

STANDARDIZATION AND THE AVOCADO

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Standardization is the establishment of a measure of quantity or a criterion of excellence. Applied to foods standardization is brought about by legislative action and serves a dual purpose; first, it protects the consumer from inferior or fraudulent goods and second, it protects the producer or grower of a high grade food from unfair competition with low grade unfit produce. The very fixing of a standard for any food places it at once on a firm basis for comparison.

We, in our laboratory, are firm believers in the avocado because of its high food value and are anxious to see the enactment of any regulations which will maintain this value. As Mr. Chace has stated in the 1920-21 report of the association, it must not be thought that the fat content is the only factor which determines the excellence of any variety or of any individual in that variety. However, it is one of the factors and must be considered.

The Association has expressed itself through its Board of Directors, as being in favor of appealing to the legislature at the next session to include the avocado in the list of fruits protected by the fruit and vegetable standardization. This action of the board appears in Dr. Coit's report as Chairman of the Committee on Standardization, printed in 1922-23 report of the Association. The board's action is to be highly commended. It is a definite step toward a standard of excellence. As far as the avocado is concerned the act will read something like this:

"Avocados sold or offered for sale shall be mature, but not over ripe, well colored for the variety and locality, virtually uniform in quality, virtually free from insect and nematode and fungus pests, rots, bruises, frost injury, sunburn and other serious defects."

This leads us back to the old question, oft repeated, when is the fruit mature? Church and Chace in their excellent Bulletin No. 1073 of the United States Department of Agriculture, giving the results of their extended investigation on the chemical change in avocados during growth did not recommend any figures for standards of maturity. However, a fat standard must eventually be established because the avocado is going to take its place among the well known fruits.

In a communication to Dr. Coit, Prof. Jaffa has proposed a tentative standard of 75 per cent of the normal fat content for each variety. His proposition will serve as a test case and will promote discussion. This standard will undoubtedly meet with a great deal of objection and criticism from all sides, but whether it weathers the storm or falls it must be agreed that it is a step forward.

Before any normal values for fat content are accepted it would be necessary, of course,

to gather much more data than we have at present. But with the generous minimum of three-fourths of the normal fat content I do not believe it would be a difficult matter to arrive at a fair, normal value. However, for the sake of example assume that we base the normal on what chemical analyses we have made so far. The minimum fat content for each of the five recommended commercial varieties would be approximately as follows:

- Dickinson Not less than 10 per cent fat.
- Spinks Not less than 12 per cent fat.
- Sharpless Not less than 13 per cent fat.
- Puebla Not less than 18 per cent fat.
- Fuerte Not less than 20 per cent fat.

Some time ago we had shipped to our laboratory a box of windfall avocados. They were hard when received and were allowed to soften before the analysis was made. Upon analysis I found the following amounts of fat and moisture in the varieties stated (results are the average of 5 or 6 fruits in each case).

Partial Analyses of Avocados (Windfalls, immature fruit)

	<i>Physical Analysis</i>		<i>Chemical Analysis</i>	
	Refuse	Flesh	Flesh or Edible Portion	
	Skin and Seed Per cent	Per cent	Moisture Per cent	Fat Per cent
Blakeman	35.5	64.5	81.9	7.5
Dickinson	30.9	69.1	85.6	4.2
Colorado	15.2	84.8	77.9	10.96
Lyon	27.0	73.0	79.3	9.4
Spinks	42.2	57.8	83.4	5.3
Challenge	34.5	65.5	84.9	4.0

In each case the fat is 50 per cent or less than what we would consider a normal value for that variety.

It is hardly necessary to mention the damage that is done to the industry as a whole by the sale of such fruit. We tried the experiment of offering this fruit to persons who had never before tasted the avocado. In every case there was a decided dislike for the fruit. What would have been the effect had they purchased these for the first time in the market?