July until late in October or up to November; the first of the varieties to ripen being Duke in July and first half of August; Northrop ripening in late August and September; Puebla coming at the end of the list; most seedlings at least several weeks later than Duke. Guatemalans seem to blossom generally from February to end of April, fruit ripening from January until March, and keeping until April. Fuertes have been reported in bloom from January to April, ripen between late December and late March. Comparison will show these times to correspond closely to data for Florida; much less to those for California where ripening takes far longer in most localities, extends over longer periods.

While damage from frosts to avocado trees as well as crops has been reported in Palestine, the usual winter seems to be mild enough throughout the citrus belt and there seem to be enough locations frost-free even in cold years, to allow of a satisfactory set of fruit on trees blooming during winter. Accordingly many of the varieties (either seedlings or budded) of the Mexican race, if not neglected, seem to bear fruit quite regularly once they come into bearing which, with some seedlings, may indeed take some time, trees of Puebla apparently have been an exception to this rule, bearing very irregularly. Thin skinned fruit which ripens during summer, however, is subject to severe attacks by the fruitfly. While this does not seem to apply to every location, and possibly not to all of the varieties to the same degree, freedom from the fly seems to be the exception rather than the rule. Bagging for protection has been tried and is being tried in some places, and satisfactory results have been reported with Duke, which is otherwise heavily attacked. It remains to be seen, however, whether this practice will pay at the

price that may be fetched, considering size and quality of most of the Mexican fruit.

Most Guatemalans on the other hand—constituting the large majority of names on the list of varieties introduced into the country, though not the majority of trees bearing to-day—have either been very slow in coming into bearing, or given crops very irregularly; some of them have borne very satisfactory crops once or twice and nothing or near to nothing the following year or years. The fruit, where there was any, has as a rule been rated much higher by its owners than Mexican fruit.

FACTORS GOVERNING CROPS

The features marking a crop failure will not be identical in each case. There are failures to bloom, failures to set after bloom, and dropping of the fruit set. From different places cases were reported of leaf-shedding over an entire tree, or parts of it during blossoming time and ensuing drop of the young fruit while new foliage covers the tree. The factor mainly held responsible for the amount of fruit to remain on the trees is the severeness of the hot dry winds recurring each spring and blowing heaviest for periods in April and May, when they hit the fruit soon after setting. A dry spell in April 1935 left hardly anywhere a crop on Guatemalans; (damage to citrus was about one-fourth of the crop, too). This year's spring season has been very lenient for hot winds, and quite a few of the Guatemalans will bear a crop the coming winter. Although hot winds may be the governing factor in this respect, others such as pollination, maintaining of soil fertility, moisture conditions, etc., may play a part. Attention is being paid at this time to the pollination problem at some of the experiment stations.

If the facts so far reported constituted all of the story to be told about avocados in Palestine, the outlook may seem very hazy indeed. It seems, however, to be a fact that some Fuerte trees have borne crops for at least the last three years in succession in several places, including trees in the larger plantings, (which are really quite small), and including the past season, when Guatemalans, as mentioned before, lost their entire crops. Apparently at least a part of the Fuerte's blossom comes early enough to have the young fruit escape shedding from the winds, and as they ripen in winter, they do escape fruitfully injury even though being softskinned, except possibly the very latest of them. I, for one, consider these experiences with Fuertes as an outstanding fact to be reported about avocado development in Palestine.

POSSIBILITIES FOR INDUSTRY SEEN

Not all records of Fuertes in Palestine sound similarly favorable: trees of the earliest introduction grew splendidly, gave no crops to speak of up to now, their fruit was of a worthless type. In instances, nursery budded trees have made altogether stunted growth after transplanting, shown characteristics very much like sunblotch. I have been given fruit that ripened poorly—a rather thick layer around the seed remained hard and unedible; possibly it was picked too early, although this occurred late in the season; we still lack experience in judging ripeness of fruit. The grower best acquainted with avocados in this country scores their poor keeping quality, would prefer Guatemalan varieties on that account.

Evidence of their merits after a real cold winter is yet incomplete, last winters have been milder than average.

Nevertheless, from what I have heard and seen so far, it does not seem out of the way to believe that this variety—and the leading Californian variety that would be—has chances to prove well enough suited to our conditions for a limited amount of commercial production to be started, using it as a basis; a market being in prospect for it at home as well as from the Palestine and nearby Egypt tourist trade, the season of which would closely fit its ripening season. The search for Guatemalan varieties which will bear crops regularly under our conditions or for ways of making them set crops and hold them, is really only at its very beginning, and systematic and energetic work in this direction may well prove worth its while, too.

Very truly yours,

KARL STEINSCHNEIDER.