(longleaf and slash rosin), with respect to surface tension, are more like lauric acid soap than the other fatty acid soaps tested. Whether this similarity extends to other soap properties has not yet been determined.

TABLE II.

Surface Tension of Fatty Acid Soap Solutions and Fatty Acid-Rosin Soap Solutions.

	Surface Tension Of Fatty Acid Soap Solutions		Of Fatty Acid-Rosin Soap Solutions[1]	
Fatty Acid Soap Made from:	1.0% dynes per cm.	0.1% dynes per cm.	1.0% dynes per cm.	0.1% dynes per cm.
Caprylic acid	45.6	55.7	33.0	43.6
Lauric acid	31.8	46.0	30.2	36.7
Myristic acid	24.3	24.8	26.1	27.7
Palmitic acid	26.5[2]	26.4	25.3	27.4
Stearic acid	25.1[2]	35.8	25.1[2]	34.4
Oleic acid	27.7	27.6	28.2	28.1
Linseed Oil acid	31.1	26.5	30.4	27.5
Palm Oil acid	26.1	27.7	27.5	28.0
Coconut Oil acid	32.8	28.1	30.9	28.5

[1] Fatty acid-rosin present in ratio of 3:1 by weight (slash rosin used).
[2] Surface tension of the soap solution measured at 50°C.

Table II gives the surface tension of soap solutions made with the principal fatty acids found in the toilet, household and laundry soaps and of soap solutions made with fatty acids and rosin mixed in the ratio of 3:1 by weight. With the exception of lauric and caprylic acid soap, the presence of rosin soap has little or no effect on the surface tension of the soap solutions. The replacement of a portion of the caprylic acid soap by rosin soap yields a solution with a lower surface tension. The same is true of the 0.1 percent lauric acid soap solution.

Summary

The surface tension of soap solutions made from rosins and rosin acids has been measured and the surface tension of fatty acid soap solutions and fatty acid-resin soap solutions have been measured and compared.

Report of the Oil Characteristics Committee - 1939 - 40

THIS committee has been gathering data on various oils, filling in where insufficient with information derived from actual analyses contributed by the members, with the twofold purpose of establishing standards when possible and publishing as complete data on single samples as we can get for the book of methods.

A few years ago, standards for olive oil and for olive oil foots were drafted by another committee of this society. Last year this committee set up a standard for North American Refined Cottonseed Oil. Having embarked on this policy, which is I believe, a novel one for the Society, we are going ahead with increased acceleration. Data on four oils, perilla, soyabean, linseed and tung oils were collated from text authorities, from the A.S.T.M., the U.S.P. and the British Standards Institute and after a tentative draft was submitted the members, the specifications appended herewith were agreed upon by the majority and are offered for approval.

The standards on these oils have been in force by other organizations for quite a number of years. For this reason we selected them and without any time-consuming labor in duplication of results, have adopted them and changed them somewhat to conform to the peculiar character of our own group of chemists. We cannot presume to delve into the amount of free fatty acids, accidental impurities foots, etc. which are matters regulated by trade rules and are no part of the constants of the oils. Generally speaking, the values we set up, must be broad enuogh to take in pure oils for all purposes, edible or technical, raw or refined, foreign or domestic. Hence for the present, a few basic values have been selected, leaving for future work any additional characteristics of purity.

Work of this nature has begun to attract the attention and interest of the trade. It is hoped that A.O.C.S. Standards on oils may achieve a useful, conspicuous place in its regard, for being concerned only with the genuineness of oils, they neither detract from nor interfere with current standards.

Whenever exceptions occur which give constants not falling within the range of values given, they should be brought to the attention of this committee. It is also suggested that A.O.C.S. Standards be recommended at every opportunity.

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A.O.C.S. STANDARDS

	Tung	Perilla	Soya	Linseed
Sp. Gravity @ 25/25 C.	0.931-0.937	0.923-0.930	0.917-0.921	0.924-0.931
Iodine Value (Wijs)	160-175	193-208	127*-141	170-204
Saponification Value	189-195	188-197	189-195	188-196
Unsap. Matter (F.A.C.)	Max. 1.0%	Max. 1.5%	Max. 1.5%	Max. 1.7%
nD @ 25 C.	1.516-1.520	1.479-1.482	1.470-1.476	1.477-1.483
Heat Test (Worstall)	Max. 8 minutes			
Ether Insoluble Bromides	None			

*The minimum iodine value has been changed to 120, as a result of a communication from the Regional Soybean Industrial Products Laboratory of the U. S. Dept. of Agriculture at Urbana, Ill., in which results were given on 8 commercial varieties grown at stations in five states for four years, showing a range from 104 to 139 with average at 127.5 approximately the lower limit of our specifications; but since the standard deviation for variation was calculated as 5.2, the minimum was made 120. At this value only five samples were below and these were produced under unusually severe drought conditions.

This committee thanks the senior chemist, Mr. T. H. Hopper for his counsel and help in this matter.