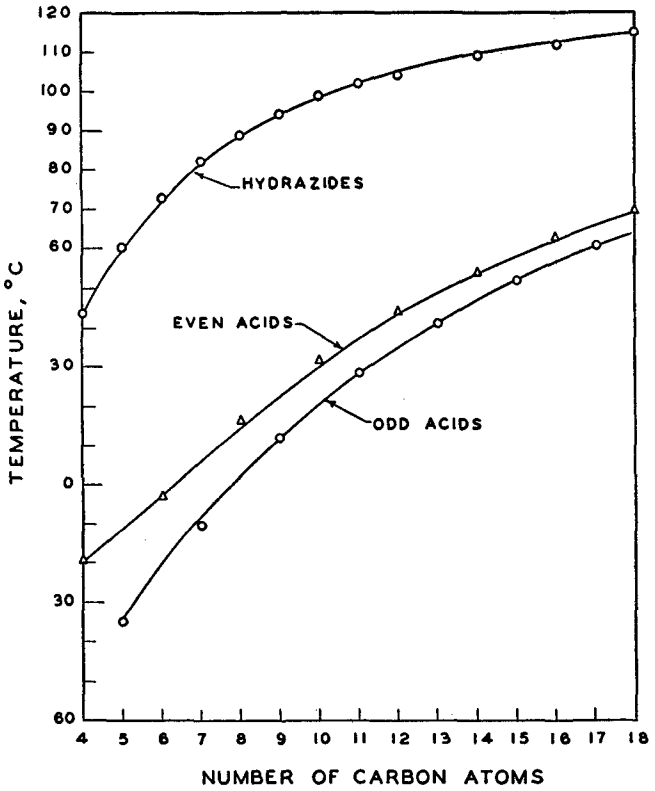

FIG. 1. Melting points of the *n*-aliphatic acids and their hydrazides.

ture was diluted with 50 ml. of water, acidified to pH 3-4 with concentrated hydrochloric acid, and the turbid suspension extracted with ethyl ether. The extract was washed, dried, and the ether removed by evaporation. The product (0.82 g.) was recrystallized from 15 ml. of 60% ethanol which yielded 0.75 g. of elaidic acid melting at 43°-44°C.

Melting points of the fatty acids and corresponding hydrazides are shown in Table 1 and graphically in Fig. 1. The calculated and determined nitrogen contents are also presented in Table 1. Because of the polymorphisom exhibited by the acids they fall on two smooth curves corresponding to the odd- and even-numbered series (5), whereas the melting points of the corresponding hydrazides lie on a single smooth curve, indicating that all members of the homologous series crystallize from ethanol in the same polymorphic form. When the reciprocals of the number of carbon atoms are plotted against the corresponding melting points, the hydrazides of the fatty acids, unlike the fatty acids themselves, fall on a straight line.

Acknowledgment

The authors express their appreciation to L. E. Brown for the nitrogen determinations reported here.

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Report of the Uniform Methods Committee 1946-47

IN PRESENTING the report of the Uniform Methods Committee, we shall try to follow the order in which the reports appeared on the program of the convention. The Soap, Glycerine, and Fat Analysis Committees report at the fall meeting of the Society.

Color Committee:

The Color Committee has done some very fine work investigating new methods of determining colors in oils and has made a report of progress which requires no action.

Refining Committee:

The Refining Committee's report contained a recommendation which was acted upon at the Fall Meeting and is now a tentative method of the Society.

Seed and Meal Analysis Committee:

The Seed and Meal Analysis Committee presented a lengthy report covering various methods, all of which were acted upon by the Uniform Methods Committee but will not be reproduced here as they will be available when published as a report of this committee and will shortly appear as parts of our methods.

a) The Methods of Analysis of Soyflours, covering the determination of moisture and volatile matter, oil, ash and crude fiber, were approved by the Uniform Methods Committee and will be published as tentative methods of the Society.

b) The determination of ash and crude fiber in oilseed meals was approved by the Uniform Methods Committee and will also appear as a tentative method of the Society.

c) On cottonseed and cottonseed meal the committee recommended a quick moisture method which was given considerable consideration by the Uniform Methods Committee. It was decided to approve the insertion of the separate quick moisture method proposed as a tentative method of the Society with the scope and limitations thereof clearly defined by the editor.

d) On peanuts and peanut meal the determination of moisture was approved by the Uniform Methods Committee to be published as a tentative method.

This committee also approved the deletion of the method for determining oil in whole nuts and the revision of the determination of oil in shelled nuts, as described in their report. This is likewise to be published as a tentative method.

Certain changes in the determination of nitrogen, ammonia, and protein, as they appeared in the com-

mittee report, were approved by the Uniform Methods Committee and will be published as tentative methods.

Gossypol Committee:

This committee made no recommendations, but the Uniform Methods Committee feels that Dr. Charlotte H. Boatner is to be commended for the fine work she has done and it is hoped that the committee will be continued.

Cellulose Yield Committee:

The committee recommended the use of red oil in wetting out the lint before digesting. The Uniform Methods Committee approved this, using the words "commercial oleic acid" instead of "red oil" to prevent ambiguity. This is likewise to be a tentative method of the Society.

The recommendation that the mixing of linters by hand be deleted from the methods was approved by the Uniform Methods Committee.

Spectroscopy Committee:

This committee recommended the continuation of the work which has been going on and this has the hearty approval of the Uniform Methods Committee.

The new methods of the Society have now been published and, while they have been approved in sections by various committees of the Society, the methods as a whole have never been adopted officially. The Uniform Methods Committee approve the methods and recommend the adoption of the entire set as now published.

All the above recommendations of the Uniform Methods Committee were voted upon by the Society and passed for adoption.

J. T. R. ANDREWS
M. M. DURKEE
J. J. GANUCHEAU
T. H. HOPPER
T. C. LAW
L. B. PARSONS
J. J. VOLLERTSEN, *Chairman*

Sampling of Cottonseed, Soybeans and Peanuts: Methods Used and Problems Encountered*

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Introduction

THE sampling of vegetable oil seeds is of prime importance in the obtaining of accurate analytical results. Without proper sampling of the raw material and the proper handling of the samples so drawn, no chemist can hope to obtain accurate analytical results on the composition of the commodity except through pure accident. Therefore, this paper is designed to outline several sampling procedures for the oil content of cottonseed, soybeans and peanuts and to discuss briefly some of the problems encountered with the procedures of sampling and with the obtaining of proper samples for analysis.

Cottonseed

The United States Department of Agriculture, through its Cotton Branch, has approved two methods of sampling cottonseed: (1) sampling before unloading and (2) sampling during unloading. Sampling tools and equipment as approved are as follows: (a) trier or probe of the cork-screw type made of strip steel ½ inch wide and 5/32 inch thick, bent to form an open cylinder 3 inches in diameter with pitch of twist of approximately 2 inches, and with the screw portion 42 to 50 inches in length; (b) elevator bucket, approximately 8x5x5½ inches in size, attached securely to a pole long enough to afford easy use; (c) shaker-cleaner with screens not less than 3x7 feet having perforations of ⅝ inch (round) on the top deck, ⅛ inch (round or slotted) on the second or middle deck, and a bottom deck of smooth metal with no transverse seams, and with no less than 3 adjustable by-passes for reducing the sample to proper size located near the lower end of the second screen or deck; (d) mechanical mixer if by-passes are not used; (e) metal containers of 2½-bushel capacity with close fitting covers for holding gross samples; (f) sufficient 155-cubic inch capacity friction top cans, or bags 7½x3x14½ inches 1/90 AL or 1/60 duraloid, sewn, open-mouthed, with bottoms dipped in wax for holding the prepared samples; and (g) scales graduated in ½ ounces. A short-handled 5-tine fork is also desirable.

For sampling trucks or wagon lots of cottonseed before unloading, the trier is used and not less than 5 probes are made in each load or lot. At least 2 of the probes should reach all the way to the bottom of the load. In order to prevent loss of moisture as far as possible, the cottonseed withdrawn by each probe should be collected and promptly transferred to the covered bulk sample container labeled for the particular shipper. Samples drawn from individual shipments should not represent a total aggregate of more than 25 to 35 tons, or one average car-lot.

For sampling carlot quantities of cottonseed before unloading, the sampler generally finds it impossible to use the trier, due to lack of space in the car in which to operate. In such cases, it is necessary for the sampler to crawl over the seed and to dig holes approximately 30 inches deep into the load at two places in each end of the car and in the middle. For this purpose, a short-handled 5-tine fork is useful. At least 15 pounds of seed should be taken from the sides and bottom of each hole with the fork and placed in a closely woven bag. The bags containing seed from the several points of sampling should be collected and the contents immediately transferred to the bulk sample container which is labeled to represent the carlot.

* Presented at the annual meeting of the American Oil Chemists' Society in New Orleans, La., May 20-22, 1947.